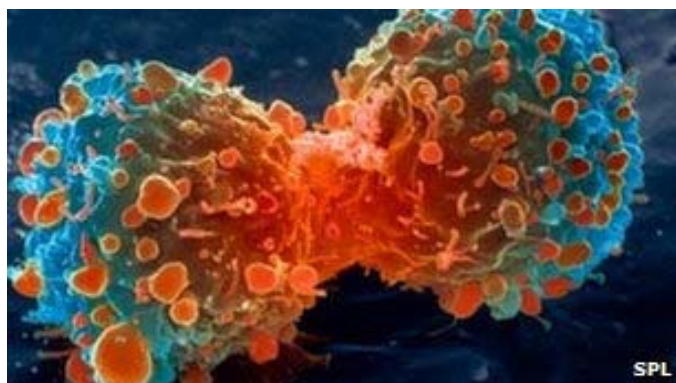


## STATE OF IMMUNITY

### Immune System Boost 'Fights Cancer'

By James Gallagher

18 August 2013  
BBC News



*Researchers carried out the tests on a type of lung cancer*

A way of firing up the body's immune system in order to attack cancer has been discovered by US researchers.

The immune system is delicately balanced so it attacks invaders but not the body's own tissues.

Animal studies suggested that shifting the balance could

*Continued on page 2*

### What is the African Traditional Herbal Research Clinic?

*We can make you healthy and wise*

Nakato Lewis

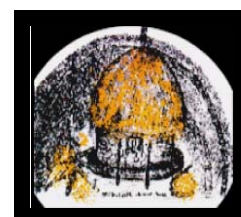
Blackherbals at the Source of the Nile, UG Ltd.

The African Traditional Herbal Research Clinic located in Ntinda, Uganda is a modern clinic facility established to create a model space whereby indigenous herbal practitioners and healers can upgrade and update their skills through training and certification and respond to common diseases using African healing methods and traditions in a modern clinical environment.

Traditional healers are the major health labor resource in Africa as a whole. In Uganda, indigenous traditional healers are the only source of health services for the majority of the population. An estimated 80% of the population receives its health education and health care from practitioners of traditional medicine. They are knowledgeable of the culture, the local languages and local traditions. Our purpose is to raise public awareness and understanding on the value of African traditional herbal medicine and other healing practices in today's world.

The Clinic is open and operational. Some of the services we offer are African herbal medicine, reflexology, acupressure, hot and cold hydrotherapy, body massage, herbal tonics, patient counseling, blood pressure checks, urine testing (sugar), and nutritional profiles. We believe in spirit, mind and body. Spiritual counseling upon request. Visit us also at [www.Blackherbals.com](http://www.Blackherbals.com)

**Hours: 10:00 am to 6:00 pm Monday thru Friday  
Saturday by Appointment, Sundays – Closed**



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*Cont'd from page 1 - Immune System Boost 'Fights Cancer'*

open up new treatments for cancer, the team from the Children's Hospital of Philadelphia said.

The findings were published in Nature Medicine.

There are many diseases caused by the immune system turning on the body's own tissues - such as Type 1 diabetes or multiple sclerosis.

### **'New cancer immunotherapy'**

One popular area of research in both cancer and autoimmune diseases has been Treg cells.

They are a part of the immune system which normally calm everything down to prevent the immune system attacking the body.

The researchers were trying to disrupt Treg's function - effectively taking the brakes off the immune system - so it would attack cancer.

One of the researchers, Dr Wayne Hancock, said: "We needed to find a way to reduce Treg function in a way that permits antitumor activity without allowing autoimmune reactions."

The researchers bred mice which lacked a chemical needed for Tregs to work effectively. They then used a drug which produced the same effect in normal mice.

In both experiments, the shift in the immune system restricted the growth of a type of lung cancer.

"It really moves the field along towards a potentially major, new cancer immunotherapy," Dr Hancock said.

However, this is still a long way from any treatment for patients with cancer. Further tests will be needed to see if the same processes can be manipulated in the human immune system before it could even be tested in clinical trials.

Dr Emma Smith, from Cancer Research UK, said: "Turning the power of our immune system against cancer is a promising field of research and something scientists around the world, including our own, are studying.

"These findings go another step towards developing new treatments that act in this way, but the research is still at an early stage and we don't know yet whether this approach will be safe or effective in people."

<http://www.bbc.com/news/health-23724220>



**THE AFRICAN TRADITIONAL  
HERBAL RESEARCH CENTRE**

## **Why Antibiotics are making us all ill**

*Scientist Martin Blaser argues that we are suffering from new wave of 'modern plagues' such as obesity and asthma because we have destroyed the naturally occurring bacteria in our bodies*

**By Martin Blaser**

1 June 2014

The Observer

My father had two sisters I never knew. In the little town where they were born, early in the 20th century, they did not see their second birthdays. They had fever. The situation was so dire that my grandfather went to the prayer house to change his daughter's name to fool the angel of death. This happened twice. It did no good.

In 1850, four in 10 English babies died before their first birthday. Lethal epidemics swept through crowded cities, as people were packed into dark, dirty rooms with fetid air and no running water. Familiar scourges included cholera, pneumonia, scarlet fever, diphtheria, whooping cough, tuberculosis and smallpox.

Today, fewer than five of every thousand infants in Britain are expected to die before the age of one – a remarkable improvement. Over the past 150 years, most countries have been getting healthier. Chalk it up to improved sanitation, rat control, clean drinking water, pasteurised milk, childhood vaccinations, modern medical procedures and, of course, 70 years of [antibiotics](#). In today's world, children grow up without deformed bones or "cloudy" sinuses from infections. Nearly all women survive childbirth. Eighty-year-olds, once consigned to the veranda, are swatting tennis balls, often with the help of a metallic hip joint.

Yet recently, just within the past few decades, amid all of these medical advances, something has gone terribly wrong. In many ways, we appear to be getting sicker. You can see the headlines every day. We are suffering from an array of what I call "modern plagues": obesity, childhood diabetes, asthma, hay fever, food allergies, oesophageal reflux and cancer, coeliac disease, Crohn's disease, ulcerative colitis, autism, eczema. In all likelihood, you or someone in your family or someone you know is afflicted. Unlike most lethal plagues of the past that struck relatively fast and hard, these are chronic conditions that diminish and degrade their victims' quality of life for decades. The most visible of these plagues is obesity.

*Continued on page 10*

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# AFRIKAN SPIRITUALITY

## Pillars of the African Ancestral Religion

These are a number of pillars on which the Ancestral religion was founded. Without them, worshipping cannot be complete.

### 1) Belief in traditional gods:

According to African spirituality, gods are messengers of the creator. The gods are so significant in solving problems faced by individuals. Musoke is the god of rain worshipped mainly during times of drought. Ddungu is the god of the hunt, worshipped almost by every African in the morning to give them luck and 'hunt' for fortune and also protect the existing one. Muwanga is the god of destiny, he mends broken paths. Kiwanuka is the god of fire; he spells doom to people's enemies.

### 2) Spirits of the Ancestors:

Africans believe that people don't die completely; they pass on their lives to the next generation. In the African philosophy when a person passes on their spirits stay on and live with us and guide the next generation. The spirits are the ones that we seek guidance from. The spirits popularly known as Lubaale are of great significance in African Spirituality because they always manifest themselves on the heads of the existing person. Spirits always give guidance towards an existing problem. Success or failure in the African spirituality depends on the prevalence or absence of the spirits.

### 3) The Traditional Shrines:

Traditional Shrines are such sacred places where worship takes place. Shrines are usually grass thatched round houses surrounded by rids. The shrines are always decorated inside with traditional art pieces like backcloth, mats and spears. The shrines are also composed of drums and fire places where worshippers meditate and communicate with their gods.

Families of the ancestors gathered periodically in shrines to give credence to their gods for the achievements attained and help them sail through the problems of the period ahead.

### 4) The Fire Place:

The Fire Place or ekyoto as it's popularly known, is one of



*The traditional shrine as a symbol of our cultural history*

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the most important pillars of African spirituality. The fire place is always located in the traditional shrines or in individual houses where fire is lighted using firewood from selected trees. The significance of the fire places lies in the fact it's where worshippers kneel and communicate to their gods through meditation. People with various problems ranging from broken marriages, mysterious diseases, unemployment, pressures of work and other life hurdles kneel at the fire places and ask for betterment of the situation.

### 5) Natural Herbs:

It's hard to talk about African spirituality without talking about the natural herbs. The natural herbs are not only for healing ailments, but also for purification purposes. For example, for one to enter into a Shrine one has to first bathe some natural herbs so that all the impurities and bad omens are removed before entering the Shrine. Natural herbs are mostly applied as preventive measures.

### 6) Twins:

Twins are a blessing of the gods according to African spirituality. They are a sacred symbol for they are used to come as messengers conveying something bound to happen or something needs to be put right.

A lot of significance is attached to twins in the Ancestral religion. They not only reflect luck but can also be dangerous when mishandled.

### 7) The African Sauna:

Our Ancestors had several methods of overcoming diseases. One of the methods was what is popularly referred to as Ekyogero or the African Sauna. They applied several natural herbs in hot water usually placed in a pot where steam from the pot could be applied on the patients to heal several ailments.

<https://sites.google.com/site/heritafric/home/pillars-of-the-african-ancestral-religion>



## COME BACK TO YOUR ROOTS

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## FEATURED ARTICLES

# Synergistic Toxicity - 9 Ways Vaccines Are Reducing Immunity and Inducing Immune Overload in Children

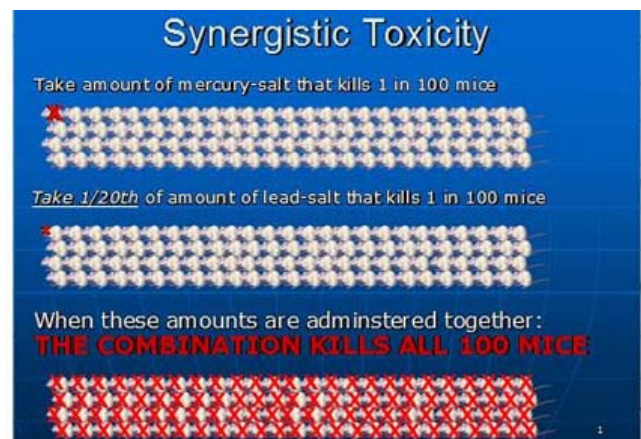
By Dave Mihalovic  
May 15, 2014

Convincing evidence is finally coming forward from peer reviewed studies which show that the rapid increase in the number of vaccines given to children is creating synergistic toxicity and a state of immune overload in the majority of vaccine recipients manifesting in related health issues including epidemics of obesity, diabetes, and autism.

When there is an exposure to two or more toxins the "synergistic toxicity" refers to the toxicity level which is far greater than the toxicity levels of each individual toxin. A good example demonstrating 'synergistic toxicity' is a 1978 study on mice (Shubert et al. Combined Effects in Toxicology -- A Rapid systematic Testing Procedure: Cadmium, Mercury & Lead. J. of Toxicology & Environmental Health 4:763, 1978). The study took the amount of mercury salt that kills 1 in 100 mice and 1/20th of the amount of lead salt that kills 1 in 100 mice. When these amounts of mercury salt and lead salt were administered, the synergistic toxicity of these two toxins killed 100 in 100 mice.

The new peer reviewed paper published in a recent issue of [Molecular and Genetic Medicine](#) (s1:025)(s1:2014) is supporting previous research in synergistic toxicity showing that different toxins are typically synergistic rather than additive in the human body. However when testing is performed on a toxicity of a substance, the 'level of harm' is set based on an assumption that the substance is the only toxin to which the body is being exposed.

"We have been publishing for years that vaccines are causing an epidemic of inflammatory diseases including diabetes, obesity and autism. However the number of vaccines given to children has continued to rise to a point where we have reached a state of immune overload in roughly the majority of young US children. The new



paper reviews the evidence of immune overload and the plethora of different health effects the children are developing because of the immune overload," says Dr. J. Bart Classen, MD.

Dr. Classen's research indicates that the large number of vaccines given to patients is leading to an epidemic of chronic inflammation resulting in epidemics of autoimmune diseases, allergies, and a comprehensive inhibitory response manifesting as obesity and metabolic syndrome.

"The best data indicates that vaccine induced chronic disease is now of a magnitude that dwarfs almost all prior poisoning of humans including poisoning from agents like asbestos, low dose radiation, lead and even cigarettes. Most patients don't even realize that they are suffering from the adverse effects of vaccines. Even more concerning patients and or their parents are being harassed, accused of practicing poor dieting and exercise habits leading to development obesity and diabetes when in fact they suffer from vaccine induced obesity and diabetes," says Dr. J. Bart Classen.

*Continued on page 5*

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***Continued from page 4 – Synergistic Toxicity - 9 Ways  
Vaccines Are Reducing Immunity and Inducing Immune  
Overload in Children***

Another study, [Infant mortality rates regressed against number of vaccine doses routinely given: Is there a biochemical or synergistic toxicity?](#), was conducted by Gary S. Goldman and Neil Z. Miller who has been studying the dangers of vaccines for 25 years.

The infant mortality rate (IMR) is one of the most important indicators of the socio-economic well-being and public health conditions of a country. The US childhood immunization schedule specifies 26 vaccine doses for infants aged less than 1 year--the most in the world--yet 33 nations have lower IMRs. Australia and Canada are a close 2nd and 3rd respectively with 24 vaccine doses.

Some countries have IMRs that are less than half the US rate: Singapore, Sweden, and Japan are examples. According to the Centers for Disease Control and Prevention (CDC), "The relative position of the United States in comparison to countries with the lowest infant mortality rates appears to be worsening."

Many nations adhere to an agreed upon International Classification of Diseases (ICD) for grouping infant deaths into 130 categories. Among the 34 nations analyzed, those that require the most vaccines tend to have the worst IMRs. Thus, we must ask important questions: is it possible that some nations are requiring too many vaccines for their infants and the additional vaccines are a toxic burden on their health? Are some deaths that are listed within the 130 infant mortality death categories really deaths that are associated with over-vaccination? Are some vaccine-related deaths hidden within the death tables?

"A single vaccine given to a six-pound newborn is the equivalent of giving a 180-pound adult 30 vaccinations on the same day. Include in this the toxic effects of high levels of aluminum and formaldehyde contained in some vaccines, and the synergist toxicity could be increased to unknown levels. Further, it is very well known that infants do not produce significant levels of bile or have adult renal capacity for several months after birth. Biliary transport is the major biochemical route by which mercury is removed from the body, and infants cannot do this very well. They also do not possess the renal (kidney) capacity to remove aluminum. Additionally, mercury is a well-known inhibitor of kidney function. "--*Boyd Haley Ph.D.*

Two lines of evidence suggest that endocrine disruption may be a factor in [autism spectrum disorders](#) (ASDs). First, the observation that males may be four times as

likely to be diagnosed with ASDs as females suggests hormonal involvement. Second, adrenal, gonadal, and thyroid hormones play an important role in fetal neurodevelopment, and any chemical that interferes with the actions of these hormones therefore has the potential to disrupt brain development. By analyzing samples and data from a prospective birth cohort study, a team of U.S. and Canadian researchers have identified a handful of endocrine-disrupting chemicals (EDCs) they believe merit further study as possible contributors to ASDs.

"The multi-chemical and multi-outcome approach is innovative and mirrors the real world, where we are all exposed to a mixture of chemicals, and where the neurotoxins may have different effects that may even depend on the time of exposure," says Philippe Grandjean, an adjunct professor of environmental health at the Harvard School of Public Health, who was not involved with the study.

### **9 Ways Vaccines Are Reducing Our Immunity**

1) Vaccines contain many chemicals and heavy metals, like mercury and aluminum, which are in-themselves immuno-suppressing. Mercury actually causes changes in the lymphocyte activity and decreases lymphocyte viability.

2) Vaccines contain foreign tissues and foreign DNA/RNA which act to suppress the immune system via graft-vs-host rejection phenomena.

3) Vaccines alter our t-cell helper/suppressor ratios ... just like those seen with AIDS. This ratio is a key indicator of a proper functioning immune system.

4) Vaccines alter the metabolic activity of PMNs and reduce their chemotactic abilities. PMNs are our body's defenses against pathogenic bacteria and viruses.

5) Vaccines suppress our immunity merely by over-taxing our immune system with foreign material, heavy metals, pathogens and viruses. The heavy metals slow down our immune system, while the viruses set up shop to grow and divide. It is like being chained and handcuffed before swimming.

6) Vaccines clog our lymphatic system and lymph nodes with large protein molecules which have not been adequately broken down by our digestive processes, since vaccines by pass digestion with injections. This is why vaccines are linked to allergies, because they contain large proteins which as circulating immune complexes (CICs) or "klinkers" which cause our body to become allergic.

7) Vaccines deplete our body of vital immune-enhancing nutrients, like vitamin C, A and zinc, which are needed

*Continued on page 13*

## FEATURED ARTICLES

# These Over-Prescribed Antibiotics are Causing Transgenerational DNA Damage

By Lisa Bloomquist  
WakingTimes, June 27, 2014

### It's Worse Than You Know

In a [May, 2014 letter to the U.S. Senate](#), [Doctor Jay S. Cohen](#) said of fluoroquinolones, “In my 40+ years in pharmacovigilance, FQs (fluoroquinolones) surpass Vioxx and Thalidomide in the degree of permanent harm done.” Let that sink in for a bit.

Fluoroquinolones – cipro/ciprofloxacin, levaquin/levofloxacin, avelox/moxifloxacin and floxin/ofloxacin – drugs that are seen as simple antibiotics (though they do severe cellular harm and are more appropriate for use as [chemotherapy drugs](#)), that are [prescribed more than 20 million times](#) per year in the U.S. alone – are doing more harm than Vioxx – a drug that led to more than [140,000 American heart attacks](#), and Thalidomide – a drug that has caused [birth-defects and deaths](#) of thousands of children world-wide.

Vioxx has been removed from the market, and the use of Thalidomide is severely restricted.

Fluoroquinolones, on the other hand, are prescribed with abandon, despite the fact that [hundreds of studies](#) have shown that they do severe cellular damage and [thousands of patients](#) have filed reports with the FDA noting that a variety of severe health problems have been experienced after taking a fluoroquinolone.



### Transgenerational Side-Effects

I have argued that fluoroquinolones have transgenerational ill effects and that children are suffering because of the epigenetic effects of fluoroquinolones ([HERE](#) and [HERE](#)). I have never hoped to be wrong about anything more than my assertions that fluoroquinolones are related to autism, but the possibility exists – because we really don't know what the transgenerational effects of microbiome destruction and depletion of mitochondrial DNA are – and fluoroquinolones do, indeed, both [obliterate the microbiome](#) and deplete the only non-redundant form of DNA that we have – mitochondrial DNA. ([1](#))

### Direct Damage Done by Fluoroquinolones

There are certainly plenty of direct victims of fluoroquinolones, even if indirect/transgenerational effects are not considered. As Doctor Cohen noted, the degree of permanent harm done by them is horrifying. Fluoroquinolones destroy musculoskeletal tissue (tendons, cartilage, bone, muscle, etc.) throughout the body ([2](#)), [damage the nervous systems](#) (central, peripheral and autonomic), and more. [Fluoroquinolone toxicity syndrome](#) mimics autoimmune diseases (including rheumatoid arthritis, lupus, Sjögren's syndrome, etc.), fibromyalgia, chronic fatigue syndrome / M.E., [autonomic nervous system diseases \(like POTS\)](#), leaky gut syndrome and even [psychiatric disorders](#) like bipolar disorder and severe depression.

If someone with some resources would do a proper epidemiological study that takes the [tolerance thresholds for fluoroquinolones](#) (people typically don't react to their first dose – they only react once their threshold for mitochondrial damage is crossed) and delayed reactions (the “vicious cycle” of mitochondrial damage and oxidative stress makes it so that damage is accelerated as time goes on – and thus delayed severe reactions are

*Continued on page 7*



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***Continued from page 6 – These Over-Prescribed Antibiotics are Causing Transgenerational DNA Damage***

common) into account, perhaps the connection would be made between fluoroquinolones – drugs that not only deplete mitochondrial DNA but also destroy the microbiome and lead to [adverse gene expression](#) – and the chronic “mysterious” diseases that have been on the rise since the introduction of cipro on the market by Bayer in 1983. (Of course, fluoroquinolones are not the only cause of these diseases – [fluoroquinolones](#) are just one category of [pharmaceuticals that damage mitochondria](#) and lead to oxidative stress. Other pharmaceuticals do the same. But the harm done by fluoroquinolones specifically and pharmaceuticals generally, and the role that they play in these diseases, is horribly under-recognized.)

**When the Cellular Damage Done is Realized**

Once people realize that a pharmaceutical, a popular antibiotic no less, has done damage to their mitochondrial DNA, and has led to harm in them and their children, I hope that all of the top executives at Bayer (makers of cipro and avelox) and Johnson & Johnson (makers of levaquin) are put on trial. Causing people to be chronically ill is bad enough – but people seem to let pharmaceutical companies off the hook when they do it. Damaging our DNA – DNA that has been adapted and perfected over billions of years – is trial-worthy.

When the top Bayer and J&J executives and scientists are confronted about the damage that their drugs did, they will likely say that they didn't know – they had no idea that their “antibiotics” ([they're chemo drugs](#)) were so harmful.

**This is what should be said to them in return –**

*“What did you think was going to happen? What did you think would happen in a person's body when the DNA of the bacteria in their microbiome was unraveled? (3)*

*What did you think would happen when their mitochondrial DNA was depleted? Did it not occur to you that mitochondria are ancient bacterium and that when you interfere with the replication process for bacterial DNA, you do the same thing to mitochondrial DNA? (4)*

*What did you think would happen when your drugs depleted magnesium and iron from a patient's cells? (5 6)*

*What did you think would happen [when you killed all of the good bacteria in a patient's gut](#)? What did you think would happen when your drugs triggered a massive amount of oxidative stress to be inflicted in your patient's body? (7 8 9)*

*What did you think would happen when you depleted all*

*of their antioxidants? (10)*

*What did you think would happen when your drugs caused chromosomal aberrations in immune system cells? (11)*

*What did you think would happen when you gave chemo drugs to your patients who have a simple infection, not cancer? (12)*

*Did you think that it wouldn't damage them? Or did you know that fluoroquinolones would do severe cellular damage, but you just didn't care? Did you mistake a tolerance threshold for mitochondrial damage (13) for safety? Or did you know that these were the perfect drugs – chemo drugs disguised as antibiotics that induce chronic, multi-symptom illness – and that with these drugs you could make customers for life?”*

**Willful Ignorance**

At best, the top executives and scientists at Bayer and Johnson & Johnson didn't think. They didn't consider the fact that [fluoroquinolones are topoisomerase inhibitors](#) – and that they work by dismantling and adducting to DNA – as opposed to disrupting cell walls like innocuous antibiotics such as penicillin or cephalosporins. If one is to give them far more credit than they deserve, maybe there is the possibility that they didn't make the connections. Maybe they didn't notice that many of the chronic diseases of modernity that fluoroquinolone toxicity mimics – fibromyalgia, chronic fatigue syndrome, rheumatoid arthritis, multiple sclerosis, irritable bowel syndrome, etc. – have gone up along with the use of fluoroquinolones (and other mitochondria damaging drugs). Maybe they let denial of [mitochondrial damage, delayed reactions and tolerance thresholds](#) protect their precious egos and shareholders. But neither denial nor willful ignorance are legitimate excuses. They never have been, and they never will be. The top executives and scientists at Bayer and J&J, along with those at the FDA, should have known how dangerous and damaging fluoroquinolones are.

**The Connections**

The connection is not difficult to make. [Pharmaceuticals damage mitochondria](#) (they're vulnerable little organelles that also happen to be quite important). Damaged mitochondria produce reactive oxygen species (ROS) which is also known as oxidative stress. ROS / oxidative stress is associated with (by “associated with” I mean causes, but shhhh, you can't say that while being scientific) every single chronic disease there is – including, but not limited to; Alzheimer's (14), Parkinson's (15), chronic fatigue syndrome / M.E. (16), fibromyalgia (17), Gulf War Syndrome (18), autism (19),

*Continued on page 13*

## FEATURED ARTICLES

# The Antibody Deception

By Brandon Turbeville  
Activist Post, January 13, 2014

Over the last several years, more and more people have become aware of the enormous dangers of vaccination. This is due, in large part, to the tireless work of a number of researchers and activists who have pointed out the horrific side effects attached to the use of toxic vaccine ingredients such as [aluminum](#), [polysorbate 80](#), [thimerosal](#), and [squalene](#) among a host of other harmful results of vaccination that can manifest in lasting impairment and even death.

Yet, the pharmaceutical industry, medical doctors, and corporate media outlets continue to push toxic injections as the only way to prevent disease and ridicule those individuals who refuse to take seasonal flu shots and other vaccinations as crackpots and paranoid conspiracy theorists. Even those individuals who have been afflicted with the negative side effects of vaccines are themselves attacked and marginalized after coming forward with their injuries.

Still, after all of the available evidence proving vaccine dangers and lack of efficacy, and after all of the suffering so easily seen amongst those who have experienced side effects of vaccines, the pharmaceutical and medical industries still maintain that vaccines are both safe and effective. However, despite the nature of the vaccine debate, one area of vaccination theory is scarcely mentioned in regards to the question of whether or not vaccines are even effective – the presence of antibodies and what they mean in terms of vaccine efficacy.

[Part of the theory behind vaccination](#) is that the injection of specific antigens in vaccine form mimics natural infection which then causes B cells, a type of white blood cell of the immune system, to produce antibodies to the antigen as part of the adaptive immune system, thus producing immunity to the disease by “teaching” the overall immune system how to respond the specific infection before the body ever comes in contact with it.

As [Science Daily explains](#), *The immune system has two main branches, innate immunity and adaptive immunity. Innate immunity is a first line of defense that relies on cells and mechanisms that provide non-specific immunity. The more sophisticated adaptive immunity, which counts antibody-producing B cells as part of its arsenal, is thought to play a major role in the specific response to viral infections in mammals. However, adaptive immune responses require time to become fully mobilized.*

However, recent mainstream medical research is starting to point to what many natural researchers and medical doctors skeptical about the ability of vaccines to prevent disease have been saying for many years; namely that immune system antibodies are not able to fight infection by themselves nor are they an accurate indication of the presence of immunity.

Indeed, in the Science Daily article quoted above and entitled, “Antibodies Are Not Required For Immunity Against Some Viruses,” the authors report on a study that “turns the well established theory that antibodies are required for antiviral immunity upside down and reveals that an unexpected partnership between the specific and non-specific divisions of the immune system is critical for fighting some types of viral infections.”

The study, entitled “[B cell maintenance of subcapsular sinus macrophages protects against a fatal viral infection independent of adaptive immunity](#),” examined mice that had been infected with vesicular stomatitis virus (VSV). The results of the experiment were quite surprising to the scientists. As Dr. Ulrich H. von Andrian of Harvard Medical School stated, “Mice infected with vesicular stomatitis virus (VSV) can suffer fatal invasion of the central nervous system even when they have a high concentration of anti-VSV antibodies in their system. This observation led us to revisit the contribution of adaptive immune responses to survival following VSV infection.”

*Continued on page 9*



The scientists also studied infected mice who had B cells but did not produce antibodies. Coming as a surprise to the researchers, “although the B cells themselves were essential, survival after VSV exposure did not require antibodies or other aspects of traditional adaptive immunity.” Co-author of the study, Dr. Matteo, stated that “We determined that the B cells produced a chemical needed to maintain innate immune cells called macrophages. The macrophages produced type I interferons, which were required to prevent fatal VSV invasion.”

The researchers concluded that antibodies are not required to survive infection and that the actual relationship they play to immunity needs to be investigated further. Dr. von Andrian stated,

Our findings contradict the current view that antibodies are absolutely required to survive infection with viruses like VSV, and establish an unexpected function for B cells as custodians of macrophages in antiviral immunity. It will be important to further dissect the role of antibodies and interferons in immunity against similar viruses that attack the nervous system, such as rabies, West Nile virus, and Encephalitis.

In short, while the science may still be out in regards to what role and significance the presence of antibodies hold, it is quite possible that antibodies play no role legitimate role whatsoever in preventing or fighting off infections.

Yet the von Andrian study is not the only examination of antibody testing that has yielded such surprising results. That is, surprising to the medical community which has relied on the presence of antibodies as an indicator of immunity for so long.

For instance, in a study entitled “[What are the limits of adjuvanticity?](#)” researchers stated a similar conclusion when it came to the relationship between the presence of antibodies and immunity. The researchers write, “It is known that, in many instances, antigen-specific antibody titers do not correlate with protection. In addition, very little is known on parameters of cell-mediated immunity which could be considered as surrogates of protection.” Indeed, it is important to note the acknowledgement of prior evidence of the lack of correlation between antibody presence and immunity.

Similarly, in a study published in *Neurology* entitled “[Severe tetanus in immunized patients with high anti-tetanus titers](#),” it was also demonstrated that titers (the measurement of the levels of antibodies in the blood-

stream) were poor indicators of immunity. As is evidenced by the title of the study, three patients were infected with tetanus after having been vaccinated and tested for the presence of high numbers anti-tetanus antibodies.

A study which produced similar findings actually prompted the [British Medical Journal to produce](#) a letter to practicing physicians stating “Shimoni et al illustrate a needed caution to clinicians: do not exclude a diagnosis of tetanus in a patient who has been fully immunized.” See the Shimoni article entitled, “[Tetanus in an immunised patient](#).”

In addition to the above studies, however, many other MDs have warned about relying upon titers and antibody presence to assess immunity. For instance, Dr. F.M. Burnet writes in his article, “[Measles As An Index Of Immunological Function](#),” published in *The Lancet* in 1968, that

*One of the most disconcerting discoveries in clinical medicine was the finding that children with congenital agammaglobulinaemia, who could make no antibody and had only insignificant traces of immunoglobulin in circulation, contracted measles in normal fashion, showed the usual sequence of symptoms and signs, and were subsequently immune. No measles anti-body was detectable in their serum (the water part of blood minus clotting factors and cells).*

Consider also the statements recorded during a testimony to the European Court of Human Rights in 2006 and [cataloged at the Access To Justice and Whale.to websites](#) regarding the MMR vaccination and antibody testing.

A titer test does not and cannot measure immunity, because immunity to specific viruses is reliant not on antibodies, but on memory cells, which we have no way to measure. Memory cells are what prompt the immune system to create antibodies and dispatch them to an infection caused by the virus it “remembers.” Memory cells don’t need “reminders” in the form of re-vaccination to keep producing antibodies. (*Science*, 1999; “Immune system’s memory does not need reminders.”)

This statement regarding the importance of memory cells is corroborated by at least two different studies published in *Science* in 1999. [According to Michael Haggmann](#) when writing his own article for *Science*, entitled “[Memory T Cells Don’t Need Practice](#),” these studies, “bolster the notion that immune cells never forget.” [1] Haggmann, however, was referring to the studies entitled “[Persistence of Memory CD8 T Cells in MHC Class I-Deficient Mice](#)”[2] and “[Class II-Independent Generation of CD4 Memory T Cells from Effectors](#)”[3] respectively.

Immunologist John B. March has also stated clearly the lack of correlation between antibody levels and immunity.

*Continued on page 10*

## ***Continued from page 9 – The Antibody Deception***

In an interview with [Private Eye Magazine published on January 25, 2002](#), Dr. March, who develops animal vaccines, asserted that measuring antibody response is usually a very poor method of measuring immunity. He stated, "Particularly for viral diseases, the 'cellular' immune response is all important, and antibody levels and protection are totally unconnected."

Dr. Tetyana Obukhanych, an immunologist and vaccine expert, summed up the nature of titer testing and antibody level correlation to immunity in an [interview with Catherine Frompovich](#). When asked to give a brief rundown of the antibody theory, [Dr. Obukhanych stated](#),

*The concept of antibodies evolved from the research on toxins, such as diphtheria or tetanus toxins. Initially, antibodies were referred to as 'anti-toxins'—some mysterious entities that were appearing in the blood of toxin-injected research animals that could neutralize the pathological effects of those toxins.*

I would like to mention that based on clinical research described in the book by Dr. Thomas Levy, *Curing the Incurable*, ascorbic acid would fall into the definition of an "anti-toxin," as it is known to effectively curb the symptoms of most toxin-mediated as well as infectious diseases when given intravenously at very large doses.

But immunologic research on anti-toxins went into a very narrow direction and led to the idea that anti-toxic ability is restricted to a certain class of immunoglobulins, which we now call antibodies.

Immunologists then realized that such "antibodies" could be raised not only against toxins, but also against practically any substance that is presented to the immune system in a certain way. Some of the requirements for such "immunogenicity" (i.e.—ability to induce antibody production) are: 1) a substance must be of non-self origin; and 2) it must be accompanied by a "danger" signal, usually provided by an irritating or cell-damaging substance called adjuvant or by pathogen-associated pattern molecules of bacterial or viral origin.

The science of Immunology then got caught up in uncovering excruciatingly minute details of antibody production process, none of which needs to be of interest to non-immunologists. Yet, most of the 20th century in basic immunologic research was devoted to this endeavor, encouraged and rewarded by numerous Nobel prizes. This only reinforced the notion of the importance of antibodies, creating the antibody-centered paradigm in immunology.

Needless to say, the sole purpose of vaccines is to raise antibodies that bind the microorganisms and toxins, based on the antibody-centered paradigm of protection.

But seeing so many reports of disease outbreaks occurring in properly vaccinated individuals, as well as reports of the disease in vaccinated individuals with documented high titers of antibodies only reinforces my conviction that an antibody-centered paradigm needs to be re-examined with great scrutiny.

With all of the evidence such as that compiled in this article, the underlying foundation of claims by the medical and pharmaceutical industries regarding vaccine effectiveness is clearly a shaky one. The evidence that vaccines work – without even taking into account the many studies which have demonstrated that they do not – is thus wholly unreliable even when demonstrating the "proof" claimed by the researchers.

In short, neither vaccination nor antibody response equals immunity.

### **Notes:**

[1] *Science* 12 November 1999: Vol. 286 no. 5443 p. 1267  
DOI: 10.1126/science.286.5443.1267a

[2] Kaja Murali-Krishna, Lisa L. Lau, Suryaprakash Sambhara, Francois Lemonnier, John Altman, and Rafi Ahmed *Science* 12 November 1999: 1377-1381.

[3] Susan L. Swain, Hui Hu, and Gail Huston *Science* 12 November 1999: 1381-1383.

<http://www.activistpost.com/2014/01/the-antibody-deception.html>



## ***Continued from page 2 - Why Antibiotics are making us all ill***

Britain is the fattest nation in western Europe, with more than a quarter of the population ranked obese. The UK figure of 26.1% is more than twice that of France, at 12.9%; the Australian rate is even higher, at 28%. Next time you go to an airport terminal or supermarket, look around and see for yourself. The obesity epidemic is global. As of 2008, [according to the World Health Organisation](#), 1.4 billion adults were overweight; of these, more than 200 million men and nearly 300 million women qualified as obese. Many of these people live in developing countries that we associate more with famine than overeating.

These figures are alarming but what is really shocking is that this global human body fat accumulation has been accelerating not over the course of a few centuries, but in a mere two decades. Yet fat- and sugar-rich foods, so often blamed for all the extra pounds, have been ubiquitous for a good deal longer than that, at least in the developed world, and the new generations of overweight people in the developing world have not suddenly adopted a Kentucky-fried, American-style diet. Epidemiological studies have shown that high caloric

*Continued on page 11*

intake, while definitely not helpful, is not sufficient to explain the distribution or course of the worldwide obesity epidemic.

At the same time, the autoimmune form of diabetes that begins in childhood and requires insulin injections (juvenile or type 1 diabetes) has been doubling in incidence about every 20 years across the industrialised world; in Finland, where record-keeping is meticulous, the incidence has risen by 550% since 1950. This increase is not because we are detecting type 1 diabetes more readily. Before insulin was discovered in the 1920s, the disease was always fatal. Nowadays, with adequate treatment, most children survive. But the disease itself has not changed; something in us has changed. Type 1 diabetes is also striking younger children. The average age of diagnosis used to be about nine. Now it is around six, and some children are becoming diabetic when they are two.

The recent rise in asthma, a chronic inflammation of the airways, is similarly alarming. There are 5.4 million people with asthma in the UK, affecting one in five households. One in 12 adults is afflicted. One in every 11 children suffers from the wheezing, breathlessness, chest tightness and coughing emblematic of asthma. Two million Australians, 10% of the population, also suffer from the condition. The rate of childhood asthmas increased by 50% from 2001 through 2009 in the US, and the rise in asthma did not spare any ethnicity; the rates were initially different in various groups, and all have been rising.

Asthma is often triggered by something in the environment such as tobacco smoke, mould, air pollution, cockroach droppings, colds and flu. Once an attack begins, asthmatics gasp for air and, without rapid access to medication, are rushed to emergency rooms. Even with the best care, they can die.

Food allergies are everywhere. A generation ago, peanut allergies were extremely rare. Now, if you stroll through any preschool, you will see walls plastered with "nut-free zone" bulletins. More and more children suffer immune responses to proteins in foods, not just in nuts but in milk, eggs, soy, fish, fruits – you name it, someone is allergic to it. Coeliac disease, an allergy to gluten, the main protein in wheat flour, is rampant.

More than a third of British teenagers and 15% of Australians suffer from hay fever. Eczema, a chronic skin inflammation, affects more than 15% of children in the US and 30% of Australian infants develop it in their first year.

These disorders suggest that our children are experiencing levels of immune dysfunction never seen before. And then there's autism – a much discussed and debated modern plague that is a focus of my laboratory.

Nor are adults escaping these modern plagues. The incidence of inflammatory bowel disease, including Crohn's and ulcerative colitis, is rising. When I was a student, oesophageal reflux, which causes heartburn, was uncommon. But the ailment has exploded in these past 40 years, and the cancer it leads to, adenocarcinoma of the oesophagus, is the most rapidly increasing cancer in many developed countries, and is a particularly nasty problem, especially for men.

Why are all of these maladies rapidly rising at the same time across the developed world and spilling over into the developing world as it becomes more westernised? Can it be a mere coincidence? If there are 10 of these modern plagues, are there 10 separate causes? That seems unlikely.

Or could there be one underlying cause fuelling all these parallel increases? A single cause is easier to grasp; it is simpler, more parsimonious. But what cause could be grand enough to encompass asthma, obesity, oesophageal reflux, juvenile diabetes, and allergies to specific foods, among all of the others? Eating too many calories could explain obesity, but not asthma – in which many of the ill children are slim. Air pollution could explain asthma but not food allergy.

Many evidence-free theories are floated to explain each disorder. Lack of sleep makes you fat. Vaccines lead to autism. Genetically engineered wheat strains are toxic to the human gut. And so on.

The most popular explanation for the rise in childhood morbidity is the so-called hygiene hypothesis. The idea is that modern plagues are happening because we have made our world too clean. The result is that our children's immune systems have become quiescent and are therefore prone to false alarms and friendly fire. A lot of parents these days try to ramp up their kids' immune systems by exposing them to pets, farm animals, barnyards, or better still, by being pleased when they eat dirt.

I beg to differ. To me, such exposures are largely irrelevant to our health. The microbes carried by soil have evolved for soil, not for us. The microbes in our pets and farm animals also are not deeply rooted in our human evolution. The hygiene hypothesis has been misinterpreted.

Rather we need to look closely at the micro-organisms that make a living in and on our bodies – massive known collectively as the microbiome. In ecology, a "biome"



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**Continued on page 11 - Why Antibiotics are making us all ill**

refers to the sets of plants and animals in a community, such as a jungle, forest, or coral reef. An enormous diversity of species, large and small, interact to form complex webs of mutual support. When a "keystone" species disappears or goes extinct, the ecology suffers. It can even collapse.

Each of us hosts a similarly diverse ecology of microbes that, over eons, co-evolved with our species. They thrive in the mouth, gut, nasal passages, ear canal and on the skin. In women, they coat the vagina. The microbes that constitute your microbiome are generally acquired early in life; surprisingly, by the age of three, the populations within resemble those of adults. Together, they play a critical role in your immunity and ability to combat disease. In short, your microbiome keeps you healthy. And parts of it are disappearing.

The reasons are all around us, including overuse of antibiotics in humans and animals, caesarean sections, and the widespread use of sanitisers and antiseptics, to name just a few. Mothers give their microbes to their babies when they pass through the birth canal, but babies born by C-section miss that.

While antibiotic resistance is a huge problem – old killers like tuberculosis are increasingly resistant and making a comeback – there seems to be a separate problem, affecting people with such scourges as *Clostridium difficile*, a multiple-antibiotic-resistant bacteria of the digestive tract, and Methicillin-resistant *Staphylococcus aureus* (MRSA), a spreading pathogen. In the presence of antibiotics, the resistant organisms are the ones more fit; it is the pressure of intensive antibiotic use that is increasing the presence of these resistant organisms. The antibiotics I take affect the level of resistance of the bacteria in the entire community. In that sense, antibiotics are unlike all other [drugs](#) – my heart medicine does not affect anyone but me.

But as terrible as these resistant pathogens are, the loss of diversity within our microbiome is far more pernicious. Its loss changes development itself, affecting our metabolism, immunity, and possibly even our cognition. Microbes in our guts have a role in the production of some of the building blocks of the brain, as well as the molecules that provide signals from one brain cell to another.

I have called this process "the disappearing microbiota". For multiple reasons, we are losing our ancient microbes.

This quandary is my central theme. The loss of micro-

bial diversity on and within our bodies is exacting a terrible price. I predict it will be worse in the future. Just as the internal combustion engine, splitting the atom, and pesticides all have had unanticipated effects, so, too, does the abuse of antibiotics and other medical or quasi-medical practices (eg sanitiser use).

An even worse scenario is heading our way if we don't change our behaviour. It is so bleak, like a blizzard roaring over a frozen landscape, that I call it "antibiotic winter". We know that the "good bacteria" protect us against the "bad" ones, the pathogens that we may encounter over the course of a lifetime. As our populations of good bacteria become depleted, our susceptibility to the bad ones grows. I don't want the babies of the future to end up like my poor aunts. That is why I am sounding an alarm.

But in my lab, we are not waiting; we are working on solutions. We have more than 20 projects, examining how antibiotics affect resident microbes and their hosts, both in mice and humans. In a typical animal experiment, we give mice antibiotics in their drinking water and compare them with mice that do not get the drugs. We start early in life, sometimes just before birth, and then we let the mice grow, studying how fat they become, how their livers are working, how immunity is developing, how their bones are growing, and what happens to their hormones and to their brains.

From seeing the changes induced by these exposures to antibiotics, we have realised that early life is a key window of vulnerability. Young children have critical periods for their growth, and our experiments are showing that the loss of friendly gut bacteria at this early stage of development is driving obesity. We have [found this in mice](#) and we have found that human children (in England, participants in the Avon longitudinal study of parents and children) who received antibiotics in the first six months of life [were more likely to be fatty](#) at the age of seven years than children who didn't receive antibiotics during that same period, when we took into account other important factors.

Ultimately we hope to apply our findings from mouse studies to humans. We seek to reverse the damage seen in people around the world, including establishing strategies for putting back the missing microbes. A key step in every approach is to reduce overuse of antibiotics in our children, starting now. My odyssey as a doctor and scientist for more than 41 years has given me important perspectives about our modern plagues, and a full slate of solutions. This is a challenge we can and must meet.

<http://www.theguardian.com/society/2014/jun/01/why-antibiotics-making-us-ill-bacteria-martin-blaser>

COME BACK TO YOUR ROOTS

for a strong immune system. It is nutrients like these that primes our immune system, feeds the white blood cells and macrophages and allows them to function optimally.

8) Vaccines are neurotoxic and slow the level of nervous transmission, and communications to the brain and other tissues. Now we know that some lymphocytes communicate directly with the brain through a complex set of neurotransmitters. Altering these factors will also depress our immunity.

9) Vaccines suppress cellular immunity which occurs when vaccines are injected. Adjuvants include oil emulsions, mineral compounds (which may contain the heavy metal aluminum), bacterial products and liposomes (which allow delayed release of substances). The side effects of adjuvants themselves include hyperactivity of B cells leading to pathologic levels of antibody production, as well as allergic reaction to the adjuvants themselves

[http://preventdisease.com/news/14/051514\\_9-Ways-Vaccines-Reducing-Immunity-Inducing-Immune-Overload-In-Children.shtml](http://preventdisease.com/news/14/051514_9-Ways-Vaccines-Reducing-Immunity-Inducing-Immune-Overload-In-Children.shtml)



### **Continued from page 7 - These Over-Prescribed Antibiotics are Causing Transgenerational DNA Damage**

many psychiatric diseases (20), etc. Of course, the details of how pharmaceuticals damage mitochondria and how oxidative stress leads to those diseases is incredibly complicated, but the top scientists and executives at Bayer and J&J, and the “regulators” at the FDA, should be smart enough to read the source documents listed below and to know that the drugs that they produce/approve are dangerous. After all, it was stated in 1992 that:

*“the interaction (of fluoroquinolones) with DNA is still of great concern because of the possible long-term genotoxicity of quinolone compounds, which are increasingly adopted as first-choice antibiotics for the treatment of many infections, and because it addresses the real mechanism of action of this class of molecules.” (5)*

Paying attention to how pharmaceuticals interact with DNA is probably a good idea. Many pharmaceuticals damage mitochondria. Not all of them interrupt the production of enzymes that are vital for the replication and transcription of DNA though. Fluoroquinolones do. They also form poisonous metabolites (thanks carboxylic acid molecule!) (21) and leach all of the magnesium (22) and iron out of cells. It’s not exactly fun to go through. [Fluoroquinolones are damaging people](#) – on a cellular level – severely – and because of delayed reactions, tolerance thresholds and ignorance of everyone in the

medical system, victims have no idea what hit them.

### **People are Sick – Pharma Companies Should be Held Responsible for Their Role**

People are sick. They are chronically ill and are suffering. Neither doctors nor anyone in the pharmaceutical industry have any idea how to put them back together again.

Doctors have no idea how to help those suffering from Fluoroquinolone Toxicity Syndrome or any other chronic “mysterious” disease. They don’t even know how to administer the correct tests to give them an accurate diagnosis. So they blame the patients – for their diet or lifestyle or pain. But the patients are not to blame. The drugs are to blame.

The people who make, sell, and fail to regulate these drugs are to blame. They should be held accountable.

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**Continued on page 14**

**Continued on page 13 – These Over-Prescribed Antibiotics are Causing Transgenerational DNA Damage**

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## If Tuberculosis Spreads...

By Polly J. Price

July 8, 2014  
NY Times

ATLANTA — DRUG-RESISTANT tuberculosis is on the rise. The World Health Organization reports around 500,000 new drug-resistant cases each year. Fewer than half of patients with extensively drug-resistant tuberculosis will be cured, even with the best medical care. The disease in all its forms is second only to AIDS as an infectious killer worldwide.

The United States has given more than \$5 billion to the Global Fund to Fight AIDS, Tuberculosis and Malaria. But drug-resistant tuberculosis isn't a problem only in the developing world; we must turn our attention to the fight against it here at home.

Tuberculosis rates have declined in the United States in the last decade. In 2012, there were around 10,000 cases, and of those, only 83 were resistant to all of the most commonly used tuberculosis drugs — 44 fewer than in 2011. So far we have been lucky. The low numbers hide the precarious nature of the nation's public health defense, and how vulnerable we would be to an epidemic.

The problem is that responsibility for tuberculosis control is divided among 2,684 state, local and tribal health departments. That infrastructure is politically and legally fragmented, underfunded and disproportionately strained in many poor communities.

Patients with infectious tuberculosis, caused by bacteria that usually attack the lungs, need medication regularly administered over many months. Local public health workers provide the medication and observe that it is taken by the patient, requiring as many as five visits each week. If treatment is interrupted, or if the drugs are not working, patients have a much higher chance of developing (and spreading) drug-resistant tuberculosis. At the same time, health workers must track down and test anyone who had come in close contact with patients before the disease was diagnosed, to be certain no one else has been infected.

All this is made much more difficult by the patchwork of jurisdictions and the lack of coordination among health departments, which can easily lose track of patients who travel or relocate to another county or state.

Tuberculosis is also most common in communities with the least stability. Among people born in the United States, the greatest disparity is between blacks and whites; blacks contract it at a rate more than seven times higher than whites, often because of poverty and crowded living conditions. But foreign-born individuals account for two-thirds of new cases. We have no reliable method to identify tuberculosis in migrant populations or foreign visitors. Even if screening at borders were logistically possible, it could take several days to obtain test results. By that time, it would be difficult to locate travelers who were unknowingly carrying the disease. And health departments near the southern border are already overwhelmed, especially by a recent influx of migrant children from Latin America, where tuberculosis is more common.

Perhaps most critical is the high rate of tuberculosis among the two million people incarcerated in America. Prisoners are routinely screened and treated, but that treatment ends when they are released, even if they are not yet cured. Former prisoners are also among the least compliant of all patients, possibly because the strict medication regimen, which requires repeated contact with government health care personnel, feels like an extension of their prison term.

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There is no legal mechanism to determine which local health department “owns” a tuberculosis patient after he is released from federal or state custody.

These decisions are too important to leave to the vagaries of local politics. In Jackson County, Ohio, voters last year were asked to approve a tax to continue to fund the county’s tuberculosis prevention and treatment program. In an effort to ensure approval, tax commissioners reduced the levy, leaving just enough to keep the program going. Voters still rejected it, 3,363 to 3,195. As a result, the health department had to cut the program’s public health nurse and a clerical assistant.

We need a better system for tuberculosis treatment, funded at the national level. The Division of Tuberculosis Elimination at the Centers for Disease Control and Prevention routinely works with local public health departments to monitor tuberculosis outbreaks and to provide expert guidance. But it does not have the funding to help them pay for tuberculosis treatment, even where local resources are clearly inadequate.

That must change. Congress should appropriate additional funds to the C.D.C. to cover costs of tuberculosis treatment that are now borne by local health departments. The C.D.C. should also take on the responsibility of locating and monitoring tuberculosis patients who move from one jurisdiction to another, including newly released prisoners, since many local health departments do not have the ability to do so.

It will be costly: Over the next 10 years, one estimate shows that we will need to spend \$1.3 billion on tuberculosis treatment — and that’s if infection rates remain the same. But tuberculosis’s greatest lesson is that the health problems of poor people in poor areas are everyone’s problem. Continuing our present failing system would prove to be far more expensive in the end, because drug-resistant tuberculosis will not obey political or economic boundaries.

*Polly J. Price is a law professor at Emory University.*

<http://www.nytimes.com/2014/07/09/opinion/if-tuberculosis-spreads.html?>



## Flu Vaccines Increase Infectious Bacteria Counts 100 Fold

By Sayer Ji

February 27, 2014

GreenMedInfo

If presumably safer “attenuated” flu vaccines are supposed to protect against influenza and its sometimes deadly complications, then why do vaccinated mice have up to 100-fold higher levels of flu-associated pathogenic bacteria than non-vaccinated mice?

A concerning new study published in *mBio*, an open access journal of the *American Society of Microbiology*, titled, “[Live Attenuated Influenza Vaccine Enhances Colonization of Streptococcus pneumoniae and Staphylococcus aureus in Mice](#),” [LAIV] reveals that live attenuated influenza vaccines (LAIVs) lead to the rapid and sustained overgrowth of pathogenic bacteria in the upper respiratory tract of mice at colonization densities up to 100-fold higher than non-vaccinated mice.

This is the first study of its kind to demonstrate that vaccination with a live attenuated viral vaccine can dramatically alter the colonization behavior of human bacterial pathogens in a manner very similar to that following infection from ‘wild-type’, i.e. naturally circulating, flu infections.

Influenza infection is well known to contribute to serious health complications, but this is the first time that a vaccine strain of flu has been found to induce similar alterations in disease-linked bacteria.

The authors describe the typical adverse effects of influenza infection:

*“Infection with influenza viruses increases susceptibility to severe lower and upper respiratory tract (LRT and URT, respectively) bacterial infections resulting in complications, such as pneumonia, bacteremia, sinusitis, and acute otitis media (11). Bacterial infections may be a primary cause of mortality associated with influenza virus infection in the absence of preexisting comorbidity (12, 13). Primary influenza virus infection increases acquisition, colonization, and transmission of bacterial pathogens (14), most notably the pneumococcus Streptococcus pneumoniae and Staphylococcus aureus (11, 15).”*

Because secondary bacterial infections following influenza infection are the main cause of harm and even death commonly attributed to influenza itself, these findings may have broad implications for immunization policies that, at present, do not take into account that, while vaccines may reduce the risk of one infectious disease, they may be increasing the risk of other equally, or more, concerning pathogens.

The authors discuss the possible mechanisms through which influenza may influence increased disease susceptibility:

*Continued on page 16*

*“Although the underlying mechanisms, while well studied, are not entirely defined, they likely include a combination of influenza virus-mediated cytotoxic breakdown of mucosal and epithelial barriers (16–18) and aberrant innate immune responses to bacterial invaders in the immediate postinfluenza state, characterized by uncontrolled pro- and anti-inflammatory cytokine production, excessive leukocyte recruitment, and extensive immunopathology (11, 19–22). When coupled with diminished epithelial and mucosal defenses, such an environment becomes increasingly hospitable for bacterial pathogens to flourish and invade in the days and first few weeks following influenza virus infection.”*

The researchers emphasized the importance of their finding insofar as, “Influenza infection causes individuals to become transiently susceptible to excess bacterial infections, particularly *Streptococcus pneumoniae* and *Staphylococcus aureus*.”

Because, “bacterial infections are a leading cause of severe disease during influenza epidemics,” the implication is that the immune-altering effects of live flu vaccines may include suppressing innate immune defenses, making the host more susceptible to the very secondary bacteria infections most likely to cause flu-associated harm.

In addition to finding that live attenuated influenza vaccines prime the upper respiratory tract for increased bacterial growth, they found an increase in the persistence of bacterial carriage, also in a manner nearly identical to that seen following wild-type influenza virus infections. Even 28 days following LAIV vaccination, far after viral clearance from the nasopharyngeal tract was complete (approximately 7 days after the vaccine), mice saw excess bacterial proliferation relative to PBS controls between 2- to 4-fold higher between days 1 and 3 post-infection.

While the researchers did not find that LAIVs increased morbidity or mortality associated with bacterial disease of the lower respiratory tract of the mice, they cautioned:

“These findings may have consequences for individual bacterial disease processes within the upper respiratory tract, as well as bacterial transmission dynamics within LAIV-vaccinated populations.”

In other words, even if the significant increases in bacterial infections did not cause increased morbidity and/or mortality in vaccinated populations, their transmissibility to others would increase due to higher levels and longer duration of carriage of pathogenic

bacteria. This is, of course, the primary argument used to pressure the non-vaccinated to succumb to immunization: namely, that the non-vaccinated are somehow more likely to transmit disease than the vaccinated. If this animal study applies to humans, the opposite would be true. LAIV vaccination would both increase the number of bacteria the vaccinated carry, and would prolong their carriage time — and hence transmissibility — for 28 days or longer after administration. This is in addition to the fact that even the [FluMist live vaccine insert](#) provides ample evidence that the vaccine can infect the recipient with an infectious form of influenza that can be shed to others as long as three weeks after receiving it.

They also pointed out that, while they did not find evidence of harm, there is reason to be concerned:

“The potent and often lethal effects of an antecedent influenza virus infection on secondary bacterial disease have been reported previously (11, 21, 44–46). Viral replication induced epithelial and mucosal degradation, and the ensuing innate immune response yield diminished capacity to avert secondary bacterial infections. Recent clinical and experimental data suggest that influenza virus infection may exert its influence beginning in the URT by enhancing susceptibility to bacterial colonization (14, 47, 48) and increasing NP carriage density (36).

The main implication of this study is that, “live attenuated viral vaccines may have unintended consequences on important human bacterial pathogens unrelated to the vaccine target species.”

In fact, this study may explain concerning side effects associated with the FluMist live attenuated influenza vaccine that traditionally have been attributed to the vaccine virus itself – and not to secondary bacterial infections it may elicit.

According to the study,

*“Although adverse URT symptoms following administration of FluMist are considered to be of viral etiology, they are most evident in children <5 years of age, where rates of bacterial carriage are greatest (52). Potentially corroborating this are data from a large prospective double-blind trial of FluMist (trial no. MI-CP111 [53]) that assessed reactogenicity and adverse URT events within the first 28 days following vaccination in ~3,000 children between the ages of 6 and 59 months. This trial demonstrated a bimodal increase in URT symptoms following FluMist vaccination, the first between days 2 and 4 post-vaccination and the second between days 5 and 10 post-vaccination (53). While these increased URT events (relative to controls receiving trivalent inactivated influenza vaccine) were considered*

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*normal reactions to the live vaccine, the bimodal nature of the increased symptoms suggests that two distinct mechanisms may be in place. In the context of the current findings, the first peak may correspond with viral replication, while the second, more sustained peak may, at least in part, be driven by symptoms due to excess bacterial carriage.*

What this new study reveals is that we are only beginning to understand the unintended; 'off target' effects vaccines are having to the immune system. If attenuated influenza vaccine is increasing the colonization of potentially deadly bacteria in 'immunized' populations, as this animal study appears to indicate, the precautionary principle should guide us to err on the side of caution and refrain from using them until they are retested and proven in human clinical studies to be safe and effective.

<http://www.greenmedinfo.com/blog/live-flu-vaccines-increase-infectious-bacteria-counts-100-fold-mice?>

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## **Deadly Virus Wiping Out 100,000 Piglets Each Week**



**By NY Times**

5 July 2014

The bodies are piling up fast. A deadly virus, porcine epidemic diarrhea, or PEDv, is estimated to have killed, on average, more than 100,000 piglets and young hogs each week since it first showed up in Iowa in May 2013, wreaking havoc on the pork industry.

The number of hogs slaughtered this year is down 4.2 percent, according to the United States Agriculture Department, to roughly 50 million from more than 52 million in the same period in 2013.

That drop drove up the price of bacon and center-cut pork chops sold in the United States by more than 12

percent in May, compared with the same period a year ago, according to the Bureau of Labor Statistics. Prices for bacon rose more than 15 percent, and pork chops were up almost 13 percent.

"I've been a vet since 1981, and there is no precedent for this," said Paul Sundberg, vice president for science and technology at the National Pork Board. "It is devastatingly virulent."

A swine virus appeared in the United States last spring in Ohio and in weeks had spread to four more states. How it entered the country is unknown. Hog Farms Battling to Contain Deadly Virus AUG. 4, 2013

The fatality numbers are so staggering that environmentalists have grown worried about the effects of state laws requiring the burial of so many carcasses, and what that will do to the groundwater.

"We know there is a lot of mortality from this disease, and we're seeing evidence of burial in areas with shallow groundwater that a lot of people rely on for drinking water and recreation," said Kelly Foster, senior lawyer at the Waterkeeper Alliance, an environmental group.

Waterkeeper has asked the North Carolina Department of Agriculture and Consumer Services to put a mass disposal plan into effect, and wants it to declare a state of emergency. On its website and YouTube, the organization has posted photos of dead piglets barely covered with earth and boxes overflowing with the bodies of young pigs, although it is unclear whether all were victims of the virus.

Steven W. Troxler, the state's agricultural commissioner, has so far declined to seek an emergency declaration, saying in a letter to Waterkeeper that he thought existing disposal systems, including composting and the shipping of carcasses to rendering facilities were up to the challenge. "We are not aware of any published scientific data that indicates any groundwater contamination as a result of PEDv," according to the letter, which Mr. Troxler wrote in March.

Some of the huge hog operations in North Carolina have become ensnared in disputes over aerial photographing of farms, some of it unrelated to the spread of the virus, and industry officials have expressed concerns about the practice as well.

Three state lawmakers had proposed a bill that effectively would require state agencies to keep under lock and key any aerial photographs of agricultural operations that include global positioning coordinates. The move echoed an effort by United States Senator Mike Johanns, Republican of Nebraska, to impose a yearlong moratorium on the Environmental Protection Agency's taking of aerial

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photographs of cattle feedlots and farming operations to monitor compliance with the Clean Water Act.

Mr. Johanns's amendment, attached to a recent appropriations bill, was altered to require the E.P.A. to give the Senate more information about its aerial photography program.

Last summer, George Steinmetz, a photographer working for National Geographic, was arrested in Kansas under the state's "ag gag" law after using a paraglider to take photographs of cattle feedlots and other agricultural operations for an article on the food industry.

Precisely how many pigs have died from the virus, which causes acute diarrhea that is virtually 100 percent lethal for piglets two to three weeks old, is unknown.

The Agriculture Department did not require reporting of the disease until June 5, and it does not collect data on how many pigs the virus has killed, instead referring the question to the hog industry — which does not like to talk about it.

The National Pork Producers Council does not have a figure of its own but said it had heard that about eight million pigs had died of PEDv so far.

The U.S.D.A. said that as of May 28, nearly 7,000 samples submitted from 30 states to labs tested positive for the virus. Since May, there have been reports of pigs afflicted with the virus in a 31st state. "We do know that it is a particularly persistent virus, and it can survive long periods in less-than-ideal environments," Joelle Hayden, a department spokeswoman, wrote in an email.

Agriculture Secretary Tom Vilsack recently pledged \$26.2 million for a variety of efforts to fight the virus, including development of a vaccine. The largest amount, \$11.1 million, is to be allocated to helping hog producers with infected herds enhance their biosecurity practices.

The money is badly needed. In an illustration of how indiscriminate the disease is, the virus was found in Vermont in March on a traditional farm with a small drift of pigs raised largely on pasture. "I was not as surprised as one might think," said Dr. Kristin Haas, the state veterinarian. "Even though in Vermont and most of the Northeast we don't have the same type of commercial swine operations that you find in Iowa and North Carolina, there is still a tremendous amount of livestock moving in and out of the state."

Michael Yezzi, proprietor of Flying Pigs Farm just

across the border in New York State, said farmers suspected that the virus arrived on a truck from Pennsylvania. "It's a very big concern because we have young stock on the farm, piglets born on the farm and piglets brought in from regional breeders," Mr. Yezzi said. "We have to make sure the farms we're working with don't have it, because it's going to kill everything under a certain age."

"Nobody wants to lose 10 to 20 percent of their yearly supply of pigs, whether that would be 150 for someone like me or 15,000 for someone in Iowa."

Prevention is no mean feat. At the Hord Livestock Company in north-central Ohio, for instance, trucks returning from feed deliveries are cleaned and disinfected and then the trailers are baked to 160 degrees for 10 minutes. Drivers wear disposable bootees, and farm supervisors are not allowed to travel between Hord's farms.

And yet the company has just finished the four- to five-month process of eliminating the virus from one of its And yet the company has just finished the four- to five-month process of eliminating the virus from one of its farms and is working to disinfect another and build up its sows' immunity so they can pass it on to their piglets in their colostrum. The two farms had different strains of the virus, one more deadly than the other.

On average, more than 100,000 piglets and young hogs have been killed each week by the virus, which first showed up in Iowa in 2013. *Credit Lane Hickenbottom/Reuters*

Pat Hord, whose family owns the business, would not say how many of its animals died from PEDv. "Even though the economic hit is definitely significant, it's probably the emotional side that's the worst of it for me and my family and the team here," Mr. Hord said. "All we do every day is take care of the animals the best that we can, but there's nothing you can do for them when this disease hits — it's out of your control."

The Hords, who also raise cattle, use composting to dispose of animal carcasses, laying dead animals on a concrete slab, mixing in sawdust and rotating the mixture as it decomposes to aerate it. Mr. Hord said disposal of the increased number of dead pigs had not been a particular problem. "The good news, if there is any in this," he said, "is that baby pigs are very small."

Waterkeeper, however, says that the sheer volume of dead animals poses an environmental threat.

"They're very secretive about how many pigs have died in North Carolina, but we estimate that it's about two million over the last year or so," said Rick Dove, a retired Marine

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Corps lawyer who has taken aerial photos of pig farms for Waterkeeper's North Carolina affiliate. "They can't move those pigs off the farm because it will spread disease, so they're being buried in ground along the coastal waterways where the groundwater level is high."

State regulation requires the bodies to be buried at least two feet underground, which in many places means the dead pigs come into contact with groundwater, Mr. Dove said.

The virus does not infect humans. As the corpses decompose, however, they can become hosts for bacteria and other pathogens.

Each state has its own requirements for the disposal of carcasses. Iowa, one of the largest hog-producing states, has a set of disposal methods for use during emergency disease outbreaks. They range from burial and rendering to use of alkaline hydrolysis, a highly specialized process using chemicals and heat to break down tissues.

An Iowa State University publication describing various processes for disposing of carcasses during an epidemic estimated that it would take a pit six feet deep, 300 feet long and 10 feet wide to hold 2,100 pigs, and the pit would need to be covered with three to six feet of dirt in a site marked by GPS coordinates and regularly inspected.

North Carolina issued a warning to a pig operation for having an open burial pit on its property, Ms. Foster, the Waterkeeper lawyer, said. The organization brought the issue, which it documented with aerial photos of the farm, to the attention of the state agriculture department.

The North Carolina Farm Bureau contends that such photographs create unnecessary expenses for its members. "Third parties are making complaints to environmental regulators, and using aerial photography to document what they say are violations," said Paul Sherman, director of the farm bureau's air and energy programs. "The vast majority of those cases are unfounded, but farmers still have to deal with it, it eats up a good part of a day or two and often the same complaints come up multiple times."

<http://wealthydebates.com/deadly-virus-wiping-100000-piglets-week/>



## **Vaccine Contamination: A Threat to Human Health**

**By Barbara Loe Fisher**

In the past few months, the American public has been informed that two infant diarrhea vaccines – GlaxoSmithKline's Rotarix and Merck's RotaTeq – are contaminated with pig virus DNA. <sup>1,2</sup> But there's a difference between the two vaccines: Rotarix contains parts of a pig virus that does not make pigs sick while Merck's RotaTeq contains parts of a pig virus that kills baby pigs. <sup>3,4,5</sup>

How many mothers know that, when Merck's diarrhea vaccine is squirted into the mouths of their two month old babies, they are swallowing parts of a pig virus that suppresses the immune systems of baby pigs so badly, they waste away and can suffer respiratory, kidney, reproductive and brain damage before dying? <sup>6,7,8</sup>

And how many doctors and nurses making babies swallow rotavirus vaccines know that?

And how many members of Congress, who are responsible for oversight of federal health agencies charged with ensuring vaccine safety, know that?

And how many mainstream media outlets are not covering this important story, a story that broke on March 22, 2010, when the FDA recommended temporary suspension of Rotarix vaccine because of contamination with parts of a non-lethal pig virus, only to withdraw the recommendation after a meeting on May 7th, when it was revealed that RotaTeq is contaminated with DNA from a pig virus that is lethal? <sup>9</sup>

Why should we care about vaccines being contaminated with foreign DNA from deadly animal viruses?

Because it is a well known fact that DNA from animal viruses can infect human cells and change human DNA to cause disease in humans. <sup>10, 11</sup>

Last fall public health officials declared an international pandemic emergency after a new pig-bird-human hybrid influenza virus was identified in Mexico and several people died. <sup>12</sup> Animal viruses can evolve to infect and make us sick and there are no guarantees that won't happen because doctors are pouring parts of a virus that kills baby pigs down the throats of two, four and six month old babies.

Scientists working in the labs of Merck and the FDA don't know if pig virus DNA will infect human cells and change human DNA so that the babies given contaminated rotavirus vaccines - or their children – will someday suffer immune suppression that damages lungs, kidneys, brains and reproductive ability before they die just like the baby pigs are dying today.

I attended the May 7 FDA meeting and made two public comments on behalf of the National Vaccine Information

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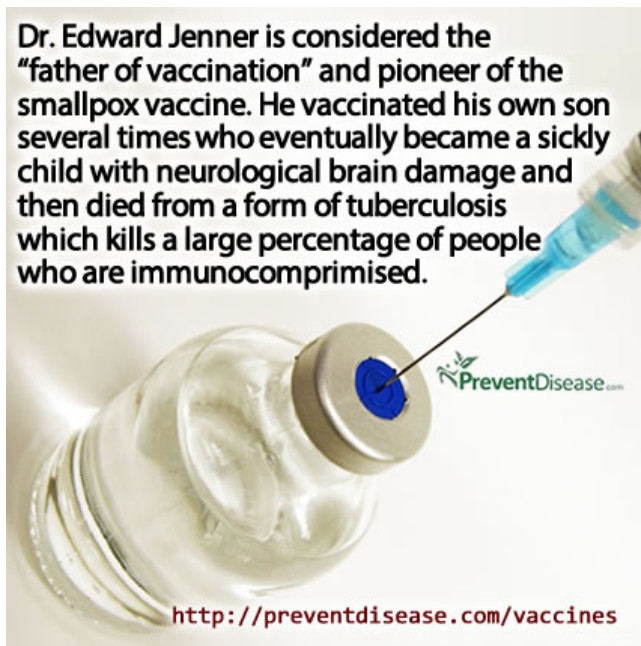
## FEATURED ARTICLES

# What Most People don't know about the Father of Vaccination and Why History is Repeating Itself

By Dave Mihalovic  
PreventDisease.com, March 10, 2014

For centuries, medical practitioners we have tried to find ways of inducing immunity in order to escape the consequences of disease, but vaccination itself is relatively new and a mere blip on our historical timeline. It embraces a noble intention, which is why so many are easily deceived regarding its true effectiveness. Dr. Edward Jenner is considered the "father of vaccination", variolation or inoculation. He was the pioneer of the first smallpox vaccine and he was also the first to formulate a vaccine for approved experimentation which began with his 10-month old son.

**Dr. Edward Jenner is considered the "father of vaccination" and pioneer of the smallpox vaccine. He vaccinated his own son several times who eventually became a sickly child with neurological brain damage and then died from a form of tuberculosis which kills a large percentage of people who are immunocompromised.**



### Who Was Edward Jenner?

Modern vaccination practices appear to have their pathogenesis in the work of Edward Jenner. As a boy, Jenner was himself subjected to abusive methods of variolation, where the scabs of smallpox victims were applied to open wounds inflicted by the administra-

tors such as the local apothecary. Despite a 75% survival rate for natural smallpox infections, there were no cures. The "cures" of those days were barbaric and poisonous, likely killing as many people as smallpox itself.

Variolation or Inoculation was the method first used in an attempt to immunize an individual against smallpox (Variola) with material taken from a patient or a recently-variolated individual in the hope that a mild but protective infection would result. The procedure was most commonly carried out by inserting/rubbing powdered smallpox scabs or fluid from pustules into superficial scratches made in the skin.

Smallpox, after all, no matter how mild it may be in a specific case, was still highly contagious, and those infected by someone with a mild case might still themselves develop a serious or fatal case. On the average, a given case of smallpox probably resulted in contagion to two to five other persons, usually family or friends. Furthermore, some people recognized that the practice of variolation not only increased the incidence and prevalence of the disease in England, but that the practice had also probably increased the severity of the disease. In fact, later it was confirmed through statistical analysis, that [well vaccinated patients in London and Glasgow experienced the most deaths](#) due to being vaccinated compared to those who were not.

Because of these beliefs, variolation was made illegal for a time in mid-century, across the channel in France. It was also eventually made illegal in England in 1840 (well after Jenner's experiments), when it was enacted that any person who shall...produce in any Person, by Inoculating with Variolous Matter, or by willful exposure to Variolous Matter, or willfully by any other Means whatsoever

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produce the Disease of Smallpox in any person shall be liable to be proceeded against...and shall, upon Conviction, be imprisoned in the Common goal, or House of Correction for a Time not exceeding one Month.

In 1789, Jenner decided (just after he had been elected as a Fellow of the Royal Society) to try immunizing (or what he thought was immunizing) his ten month old son, Edward, Jr, and two of his neighbor's servants, by inoculating them with swinepox.

He had learned well from his famous teacher, Dr John Hunter that one will learn more by "trying the experiment" rather than by just speculating about it. So Jenner performed the experiment by making a small scratch on the servants' and the baby's arms with a lancet and then infecting the scratch "with matter from a pustule of the baby's nurse, who had caught the swinepox infection." Eight days later baby Edward took sick and developed sores, but he did eventually recover.

Then, two years later, Jenner again challenged his son with smallpox again, this time, with unhappy results. This time there was a reaction, and a severe one. But he quickly recovered, and a year later Jenner inoculated him with smallpox once again.

Unfortunately, however, in the years following these experiments, young Edward "became a sickly child and exhibited signs of mild mental retardation," likely due to neurological damage.

Jenner also inoculated a young boy named James Phipps. Both Phipps and Jenner's son died at ages 20 and 21 respectively from tuberculosis, which has been linked to the smallpox vaccine. Despite these deaths, Jenner continued testing this vaccine on many others producing varying results such as vaccine-induced smallpox and vaccine-induced tuberculosis.

Jenner, in 1798, formulated a new vaccine, which combined "horse-grease" and cow-pox matter as he had proclaimed his first formulation in 1796 as having "no protective virtue." His new vaccine was met with public disdain and disgust and his experiments failed. He was ridiculed. Jenner then returned to promote his original formulation.

By 1807, he convinced the Royal College of Physicians and the British Parliament that his once defunct and admittedly unprotective vaccine was safe and effective, and as well could produce large revenues. Not trusting the scientific solutions being offered, some countries banned variolation. Yet, quite surprisingly, Jenner's vaccine became compulsory and mandatory in many other

countries. The smallpox vaccine was widely used until 1979 when the World Health Organization (WHO) declared smallpox eradicated from the face of the earth.

**Vaccination Pseudo-Science Continues To This Day**  
Jenner's legacy promulgated the vaccine frenzy of modern times. Vaccines are so praised and glorified that they are often given the title of "The Sacred Cow" of modern medicine and defended with zealous and concerted might by Public Health organizations and Pharmaceutical companies. This pseudo-ritualistic worship of The Sacred Cow has ruined the careers of doctors who dare question it, and jailed parents who have refused mandatory vaccinations.

There are also many well documented cases of children who have been killed by vaccines where the parent (s) are charged and in some cases, convicted of murdering their children. A cursory glance at the government's Vaccine Adverse Events Reporting System data-base shows thousands upon thousands of deaths and disorders associated with vaccines and the Food and Drug Administration (FDA) admits this only represents at best, 10% of the actual occurrences of adverse vaccine reactions. The Sacred Cow is a false deity and a harsh demon indeed.

### **The Vaccine Agenda Is Built On A Myth**

One of the greatest lies you will ever hear is that vaccination programs caused the decline of childhood diseases in the 20th century. This is complete fiction. The truth is well documented that these rates declined by 90% before the introduction of mass/routine vaccination campaigns.

[Vaccines had not effect on infectious disease in the past 200 years.](#) When we [compare the natural infectious disease declines versus the vaccination effectiveness dangers](#), there is clearly evidence that vaccines did not save humanity from infectious disease. John B. McKinlay and Sonja McKinlay demonstrated how [questionable the contribution of medical measures were on the decline of mortality](#) in the 20th century. There is an abundance of irrefutable evidence showing that the historical application of [vaccines had no health benefit or impact on the prevention of Infectious Disease](#). This evidence is shown in different countries and the World Health Organization was forced to concede that sanitation, better hygiene and antibiotics are the main reason disease mortality and morbidity have declined.

Despite overwhelming evidence, proponents of the Sacred Cow continually covet this accomplishment as their own.

Realizing that this deception is "the rock" of the Sacred Cow church is essential in seeing the myth and hypocrisy of vaccines.

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### **HIV Vaccine Programs Are a Rehashing of The Smallpox Vaccine Era - Different Disease, Same Problem**

Several researchers have expressed the many of the same fears about HIV vaccination programs as they had in the 17th century. It seems that history does repeat itself. The concerns were that a vaccine might actually worsen the epidemic by spreading the disease even more rapidly than it is being spread now. This could happen by any or all of three separate mechanisms:

i) It could happen as a result of people who have been vaccinated feeling safer, and thereby relaxing their safe sex practices and engaging in more risky behaviors than they had before. If an HIV vaccine were able to completely prevent infection with the virus, rather than simply preventing disease, and if it were 100% effective in every vaccinee (though no vaccine is 100% effective; these days even 60% efficacy is considered exceptionally high), then there would be little danger that an HIV vaccine would make the epidemic worse. But lacking either of these two conditions, an increased confidence on the part of people at risk could be a real danger.

ii) If an HIV vaccine was not able to meet the high standard of completely preventing infection, but instead only prevented the development of disease, then HIV+ persons would be able to live much longer and, remaining contagious, would continue to be able to pass the disease to others for many more years.

iii) Finally, if the vaccine that was being used was a live, attenuated virus vaccine, there would then be the possibility that vaccinated persons could also pass that attenuated virus on to others by the same routes that they can today pass HIV itself on to others. That would be a good thing if the attenuated virus they were passing were indeed fully benign, but if that attenuated virus ever mutated back to virulence, then the vaccination program would only have made the epidemic worse.

These three possible mechanisms for worsening the HIV/AIDS pandemic via a vaccination program are in some ways different and in some ways similar to the ways that variolation worked to worsen the smallpox epidemics in England and elsewhere.

### **Children Worldwide Are Contracting The Very Diseases They Are Being Vaccinated Against**

The truth is, vaccines do not create immunity and do not protect humans from any disease, and recent evidence in cases of whooping cough, measles, and out breaks of chicken pox are adding arrows to the archery board of doubt when it comes to vaccine efficacy.

### **Whooping Cough Vaccinations**

Whooping cough, or pertussis, was recorded as [spreading across the entire US at rates at least twice as high as those recorded in 2011](#) and epidemiologists and health officials are even admitting that the vaccines may be the cause.

Data from the Vermont Department of Health (DOH) suggests that going through the pertussis vaccination regimen is not fixing the problem or warding off the highly contagious disease. If anything, it appears to be making it worse.

The cause could very well be due to multiple loads of toxins delivered through the DTaP vaccine which include, (but not limited to): formaldehyde, aluminum hydroxide, aluminum phosphate, thimerosal, and polysorbate 80. That means that every DTaP vaccine contains carcinogenic, neurotoxic, immunotoxic and sterility agents just like many of [this year's flu vaccines](#). These chemicals then bioaccumulate in the child with each successive vaccine, further introducing an additional load of toxins with each injection.

Dangerous new strains of whooping cough bacteria are now evading Australia's vaccine against the disease and entrenching a four-year epidemic that could soon spread overseas, Sydney scientists have found in research that raises questions about the national vaccine program.

### **MMR Vaccine**

[More than 1,000 people in New Jersey and New York were sickened with mumps](#) in the summer of 2010. Health officials linked the outbreak to an 11-year-old boy at the camp. The boy had been fully vaccinated against the mumps, as had 77 percent of the patients in New Jersey.

In the United States, children typically receive their mumps vaccination as part of the Measles, Mumps, and Rubella (MMR) vaccine. The U.S. Centers for Disease Control and Prevention (CDC) advises children to receive their first dose between 12 and 18 months, and their second between the ages of 4 and 6.

Mumps used to be a routine childhood disease. Many of you reading this likely had your turn, the virus ran its course while you stayed at home in bed, and you've been rewarded with lifelong immunity. In most cases mumps, like many of the childhood diseases we're now vaccinating our children against, is not a serious disease.

In rare cases, serious complications can develop, but you must weigh this risk against that of the vaccine, which, for one, definitely contains substances with known toxic properties such as aluminum. The other aspect to the equation is that even if you get the vaccine, you may still

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get the mumps, which means you've accepted the risk of the vaccine itself with no benefit whatsoever.

As of March 1, 2012, there have been 898 claims filed in the federal Vaccine Injury Compensation Program (VICP) for injuries and deaths following MMR vaccination, including 56 deaths and 842 serious injuries.

Using the MedAlerts search engine, as of July 9, 2012 there have been 6,058 serious adverse events reported to the Vaccine Adverse Events Reporting System (VAERS) in connection with measles vaccine since 1990, with over half of those occurring in children 3 and under.

Evidence has been published in the medical literature that vaccinated persons can get measles because either they do not respond to the vaccine or the vaccine's efficacy wanes over time and vaccinated mothers do not transfer long lasting maternal antibodies to their infants to protect them in the first few months of life.

#### **DTaP Vaccine**

Whooping cough, or pertussis, is [spreading across the entire US at rates at least twice as high as those recorded in 2011](#) and epidemiologists and health officials are even admitting that the vaccines may be the cause.

The cause could very well be due to multiple loads of toxins delivered through the DTaP vaccine which include, (but not limited to): formaldehyde, aluminum hydroxide, aluminum phosphate, thimerosal, and polysorbate 80. That means that every DTaP vaccine contains carcinogenic, neurotoxic, immunotoxic and sterility agents just like many of [this year's flu vaccines](#). These chemicals then bioaccumulate in the child with each successive vaccine, further introducing an additional load of toxins with each injection.

Dangerous new strains of whooping cough bacteria are now evading Australia's vaccine against the disease and entrenching a four-year epidemic that could soon spread overseas, Sydney scientists have found in research that raises questions about the national vaccine program.

The dangerous new strains of whooping cough bacteria were [reported in March 2012](#). The vaccine, researchers said, was responsible. The reason for this is because, while whooping cough is primarily attributed to *Bordetella pertussis* infection, it is also caused by another closely related pathogen called *B. parapertussis*, which the vaccine does NOT protect against. Two years earlier, scientists at Penn State had already reported that the pertussis vaccine significantly enhanced the colonization of *B. parapertussis*, thereby [promoting vaccine-resistant whooping cough outbreaks](#).

According to the authors:

*"... [V]accination led to a 40-fold enhancement of B. parapertussis colonization in the lungs of mice. Though the mechanism behind this increased colonization was not specifically elucidated, it is speculated to involve specific immune responses skewed or dampened by the acellular vaccine, including cytokine and antibody production during infection. Despite this vaccine being hugely effective against B. pertussis, which was once the primary childhood killer, these data suggest that the vaccine may be contributing to the observed rise in whooping cough incidence over the last decade by promoting B. parapertussis infection."*

Pertussis whooping cough is a cyclical disease with natural increases that tend to occur every 4-5 years, no matter how high the vaccination rate is in a population using DPT/DTaP or Tdap vaccines on a widespread basis. Whole cell DPT vaccines used in the U.S. from the 1950's until the late 1990's were estimated to be 63 to 94 percent effective and studies showed that vaccine-acquired immunity fell to about 40 percent after seven years.

In the study cited above, the researchers noted the vaccine's effectiveness was only 41 percent among 2- to 7-year-olds and a dismal [24 percent among those aged 8-12](#).

The fact that many vaccines are ineffective is becoming increasingly apparent. Merck has recently been slapped with two separate class action lawsuits contending they [lied about the effectiveness of the mumps vaccine](#) in their combination MMR shot, and fabricated efficacy studies to maintain the illusion for the past two decades that the vaccine is highly protective.

[Check out this graph](#) from the National Vaccine Information Center which compares ingredient amounts in different DTaP vaccines.

#### **Hepatitis B Vaccinations**

In southern Italy, 44 contacts of hepatitis B virus carriers, including infants of carrier mothers, became HBsAg positive [despite passive and active immunization](#) according to standard protocols. In 32 of these vaccinated, infection was confirmed by the presence of additional markers of viral replication.

The circulation of HBV encoding envelope mutations selected by antiviral agents requires further investigation to determine whether they may be transmitted and therefore represent a public health concern. This issue may be of particular relevance in populations where genotype A is predominant.

#### **Polio Vaccinations**

With the polio vaccine, when the live-virus version called

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Oral Polio Vaccine (OPV) evolves, it can act like wild poliovirus and continue the threat of contagion. Over time, the vaccine can mutate, and even a 1 percent genomic change in the virus permits the virus to behave like a wild poliovirus. As a result, there is evidence of vaccine-derived polio cases in humans.

When the first, injectable, polio vaccine was tested on 1.8 million American children, within a few days they had a [huge epidemic of paralytic polio: in the vaccinated, their parents and other contacts.](#)

They called it the Cutter incident and claimed that some of the vaccines (produced by the Cutter Laboratories) contained live polio virus. So, the company withdrew their vaccines despite polio vaccines produced by other manufacturers also causing paralysis in this outbreak.

Although the vaccines are officially causing paralysis, allegedly only 10-12 reported cases per year in the USA. The word 'reported' is the key word here. With the mass use of the polio vaccines and continuing occurrence of polio in the vaccinated, the necessity arose to redefine the disease polio. The classical definition of polio is a disease with residual paralysis which resolves within 2 months (usually within days). The new definition of polio now is 'a disease with residual paralysis persisting for more than 60 days.' This is the secret formula of 'eradication' of polio. Children are still getting polio, but those cases which resolve within 60 days (which represent some 90% of cases) are not diagnosed as polio. A new disease emerged: viral meningitis and as the incidence of polio plummeted, so did the incidence of viral meningitis sky rocketed.

### **Chicken Pox Vaccinations**

A five-year-old girl, vaccinated against chicken pox (varicella-zoster virus (VZV)) [recently presented with clinical symptoms of the disease.](#) Therefore the diagnosis of a breakthrough varicella disease with the vaccine strain was established. An immunodeficiency was ruled out. This case demonstrates that a child vaccinated against chicken pox does not exclude an infection with the vaccine strain.

A county in the western part of Indiana is the site of the nation's [largest current chickenpox outbreak,](#) according to news reports. An epidemiologist has confirmed that out of the cases analyzed, [97 percent of the children were vaccinated.](#)

To cover-up the wild increase for the disease, public health officials are blaming one unvaccinated child as the cause despite 97 percent of vaccinated children contracting chicken pox. More than 85 percent of those

vaccinated received full vaccinations.

The claim by public health officials is that 90% of children who are not vaccinated for chickenpox will get it by the time they are twelve. However, studies have demonstrated that the virus remains dormant in the body of those who are vaccinated and can become active again later on. Other studies show that the frequency and incidence are regardless of vaccination rates as those vaccinated still contract the virus and all its symptoms.

A [report from The New England Journal of Medicine](#) concluded that an outbreak of chickenpox among a group of children in New Hampshire showed that the virus that causes chickenpox can be highly infectious even among those who have been vaccinated.

### **HPV Cervical Cancer Vaccinations**

A [closer look at research published in the Journal of the American Medical Association](#) (August, 2007), entitled, "Effect of Human Papillomavirus 16/18 L1 Viruslike Particle Vaccine Among Young Women With Preexisting Infection" sought to determine the usefulness of the HPV vaccine among women who already carry HPV (which includes virtually all women who are sexually active, regardless of their age).

This document revealed startling information about the ineffectiveness of the Gardasil vaccine. It revealed that the HPV vaccine often caused an increase in the presence of HPV strains while utterly failing to clear the viruses in most women.

The authors found no evidence that the vaccine worked at all. This observation led the authors to offer this damning conclusion that appears to render Gardasil nothing more than a grand medical hoax.

A 2011 publication in the [Annals of Medicine](#) exposed the fraudulent nature of Human papillomavirus (HPV) vaccines such as Gardasil and Cervarix. Key messages the researchers report include a lack of evidence for any HPV vaccines in preventing cervical cancer and lack of evaluation of health risks.

The [authors concluded by summing up their evidence](#) and stating that the presentation of partial and non-factual information regarding cervical cancer risks and the usefulness of HPV vaccines, as cited above, is neither scientific nor ethical. None of these practices serve public health interests, nor are they likely to reduce the levels of cervical cancer.

[http://preventdisease.com/news/14/031014\\_Most-People-Dont-Know-About-Father-Vaccination-History-Repeating-Itself.shtml](http://preventdisease.com/news/14/031014_Most-People-Dont-Know-About-Father-Vaccination-History-Repeating-Itself.shtml)

COME BACK TO YOUR ROOTS

# How One Unvaccinated Child sparked Minnesota Measles Outbreak

By Amy Norton



*File photo shows 14-month-old Amelia Down receiving the combined Measles Mumps and Rubella (MMR) vaccination in south Wales on April 20, 2013. GEOFF CADDICK/AFP/Getty Images*

June 9, 2014  
HealthDay

A measles outbreak in Minnesota offers a case study of how the disease is transmitted in the United States today: An [unvaccinated person](#) travels abroad, brings measles back and infects vulnerable people -- including children who are unprotected because their parents chose not to vaccinate them.

That's the conclusion of a report published online June 9 in *Pediatrics* that details the 2011 outbreak that sickened 19 children and two adults in the state.

It began when an unvaccinated 2-year-old was taken to Kenya, where he [contracted the measles virus](#). After returning to the United States, the child developed a fever, cough and vomiting. However, before measles was diagnosed, he passed the virus on to three children in a drop-in child care center and another household member. Contacts then multiplied, with more than 3,000 people eventually exposed.

Nine of the children ultimately infected were old enough to have received the measles-mumps-rubella (MMR) vaccine but had not.

In most of those cases, the child's parents feared the MMR vaccine could cause autism, according to researchers at the Minnesota Department of Health.

That idea -- first raised in 1998, by a British doctor named Andrew Wakefield -- [has been discredited](#), said Pam Gahr, an epidemiologist who led the new research.

"But I think that as long as autism remains unexplained, the idea [that the MMR is a cause] will persist," Gahr said.

In the Minnesota outbreak, the child infected in Kenya was of Somali descent, as were most of the children whose parents had declined the MMR vaccine because of safety fears.

And that's consistent, Gahr said, with a striking decline in MMR acceptance among Minnesota's relatively large Somali population. In 2004, the number of Somali children in the state who were on schedule with their MMR topped 90 percent.

"By 2010, that was down to just 54 percent," Gahr said.

From what the health department learned in parent interviews, the decline seemed to stem from misinformation about an MMR-autism link.

Despite the unique circumstances of the Minnesota outbreak, though, measles can happen anywhere people are unvaccinated, said Dr. Andrew Pavia, chief of pediatric infectious diseases at the University of Utah in Salt Lake City.

"These outbreaks occur in all types of settings," said Pavia, who was not involved in the current study.

U.S. measles cases are at a [20-year high this year](#), the U.S. Centers for Disease Control and Prevention reported last week. As of May 30, the agency had received reports of 334 measles cases in 18 states.

Nearly all of the outbreaks involved unvaccinated people who brought measles back after a trip overseas, the CDC said.

The hardest-hit state is Ohio, where people in several Amish communities were infected after unvaccinated missionaries traveled to the Philippines and carried the measles virus back.

Amish communities have historically had low vaccination rates. And a 2011 survey of Amish parents who refused to vaccinate found that nearly all cited safety fears.

According to Pavia, the safety concerns of parents in the Minnesota outbreak illustrate the "power of bad information."

The MMR-autism link proposed by Wakefield was later found to be based on fraudulent data, and many studies since have found no connection between the vaccine and autism.

"Wakefield has been thoroughly debunked," Pavia said.

Gahr noted that these days, most parents never had or even saw a case of the measles. So some might dismiss it

*Continued on page 26*

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***Continued from page 25- How One Unvaccinated Child sparked Minnesota Measles Outbreak***

as just another childhood infection, she said.

But measles can prove serious, or even deadly. About 30 percent of people with measles develop a complication such as ear infection, diarrhea or pneumonia, the CDC says. Among children, one in 1,000 suffers brain inflammation, and one or two out of every 1,000 die.

"Even if you don't develop complications," Pavia said, "the disease is miserable."

Measles typically begins with a fever, cough, runny nose and "pink eye." After several days, a rash emerges around the face and neck, then spreads to the rest of the body.

"The thing is, we have the power to prevent it," Pavia said.

In the case of the Minnesota outbreak, he added, "the first infection that spread in the community was misinformation. The second was measles."

<http://www.cbsnews.com/news/how-one-unvaccinated-child-sparked-minnesota-measles-outbreak/>



## **Measles Outbreak Traced to Fully Vaccinated Patient for First Time**

**By Nsikan Akpan**

11 April 2014

Get the measles vaccine, and you won't get the measles—or give it to anyone else. Right? Well, not always. A person fully vaccinated against measles has contracted the disease and passed it on to others. The startling case study contradicts received wisdom about the vaccine and suggests that a recent swell of measles outbreaks in developed nations could mean more illnesses even among the vaccinated.

When it comes to the measles vaccine, two shots are better than one. Most people in the United States are initially vaccinated against the virus shortly after their first birthday and return for a booster shot as a toddler. Less than 1% of people who get both shots will contract the potentially lethal skin and respiratory infection. And even if a fully vaccinated person does become infected—a rare situation known as "vaccine failure"—they weren't thought to be contagious.

That's why a fully vaccinated 22-year-old theater employee in New York City who developed the measles in 2011 was released without hospitalization or quaran-

tine. But like Typhoid Mary, this patient turned out to be unwittingly contagious. Ultimately, she [transmitted the measles to four other people](#), according to a recent report in *Clinical Infectious Diseases* that tracked symptoms in the 88 people with whom "Measles Mary" interacted while she was sick. Surprisingly, two of the secondary patients had been fully vaccinated. And although the other two had no record of receiving the vaccine, they both showed signs of previous measles exposure that should have conferred immunity.

A closer look at the blood samples taken during her treatment revealed how the immune defenses of Measles Mary broke down. As a first line of defense against the measles and other microbes, humans rely on a natural buttress of IgM antibodies. Like a wooden shield, they offer some protection from microbial assaults but aren't impenetrable. The vaccine (or a case of the measles) prompts the body to supplement this primary buffer with a stronger armor of IgG antibodies, some of which are able to neutralize the measles virus so it can't invade cells or spread to other patients. This secondary immune response was presumed to last for decades.

By analyzing her blood, the researchers found that Measles Mary mounted an IgM defense, as if she had never been vaccinated. Her blood also contained a potent arsenal of IgG antibodies, but a closer look revealed that none of these IgG antibodies were actually capable of neutralizing the measles virus. It seemed that her vaccine-given immunity had waned.

Although public health officials have assumed that measles immunity lasts forever, the case of Measles Mary highlights the reality that "the actual duration [of immunity] following infection or vaccination is unclear," says Jennifer Rosen, who led the investigation as director of epidemiology and surveillance at the New York City Bureau of Immunization. The possibility of waning immunity is particularly worrisome as the virus surfaces in major U.S. hubs like [Boston](#), [Seattle](#), New York, and the [Los Angeles area](#). Rosen doesn't believe this single case merits a change in vaccination strategy—for example, giving adults booster shots—but she says that more regular surveillance to assess the strength of people's measles immunity is warranted.

If it turns out that vaccinated people lose their immunity as they get older, that could leave them vulnerable to measles outbreaks seeded by unvaccinated people—which are increasingly common in the United States and other developed countries. Even a vaccine failure rate of 3% to 5% could devastate a high school with a few thousand students, says Robert Jacobson, director of clinical studies for the Mayo Clinic's Vaccine Research

*Continued on page 27*



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*Continued from page 26 - Measles Outbreak Traced to Fully Vaccinated Patient for First Time*

Group in Rochester, Minnesota, who wasn't involved with the study. Still, he says, "The most important 'vaccine failure' with measles happens when people refuse the vaccine in the first place."

<http://news.sciencemag.org/health/2014/04/measles-outbreak-traced-fully-vaccinated-patient-first-time>

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## **New, Virulent Strain of HIV Discovered In Russia: Scientists**

21 October 2013

Scientists in Siberia say [they've discovered a new and extremely virulent strain of HIV in Russia](#). Announcing their discovery on Oct. 16, researchers at Novosibirsk's Koltsovo science city say the HIV subtype, known as 02\_AG/A, may be the most virulent form of HIV in the country.

In a [report in the Naukograd Press, Koltsovo science city's news site](#), it's explained that the HIV variant is believed to be capable of spreading at a much faster rate than subtype A(I), which, according to researchers, is Russia's current leading HIV strain.

The new subtype, which researchers say was first detected in the city of Novosibirsk in 2006, is said to be spreading through some parts of Siberia at an alarming rate. In the Novosibirsk area, it is now said to account for more than half of all new HIV infections.

Citing the scientists' statement, RIA Novosti writes that the ["number of HIV-positive people living in the Novosibirsk region has leaped from about 2,000 in 2007 up to 15"](#)

Outside of Siberia, the subtype also may have been detected in Chechnya and parts of Central Asia, according to the Naukograd Press.

Though [rates of HIV infection have been falling worldwide](#), Eastern Europe and Central Asia remain the only regions on the planet where HIV prevalence is clearly "on the rise," says the United Nations. According to RIA Novosti, 52 percent "of the HIV-positive people that live across that area are in Russia."

The U.N. says that intravenous drug use and sexual transmission remain the main driving forces behind the HIV epidemic in Eastern Europe and Central Asia. Lack of funding for HIV prevention and low coverage of HIV treatment services are fueling the high rates of AIDS-

related deaths and rise of HIV infections as well, [says a 2012 U.N. fact sheet on the issue](#).

[http://www.huffingtonpost.com/2013/10/21/new-hiv-russia\\_n\\_4138219.html](http://www.huffingtonpost.com/2013/10/21/new-hiv-russia_n_4138219.html)

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## **NIH stops HIV Vaccine Trial after Immunizations Fail**

By Emily Mullin

April 26, 2013

The federal government has put the brakes on the largest and most advanced study of a vaccine against [HIV](#) infection after an independent data and safety monitoring board found that the vaccine regimen did not benefit patients.

The HVTN 505 study, started in 2009 by the National Institute of Allergy and Infectious Diseases (NIAID), part of the [National Institutes of Health](#), enrolled 2,504 volunteers--consisting of men who have sex with men and transgender people who have sex with men--at 21 sites in 19 U.S. cities. In a Phase IIb study, participants were given either a placebo or a series of three shots over an 8-week period, beginning with a DNA-based vaccine designed to prime the immune system. After 24 weeks, participants were then given a single booster injection based on a weakened adenovirus carrying genetic material that expressed a matching set of HIV antigens. An NIAID statement explained that the two investigational vaccines cannot cause HIV infection because neither contains live or weakened versions of HIV.

Conducted by the nonprofit HIV Vaccine Trials Network, the trial was meant to test whether the investigational vaccine regimen could prevent HIV infection, reduce the amount of virus in the blood of vaccine recipients who became infected with HIV, or both.

During a scheduled interim review on April 22, the independent monitoring board looked at data from 1,250 volunteers who received the HIV vaccine and 1,244 volunteers who received the placebo version. After being enrolled in the study for 24 months, the review board found that a total of 41 cases of HIV infection developed in volunteers who received the vaccine, and 30 cases of HIV infection occurred among the placebo recipients.

The board also found that the vaccine failed to reduce viral load--the amount of HIV virus in the bloodstream--among volunteers who got the HIV infection during the study.

*Continued on page 28*

Currently, the treatment regimen for HIV is costly, and patients must take daily pills like Gilead Sciences' ([\\$GILD](#)) [Truvada](#) to reduce the risk of infection over the course of their life. A vaccine to prevent the infection would be a breakthrough in HIV treatment.

The HVTN 505 trial is yet another upset in HIV prevention efforts. NIAID researchers said they will work with the HIV Vaccine Trials Network to analyze trial data and investigate why the vaccine did not work to help steer future vaccine endeavors. The researchers will continue to follow study participants for 5 years from the time of enrollment.

<http://www.fiercebiotech.com/story/nih-stops-hiv-vaccine-trial-after-immunizations-fail/2013-04-26>



## **New Approach to HIV Vaccine Explored by Scientists**

**By University of Nebraska-Lincoln**

May 29, 2014

### **Summary:**

A promising new approach to a live attenuated HIV-1 vaccine is being pursued by scientists, using a genetically modified form of the HIV virus. The new method involves manipulating the virus' codons -- a sequence of three nucleotides that form genetic code -- to rely on an unnatural amino acid for proper protein translation, which allows it to replicate. Because this amino acid is foreign to the human body, the virus cannot continue to reproduce, researchers report.

Using a genetically modified form of the HIV virus, a team of University of Nebraska-Lincoln scientists has developed a promising new approach that could someday lead to a more effective HIV vaccine.

The team, led by chemist Jiantao Guo, virologist Qingsheng Li and synthetic biologist Wei Niu, has successfully tested the novel approach for vaccine development in vitro and has published findings in the international edition of the German journal *Angewandte Chemie*.

With the new approach, the UNL team is able to use an attenuated -- or weakened -- HIV virus in the vaccine. The new method involves manipulating the virus' codons -- a sequence of three nucleotides that form genetic code -- to rely on an unnatural amino acid for proper protein translation, which allows it to replicate. Because this amino acid is foreign to the human body, the virus cannot continue to reproduce, Guo said.

Adaptive immunity is developed when the body's immune

system develops antibodies that attack the virus. The virus is then shut off from replicating by removing the amino acid.

"Since the unnatural amino acid is not present in humans, the virus cannot further replicate and cause disease once a desirable protection is achieved," Guo said.

On June 1, they will begin the next phase of development through a four-year, \$1.9 million grant from the National Institutes of Health and the National Institute of Allergy and Infectious Diseases. The grant will allow further research involving the genetically modified virus and lead to animal trials of the vaccine.

Since the HIV/AIDS pandemic began in the 1980s, an estimated 36 million people have died from the disease. Today, more than 35 million people live with the virus and 2.5 million new infections are recorded each year. No universal cure or vaccine exists, mainly because of the virus' persistent replication and evolution.

The most successful vaccination attempt in humans -- a trial in Thailand in the middle of the last decade -- had a roughly 31 percent efficacy rate. But that vaccine used engineered versions of HIV genes and proteins, rather than the actual virus.

"The science tells us a live-attenuated vaccine would work best to stop the pandemic and possibly eradicate the disease," Li said. "But, using a live virus in a human trial has safety concerns."

Using an attenuated virus in a vaccine has not been accomplished before because HIV -- even a weakened form of the virus -- replicates rapidly, which allows it to evolve quickly and regain its virulence and disease-causing ability.

With the funds from the grant, Guo, assistant professor of chemistry, and Li, associate professor of biology, along with Niu, research assistant professor in chemistry, will perfect the technology and begin new trials.

*Journal Reference:* Nanxi Wang, Yue Li, Wei Niu, Ming Sun, Ronald Cerny, Qingsheng Li, Jiantao Guo.

**Construction of a Live-Attenuated HIV-1 Vaccine through Genetic Code Expansion.** *Angewandte Chemie International Edition*, 2014; 53 (19): 4867 DOI:

[10.1002/anie.201402092](https://doi.org/10.1002/anie.201402092)

<http://www.sciencedaily.com/releases/2014/05/140529142544.htm>



**Blackherbals at the Source of the Nile UG LTD**

## Guinea: Unicef and Partners Vaccinating Over 1.1 Million People in Guinea to Halt Meningitis Outbreak

16 June 2014

United Nations Children's Fund

### Press Release

Conakry, Guinea — This weekend, the Government of Guinea, the World Health Organization, and UNICEF completed a vaccination campaign in the country's Eastern Region where a recent meningitis outbreak has already caused at least 52 deaths since the beginning of the year.

The campaign, which reached over 95 per cent of those aged one to 29 living in the affected areas of Mandiana and Siguiri, lasted for six days. UNICEF and partners reached close to 1,153,000 people. Additionally, local teams have conducted an information campaign on rural radio and through direct community sensitization in gathering places to educate the population about the dangers of meningitis to children and to provide details on the locations of vaccination centres. Furthermore, the cold chain, which keeps the vaccines viable, was strengthened.

"Along with Ebola, Guinea is facing many other health crises," said Dr. Mohamed Ag Ayoya, Representative, UNICEF Guinea. "We confront measles, malaria, malnutrition, and meningitis. Despite all of these challenges, I am happy to announce on the Day of the African Child, that we were able to complete the meningitis vaccination campaign and protect children from this deadly disease."

Guinea is located in the "Meningitis Belt" stretching from Senegal to Ethiopia where in the last 15 years there have been an estimated 700,000 cases with a fatality rate of more than 10 per cent. Meningitis is a seasonal disease that tends to be most active during the dry season.

From 2005 to 2010, outbreaks have been recorded in the Guinean districts of Lola, N'Zérékoré, Tougué, Faranah, and Labé for a total of 831 suspected cases with 139 deaths or 16.7% lethality. In the beginning of 2013, the country recorded 85 suspected cases of meningitis and 13 deaths (15.3% fatality rate) and since the beginning of 2014, 539 suspected cases and 52 deaths (9.6% fatality rate) were reported.

<http://allafrica.com/stories/201406171497.html>



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## World Facing Polio Health Emergency: WHO

May 5, 2014

*The World Health Organization (WHO) has described the spread of polio as an international public health emergency, amid concerns over the new recorded cases of the crippling disease.*

"The conditions for a public health emergency of international concern have been met," WHO assistant Director General Bruce Aylward said during a press briefing on Monday in the Swiss city of Geneva.

"If unchecked, this situation could result in failure to eradicate globally one of the world's most serious vaccine-preventable diseases," he added.

The warning comes after new cases of polio emerged in a number of countries such as Syria, Somalia and Iraq. The disease is already circulating in seven other countries; namely, Pakistan, Nigeria, Ethiopia, Afghanistan, Equatorial Guinea, Cameroon and Kenya.

The WHO convened an emergency committee last week in an effort to decide whether the ongoing polio outbreaks merit the declaration of an international health emergency.

Meanwhile, Aylward stated that a coordinated international response "is deemed essential to stop the international spread."

The WHO has recommended that people from the affected countries have a certificate of polio vaccination before being able to travel abroad.

Polio mainly strikes children under five and is transmitted via contaminated food and water. It has no specific treatment or cure, but several vaccines exist.

Last year, 417 cases were detected internationally, but so far this year there have been 74 cases, 59 of them in Pakistan.

MR/AB/SS

<http://www.presstv.ir/detail/2014/05/05/361424/polio-spread-threatens-world-health/>



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# Polio 'Global Health Emergency' Entirely fabricated by W.H.O. to Sell More Vaccines Almost Nobody Needs

By Mike Adams

May 20, 2014



(NaturalNews) The sky is falling! The sky is falling! When it comes to infectious disease pandemics, one thing you can always count on is that the World Health Organization will be sounding the alarm whether it's justified or not. Case in point? The WHO's new declaration that polio is a "Public Health Emergency of International Concern" (PHEIC). (1)

The WHO officially describes this as "an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response."

And just what is this "extraordinary event" of which we should all be so terrified that the entire mainstream media dutifully reports it as a "global health emergency?"

The answer is **68 cases of polio on the planet**. (2) And of those 68 cases of polio, **59 of them were in Pakistan**.

In other words, if you don't live in Pakistan -- and let's face it, most people don't -- your odds of having contracted polio so far this year are about one in a billion. If you live in the USA, your odds are exactly ZERO, as there haven't been any polio cases in the USA since 1979.

(What, you didn't hear this medical fact on the evening news?)

So how does a one in a billion risk of polio translate into "an extraordinary event" which constitutes a global public health risk?

It doesn't, of course. Unless you are a quack science public health organization trying to use fear tactics to

scare the entire planet into buying polio vaccines. That's what the WHO is best at, of course: declaring **false pandemics** to cajole governments into stockpiling vaccines they'll never use. Remember the swine flu pandemic of 2009 during which the WHO declared a phase six pandemic? It turns out most of the WHO's advisory board members [had financial ties to vaccine manufacturers](#). Governments around the world purchased huge stockpiles of swine flu vaccines, then later had to pay even more to have them destroyed when they weren't needed.

## Is one in a billion really a global pandemic?

When the mainstream media throws around the phrase "global pandemic," it brings to mind images of mass global death with millions of body bags and a catastrophic contagion. But the more factual reality of **near-zero infections in all countries of the world except one** doesn't make for good vaccine propaganda, so the press never reports the real truth: "Hey Americans! You have a million times higher risk of being killed by a pharmaceutical than contracting polio!"

Consider the fact that each year, [80,000 Americans are rushed to emergency rooms due to acetaminophen poisoning](#) from taking over-the-counter painkillers like Tylenol. Around 500 die each year, yet the WHO doesn't call this an "extraordinary event."

NSAID painkillers kill at least 16,500 Americans each year according to science published in the New England Journal of Medicine (3). The WHO somehow doesn't consider this a "global health emergency," either.

An astonishing 98,000 children are injured each year jumping on trampolines. (4) Yet the WHO has never declared trampolines a global health emergency. Perhaps that's because there are no "trampoline vaccines" to sell to the public.

Swimming pools result in about 3,880 drownings per year in the USA alone, according to the CDC (5). Yet those thousands of deaths are not declared an "extraordinary event" by the WHO. Once again, there is no vaccine to prevent drowning.

Dare we even look at auto accidents? In the USA, over 25,000 people are killed each year while driving in their automobiles. (6) Clearly this dwarfs all global polio cases by orders of magnitude. Yet the WHO has never declared driving a car to be a "global health emergency." Could it be because there are no vaccines for sale to immunize people from auto accidents?

**The real story: It's not a "real" pandemic until there's money to be made from it**

If you look at the real story behind the corrupt, anti-

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**Continued from page 30 – Polio 'Global Health Emergency'  
Entirely fabricated by W.H.O...**

science W.H.O. organization, a peculiar pattern emerges: Nothing is declared a global pandemic or health emergency unless there's sufficient money to be made from it.

The W.H.O. is entirely controlled and dominated by pharmaceutical interests, of course, and it is used as a **weapon of fear and control over the people of the world** to terrify them into buying medicines they almost never really need.

In all this fear mongering "sky is falling" panic, guess what they aren't telling you? That **the United States of America hasn't had a single polio case since 1979.**

Yep, for 35 years, there has been no polio in America. According to the CDC, the mainstream media, and all vaccine manufacturers, this is entirely because polio vaccines eradicated the disease in America, and therefore this is why everybody should keep getting vaccinated against polio.

Anyone with a functioning brain should immediately see the fault in this logic: if polio is an infectious disease, and nobody in the USA has it, then on what basis should every child in America be vaccinated against it?

In other words, polio is gone **but you should get vaccinated against it anyway**, even though your odds of even being exposed to polio in the United States are virtually zero.

Alongside this medical sham pushed by the CDC and the WHO, medical authorities never admit that [98 million Americans were injected with polio vaccines containing cancer-causing viruses.](#)

Actually, this was previously admitted by the CDC, but last year the CDC [scrubbed this history from its website](#) in a "revisionist history" rewrite that smacks of Orwellian propaganda. (CDC = Ministry of Truth for all things related to disease.)

So now the official story from the CDC -- as ludicrous as it sounds -- is as follows:

\* Polio has been eradicated from America for 35 years and no one has it here.

\* But because a few dozen people in Pakistan have it, YOU MIGHT GET IT TOO! (Somehow, perhaps by magic.)

\* Therefore, all American children should be immediately vaccinated against polio as if their lives depended on it, even though they really don't.

\* Polio vaccines have never had any problems and never

caused cancer, they imply. The real history of polio vaccines causing cancer is no longer "official" history and therefore it never happened. So you're supposed to believe polio vaccines are now and forever more safe and trustworthy. Because they would never lie to you, would they?

Oh, and pay no attention to the fact that polio vaccines [are causing paralysis symptoms in children across India,](#) most likely due to the deadly toxins and heavy metals that are customarily formulated into vaccines.

**I am not against immunization assistance; I'm against vaccine quackery**

For the record, I am not an opponent of the idea of immunization, and I'm not against single-dose vaccines formulated without toxic adjuvants, heavy metals and stealth cancer viruses. What I'm against is the kind of **pure vaccine quackery** routinely practiced by the WHO and CDC, both of which have been caught red-handed wildly exaggerating a small number of local infections into **global pandemic scare stories** to sell more vaccines.

Both the CDC and WHO are run by people who are frankly guilty of criminal racketeering, using their offices of influence to swindle the public instead of providing accurate, sober information on genuine infectious disease risks.

Today, both the CDC and WHO function as little more than corporate-controlled **vaccine front groups** which have destroyed every shred of scientific credibility they once held. Instead of believable, high-integrity science-based organizations, they have become *The Boy Who Cried Wolf* over and over again, in an effort to sell more vaccines nobody needs.

And in doing so, they have desensitized the population against future warnings about genuine outbreaks of global pandemics that may yet arrive and pose a legitimate threat. Sadly, at this point **we cannot believe anything the WHO or CDC says about infectious disease** because we now realize their pronouncements are motivated by corporate profits rather than public health.

If these organizations were really concerned about public health, they should be focused on these sensible actions:

1) Call for the removal of all toxic heavy metals (mercury) and neurotoxic ingredients from vaccines, including formaldehyde, MSG and aluminum.

2) Encourage populations to enhance their own natural immunity through healthy lifestyle choices such as

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*Continued from page 31 – Polio 'Global Health Emergency'  
Entirely fabricated by W.H.O...*

taking vitamin D supplements, increasing intake of immune-boosting fresh fruits and vegetables, and reducing environmental exposure to immunosuppressing toxins such as pesticides, acrylamides and chemical food additives.

3) Stop exaggerating and sensationalizing small numbers of local infections into global "medical scare tactic" campaigns. Instead of trying to scare everybody into buying more vaccines, publish rational weekly updates containing scientifically-validated risk assessments that accurately explain the risks of contracting polio, or MERS, or swine flu or whatever new outbreak the system is concerned about.

4) Stop the false claims that vaccines carry zero risks.

All medical interventions -- including vaccines -- **must be scientifically assessed in terms of risk vs. reward.** The false paradigm of the vaccine industry is that vaccines are 100% effective with 0% risk. This is blatantly false and medically negligent. All vaccines carry some level of risk of serious side effects, including paralysis and even death. Although this risk may seem small for one individual, when the CDC openly encourages mass vaccination across 300+ million Americans for a disease that does not even exist in this country, the **aggregate risk of deadly side effects is substantial** and cannot be dismissed by the kind of quack science sleight of hand practiced at the CDC today.

Anyone who claims vaccines have zero risk is a liar. **All vaccines come with risk of side effects and even death.** Anyone who claims all Americans need to be vaccinated against a disease that hasn't appeared in the United States for over three decades needs to have their head examined.

### **How the WHO and CDC have destroyed their own credibility**

When the entire system of immunization propaganda is based on the outright denial of medical risk reality coupled with the routine sensationalizing of irrelevant local events into "global health emergencies," then the system has morphed into little more than the laughing stock of true scientific thinkers.

I would love to find a way to respect the CDC and the WHO, but that will only happen if these two organization begin to practice high-integrity science in the public interest rather than vaccine quackery laced with shameless corporate propaganda.

The simple truth is that 59 people in Pakistan do not, in any way, constitute a "global health emergency." The real global health emergency is the **medical ineptitude of the WHO and CDC** -- two organizations that work hand in

hand to create mass fear, confusion and obfuscation about the true risks associated with infectious diseases and their potential treatments.

In the mean time, if you are planning on visiting the hospital wards of Pakistan, you may indeed wish to get vaccinated first. But barring such exotic travel intentions, your risk of contracting polio is as close to zero as you'll ever get in the world of medicine.

[http://www.naturalnews.com/045219\\_polio\\_pandemic\\_global\\_health\\_emergency\\_scare\\_stories.html](http://www.naturalnews.com/045219_polio_pandemic_global_health_emergency_scare_stories.html)



## **Bill Gates' Polio Vaccine Program Caused 47,500 Cases of Paralysis Death**

**By Joe Samuel**

May 8th, 2013

In India, Monsanto [hired Bollywood actors](#) to promote genetically engineered cotton seed to illiterate farmers. Nana Petakar became a brand ambassador for Monsanto. The advertising has been called "[aggressive, unscrupulous and false.](#)"

Bill Gates, heavily invested in Monsanto's GMOs as well as in vaccines, hired the most beloved of Indian actors, Amitabh Bachchan, to promote the oral polio vaccine.

Here is [one example](#) of the ads Bachchan created. Here is Bachchan and [use of Bollywood itself to promote the vaccines](#), and here is [another](#) ad, in which Bachchan employs his acting skills.

The Bill and Melinda Gates Foundation says:

"Worldwide efforts in the last two decades have reduced the number of polio cases by 99 percent. Until we reach eradication, however, we are working with governments and all partners in the polio effort to ensure no child is at risk of either contracting or transmitting this crippling disease."

Monsanto used Bollywood actors and succeeded in selling India's farmers Bt cotton seeds. Profits for Monsanto rose. When yields were less than promised, farmers incurred massive debt, leading many to suicide, in what is considered "[the worst-ever recorded wave of suicides of this kind in human history.](#)" To date, the number of suicides has surpassed 250,000.

P. Sainath details this [neoliberal terrorism](#):

*"With giant seed companies displacing cheap hybrids and far cheaper and hardier traditional varieties with*

*Continued on page 33*



**Continued from page 32– Bill Gates’ Polio Vaccine Program Caused 47,500 Cases of Paralysis Death**

their own products, a cotton farmer in Monsanto’s net would be paying far more for seed than he or she ever dreamed they would. Local varieties and hybrids were squeezed out with enthusiastic state support. In 1991, you could buy a kilogram of local seed for as little as Rs.7 or Rs.9 in today’s worst affected region of Vidarbha. By 2003, you would pay Rs.350 — (\$7) — for a bag with 450 grams of hybrid seed. By 2004, Monsanto’s partners in India were marketing a bag of 450 grams of Bt cotton seed for between Rs.1,650 and Rs.1,800 (\$33 to \$36).”

Long after it was apparent that Monsanto was having a lethal impact on India, Bill Gates who says he wants to help the poor in India, made a huge [investment in Monsanto](#). Does Gates care that he invested in a company that has left poor children of India without their fathers and lost them their land they had lived on?

How is Gates’ other investment – vaccines – faring? Mimicking Monsanto’s PR, Gates used Bollywood actors to strongly promote his vaccine campaign to ‘eradicate polio’ across India. Vaccines were given to Indian children. Have they brought health?

**From “[Polio programme: let us declare victory and move on](#)” by Neetu Vashisht and Jacob Puliyl at Medical**

**Ethics <http://www.issuesinmedicaethics.org/202co114.html>:**

“In 2011 there were an extra 47500 new cases of NPAFP [non-polio acute flaccid paralysis]. Clinically indistinguishable from polio paralysis but twice as deadly, the incidence of NPAFP was directly proportional to doses of oral polio received. Through this data was collected within the polio surveillance system, it was not investigated.”

**The Oral Polio Vaccines were given to Indian children. The CDC dropped the OPV from its vaccine schedule in the US [because it was causing polio](#).**

“In 1976, Dr. Jonas Salk, creator of the killed-virus vaccine used in the 1950s, testified that the live-virus vaccine (used almost exclusively in the U.S. from the early 1960s to 2000) was the ‘principal if not sole cause’ of all reported polio cases in the U.S. since 1961 [44]. (The virus remains in the throat for one to two weeks and in the feces for up to two months. Thus, vaccine recipients are at risk, and can potentially spread the disease, as long as fecal excretion of the virus continues [45].) In 1992, the Federal Centers for Disease Control and Prevention (CDC) published an admission that the live-virus vaccine had become the dominant cause of polio in the United States [36]. In fact, according to CDC

figures, every case of polio in the U.S. since 1979 was caused by the oral polio vaccine [36]. Authorities claim the vaccine was responsible for about eight cases of polio every year [46]. However, an independent study that analyzed the government’s own vaccine database during a recent period of less than five years uncovered 13,641 reports of adverse events following use of the oral polio vaccine. These reports included 6,364 emergency room visits and 540 deaths (Figure 3) [47,48]. Public outrage at these tragedies became the impetus for removing the oral polio vaccine from immunization schedules [36:568;37;38].”

Did Gates not know the OPV had been dropped in the US as he suggested he wanted to bring the same good health to third world countries as Western countries enjoyed? If he did not know, is he pushing vaccines on the world’s children without such basic and truly critical information?

**Neetu Vashisht and Jacob Puliyl at St. Stephens Hospital in Delhi address the question of [eradication](#):**

“The charade about polio eradication and the great savings it will bring has persisted to date. It is a paradox that while the director general of WHO, Margret Chan, and Bill Gates are trying to muster support for polio eradication (22) **it has been known to the scientific community, for over 10 years, that eradication of polio is impossible**. This is because in 2002 scientists had synthesised a chemical called poliovirus in a test-tube with the empirical formula C332,652H492,388N98,245O131,196P7, 501S2,340. It has been demonstrated that by positioning the atoms in sequence, a particle can emerge with all the properties required for its proliferation and survival in nature (23, 24).” [Emphasis added.]

“Wimmer writes that the test-tube synthesis of poliovirus has wiped out any possibility of eradicating poliovirus in the future. Poliovirus cannot be declared extinct because the sequence of its genome is known and modern biotechnology allows it to be resurrected at any time in vitro. Man can thus never let down his guard against poliovirus. Indeed the 18-year-old global eradication campaign for polioviruses will have to be continued in some format forever. The long promised ‘infinite’ monetary benefits from ceasing to vaccinate against poliovirus will never be achieved (24). The attraction that ‘eradication’ has for policy makers will vanish once this truth is widely known.”

**The Bill and Melinda Gates Foundation is apparently out of touch with what the scientific community has known for 10 years, as its website’s**

*Continued on page 34*

**page on polio indicates”**

*2011 Annual Letter from Bill Gates: Ending Polio*

*Aid for the poorest has already achieved a lot. For example, because of donors’ generosity, we are on the threshold of ending polio once and for all.*

And then the Foundation continues about how terrible polio is and how many children it paralyzed and killed.

Polio is a terrible disease that kills many and paralyzes others. Fifty years ago it was widespread around the world. When you talk to people who remember polio in the United States, they’ll tell you about the fear and panic during an outbreak and describe grim hospital wards full of children in iron lungs that maintained their breathing. At its peak in the United States in 1952, polio paralyzed or killed more than 24,000 people.

**But in 2011 alone, the Bill and Melinda Gates’ polio vaccine campaign in India caused 47,500 cases of paralysis and death.**

**From Vashisht and Puliyl:**

*“It has been reported in the Lancet that the incidence of AFP, especially non-polio AFP has increased exponentially in India after a high potency polio vaccine was introduced (25). Grassly and colleagues suggested, at that time, that the increase in AFP was the result of a deliberate effort to intensify surveillance and reporting in India (26). The National Polio Surveillance Programme maintained that the increased numbers were due to reporting of mild weakness, presumably weakness of little consequence (27).*

*“However in 2005, a fifth of the cases of non-polio AFP in the Indian state of Uttar Pradesh (UP) were followed up after 60 days. 35.2% were found to have residual paralysis and 8.5% had died (making the total of residual paralysis or death – 43.7%) (28). Sathyamala examined data from the following year and showed that children who were identified with non-polio AFP were at more than twice the risk of dying than those with wild polio infection (27).*

*“Data from India on polio control over 10 years, available from the National Polio Surveillance Project, has now been compiled and made available online for it to be scrutinised by epidemiologists and statisticians (29). This shows that the non-polio AFP rate increases in proportion to the number of polio vaccines doses received in each area.*

*“Nationally, the non-polio AFP rate is now 12 times higher than expected. In the states of Uttar Pradesh*

*(UP) and Bihar, which have pulse polio rounds nearly every month, the non-polio AFP rate is 25- and 35-fold higher than the international norms. The relationship of the non-polio AFP rate is curvilinear with a more steep increase beyond six doses of OPV in one year. The non-polio AFP rate during the year best correlates to the cumulative doses received in the previous three years. Association (R<sup>2</sup>) of the non-polio AFP rate with OPV doses received in 2009 was 41.9%.*

*“Adding up doses received from 2007 increased the association (R<sup>2</sup> = 55.6% p < 0.001) (30). Population density did not show any association with the non-polio AFP rate, although others have suggested that it is related to polio AFP (31). The international incidence of non-polio AFP is said to be 1 to 2/100,000 in the populations under 15 (32, 33). The benchmark of good surveillance is the ability to detect one case of AFP per 100,000 children even in the absence of polio (34).*

**“In 2011, an additional 47,500 children were newly paralysed in the year, over and above the standard 2/100,000 non-polio AFP that is generally accepted as the norm. (32-33). [Emphasis added.]**

**“It is sad that, even after meticulous surveillance, this large excess in the incidence of paralysis was not investigated as a possible signal, nor was any effort made to try and study the mechanism for this spurt in non-polio AFP. [Emphasis added.]**

*“These findings point to the need for a critical appraisal to find the factors contributing to the increase in non-polio AFP with increase in OPV doses – perhaps looking at the influence of strain shifts of enteropathogens induced by the vaccine given practically once every month.*

*“From India’s perspective the exercise has been extremely costly both in terms of human suffering and in monetary terms. It is tempting to speculate what could have been achieved if the \$2.5 billion spent on attempting to eradicate polio were spent on water and sanitation and routine immunization.”*

**The Bill and Melinda Gates Foundation is apparently out of touch with what is known about the impossibility of eradicating polio, but it is not out of touch with the money involved.**

*“.... the last 1 percent remains a true danger. Eradication is not guaranteed. It requires campaigns to give polio vaccine to all children under 5 in poor countries, at a cost of almost \$1 billion per year. We have to be aggressive about continuing these campaigns until we succeed in eradicating that last 1 percent.*

*“*

**Continued on page 35**

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**Continued from page 34– Bill Gates’ Polio Vaccine Program Caused 47,500 Cases of Paralysis Death**

*Therefore, funding is critical to success. Organizations such as Rotary International <http://www.rotary.org> and the governments of India, the United States, the United Kingdom, and Japan are all major contributors to the polio campaign. Our foundation gives about \$200 million each year. But the campaign still faces a 2011-12 funding gap of \$720 million. If eradication fails because of a lack of generosity on the part of donor countries it would be tragic. We are so close, but we have to finish the last leg of the journey. We need to bring the cases down to zero, maintain careful surveillance to ensure the virus is truly gone, and keep defenses up with polio vaccines until we’ve confirmed success.”*

**The Foundation’s page on polio begins with urging eradication which is known to not be possible, but it ends with wanting money.** Like Monsanto’s Bt seeds which were an agricultural and financial disaster for India’s farmers, Gate’s polio vaccine campaign has been the same – a public health and financial disaster for India.

We have seen how polio, that was not a priority for public health in India, was made the target for attempted eradication with a token donation of \$ 0.02 billion. The Government of India finally had to fund this hugely expensive programme, which cost the country 100 times more than the value of the initial grant.

Did Monsanto stop their sale of Bt cotton seeds after it became apparent that farmers were being destroyed by overwhelming debt, the poor yields of the seeds and their inability to save seeds?

Has anyone from the Bill and Melinda Gates Foundation rushed to India to suspend their polio vaccines until crucial questions can be answered about their causing NPAFP [non-polio acute flaccid paralysis] and deaths?

Is the Foundation addressing the lack of vaccine safety? Vaccine safety may be a sensitive subject as Mr. Gates is on record in saying that “people who engage in anti-vaccine efforts [those questioning the safety of vaccines] kill children.”

And yet Mr. Gates’ polio campaign has been documented to have paralyzed 47,5000 children. Puliyl says that “children who were identified with non-polio AFP were at more than twice the risk of dying than those with wild polio infection (27).”

Bill Gates gives no figures or any details to back up his claim that people skeptical of vaccines are killing children, but he referred to parents didn’t give their children the pertussis vaccine and measles vaccines and children dying. However, Mr. Gates may not be aware

that teens in Canada vaccinated for measles have [come down with measles in greater numbers](#) than the unvaccinated and [vaccinated children who are developing pertussis](#) (whooping cough).

**From [Investigative News Source](#):**

- For pertussis cases in which vaccination histories are known, between 44 and 83 percent were of people who had been immunized, according to data from nine California counties with high infection rates. In San Diego County, more than two thirds of the people in this group were up to date on their immunizations.

- Health officials in Ohio and Texas, two states experiencing whooping cough outbreaks, report that of all cases, 75 and 67.5 percent respectively, reported having received a pertussis vaccination.

- Today, the rate of disease in some California counties is as high as 139 per 100,000, rivaling rates before vaccines were developed.

- Public officials around the world rely heavily on two groups of pertussis experts when setting vaccine policy relating to the disease. Both groups, and many of their members, [receive money from the two leading manufacturers of pertussis vaccine](#).

- Dr. Fritz Mooi, a well-known Dutch scientist who has been studying mutations of the pertussis bacteria for 15 years, said a more virulent strain of bacteria is contributing to outbreaks.

**The polio vaccine uses a synthetic virus which has created a more virulent strain. Does the pertussis vaccine also use a synthetic virus?**

The WHO, which is working with Mr. Gates through GAVI, classifies the paralysis occurring in India as non-polio acute flaccid paralysis (NPAFP). Perhaps Bill Gates might consider that while Monsanto’s Bollywood PR worked to sell Bt seeds and Gates’ Bollywood PR worked to push his polio vaccines, no Monsanto PR changes the reality of the farmers’ suicides. And ‘relabeling’ paralysis after the vaccines were given does not change the facts. Paralysis is paralysis to the child who can no longer walk. Death is death to the parents who have lost a child.

**Mr. Gates intends to vaccinate every child in the world.** He has not been slowed in that commitment despite the mass numbers of death and paralysis of children in India. Not pausing from and not even investigating the disaster he has already caused, how many more children will Mr. Gates “help”?

<http://nsnbc.me/2013/05/08/bill-gates-polio-vaccine-program-caused-47500-cases-of-paralysis-death/>





# Polio Hits Equatorial Guinea, Threatens Central Africa

By Jason Beaubien

April 17, 2014



Sunday Alamba/AP

Health officials are worried.

After being free of polio for nearly 15 years, Equatorial Guinea has two cases of the disease.

The children paralyzed are in two distant parts of the country. So the virus may have spread widely across the small nation.

The outbreak is dangerous, in part, because Equatorial Guinea has the worst polio vaccination rate in the world: 39 percent. Even Somalia, teetering on the brink of anarchy, vaccinates 47 percent of its children.

The World Health Organization encourages countries to keep polio vaccination rates above 80 percent. Most nations' rates are above 95 percent.

The Equatorial Guinea outbreak can be traced to neighboring Cameroon, where seven children have been paralyzed by polio since October.

"This is actually an outbreak from Cameroon that has been ongoing and has spread," says Oliver Rosenbauer, a spokesman for the WHO's in Geneva. Efforts to contain the Cameroon outbreak, he says, have fallen flat.

Controlling the disease in Equatorial Guinea will also be challenging. One of the current polio cases is in the capital, , located on an island off the country's Atlantic coast. The other is more than 100 miles away on the mainland, adjacent to Cameroon.

The disease could spread even further, to the troubled Central African Republic. The country has been rocked by violent clashes between Christians and Muslims. And hundreds of thousands of people have been displaced from their homes. Polio thrives in areas with this type of social unrest.

Last week the United Nations sending 12,000 peacekeepers to the country to try to stem violence.

Nigeria remains the only country in Africa where new cases of polio have been reported continuously over the past century. It's also the primary reservoir of the virus on the continent.

But this year appears to be making progress against polio, Rosenbauer says. Only one case has been recorded in 2014 in the country. And the strain of the virus flourishing in Cameroon came by way of Chad rather than Nigeria.

"We are actually concerned that [the] virus is going to spread from Cameroon back into Nigeria, and that you're going to see an outbreak in a polio-free area of Nigeria," Rosenbauer says.

When polio is on the move in Africa, the toll is tragic. A deadly outbreak that hit the region in late 2010 sickened more than 500 people in Congo Brazzaville and Gabon. Many of the victims were adults, and 190 of them died.

<http://www.npr.org/blogs/health/2014/04/17/303403242/polio-hits-equatorial-guinea-threatens-central-africa>



## *Continued from page 19 - Vaccine Contamination: A Threat to Human Health*

Center. <sup>13</sup> At that meeting I heard GlaxoSmithKline officials pledge to clean up Rotarix but Merck did not show up to answer any questions or make any public pledges.

A lot of experts sitting around the table used words like "we believe" and "we don't think" and "there is no evidence" when they defended the assumed safety of contaminated rotavirus vaccines. Nobody seemed to know exactly how the vaccines became contaminated or why the tests used by drug companies and the FDA did not detect the contamination before they were licensed and released. Nobody seemed to know if the pig virus DNA was infectious or not, but then, quickly almost everyone at the table agreed the contaminated rotavirus vaccines should still be given to babies. <sup>14</sup>

THIS is science? This is the kind of science we are supposed to trust to keep us healthy?

Drug companies are racing to develop vaccines that use human, animal, insect, plant and even cancer cells for production. <sup>15,16,17</sup> Living cells can be contaminated with viral DNA that could evolve in humans to make us sick or kill us. <sup>18</sup>

Is Big Pharma seeking big profits putting pressure on the FDA, CDC and politicians to allow them to keep parts of

*Continued on page 37*

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**Continued from page 36 – Vaccine Contamination: A Threat to Human Health**

deadly animal viruses and other potentially harmful ingredients in vaccines? [19,20,21,22,23](#)

I think that is exactly what is happening. The bigger question is: will the American public let the pharmaceutical industry and special interest groups taking money from drug companies get away with it?

If you want to take action in your community to raise awareness about why vaccines contaminated with animal virus DNA and other toxic ingredients should be cleaned up, [24,25](#) go to the websites of the National Vaccine Information Center at [www.NVIC.org](http://www.NVIC.org) and [www.Mercola.com](http://www.Mercola.com) to learn more.

It's your family. Your health. And your choice. If we don't protect our health and choices today, we will lose both tomorrow.

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## FEATURED ARTICLES

# HPV Strains Affecting African-American Women Differ from Vaccines

By Duke Medicine News and Communications

October 28, 2013

NATIONAL HARBOR, M.D. – Two subtypes of human papillomavirus (HPV) prevented by vaccines are half as likely to be found in African-American women as in white women with precancerous cervical lesions, according to researchers at Duke Medicine.

The findings, presented on Oct. 28, 2013, at the 12th annual International Conference on Frontiers in Cancer Prevention Research hosted by the American Association for Cancer Research, suggest that African-American women may be less likely to benefit from available HPV vaccines to prevent cervical cancer.

HPV is a common sexually transmitted infection with more than 40 subtypes. The virus causes nearly all cases of cervical cancer, which begin as precancerous cervical abnormalities. Two vaccines currently available to young women prevent infection by HPV 16 and HPV 18, the HPV strains responsible for about 70 percent cervical cancers.

“Screening programs for cervical cancer are known to work well, with around 90 percent of sexually active women getting screened through Pap tests,” said senior author Cathrine Hoyo, Ph.D., M.P.H., associate professor of obstetrics and gynecology at Duke University School of Medicine.

“The question is, if screening rates are comparable in African-American and white women, why are the rates of cervical cancer and mortality higher among African-American women when we have a program that works so well?”

Hoyo and her colleagues sought to better understand these disparities by determining if African-American and white women in the U.S. are infected with the same subtypes of HPV. The researchers enrolled 572 participants -- 280 African-

American women and 292 non-Hispanic white women -- who came for additional testing after receiving abnormal Pap test results.

Of the 572 participants, 245 (43 percent) had no precancerous cervical abnormalities, 239 (42 percent) had early precancerous cervical abnormalities, and 88 (15 percent) had advanced precancerous cervical abnormalities. Seventy-three percent of the women infected with HPV were infected with multiple HPV subtypes.

When the researchers looked at the specific strains of HPV, they found that white women and African-American women were often infected with different subtypes. The most frequent HPV subtypes detected among white women with early precancerous cervical abnormalities were 16, 18, 56, 39 and 66, while HPV subtypes 33, 35, 58 and 68 were the most common ones detected in African-Americans.

In those with advanced precancerous cervical abnormalities, HPV 16, 18, 33, 39 and 59 were the most common genotypes detected in white women, whereas HPV 31, 35, 45, 56, 58, 66 and 68 were the most prevalent in African-American women.

“Compared with white women, we saw that African-American women had about half as many infections with HPV 16 and 18, the subtypes that are covered by HPV vaccines,” said Adriana Vidal, Ph.D., assistant professor of obstetrics and gynecology at Duke University School of Medicine and the study’s first author. “Since African-American women don’t seem to be getting the same subtypes of HPV with the same frequency, the vaccines aren’t helping all women equally.”

A new HPV vaccine targeting nine HPV subtypes (6, 11, 16, 18, 31, 33, 45, 52 and 58) is currently being

*Continued on page 39*



tested in phase III trials. While the new vaccine may help prevent additional HPV infections by covering new subtypes, it may not address the disparities found in this study.

“The most disconcerting part of this new vaccine is it doesn’t include HPV 35, 66 and 68, three of the strains of HPV of which African-American women are getting the most,” Hoyo said. “We may want to rethink how we develop these vaccines, given that African-Americans tend to be underrepresented in clinical trials.”

The researchers noted that while these findings are compelling, the results are preliminary and the studies should be replicated in larger populations. Hoyo, Vidal and their colleagues are also continuing the research to define epigenetic marks that can be used to predict which precancerous cervical abnormalities will advance.

The research was supported by the National Cancer Institute (R01CA142983 and R01CA142983-02S1). The authors reported no conflicts of interest.

[http://corporate.dukemedicine.org/news\\_and\\_publications/news\\_office/news/hpv-strains-affecting-african-american-women-differ-from-vaccines](http://corporate.dukemedicine.org/news_and_publications/news_office/news/hpv-strains-affecting-african-american-women-differ-from-vaccines)



## **Why HPV Vaccines May Not Be As Effective As We Thought**

*New research points out a potential flaw in the vaccines' designs*

**By Robin Hilmantel**

October 29, 2013

Disheartening news on the [HPV](#) vaccine front: **The vaccines currently available on the market may be less effective at preventing HPV for African-American women than they are for white women**, according to new research presented yesterday at the 12th annual International Conference on Frontiers in Cancer Prevention Research.

For the study, researchers from Duke University School of Medicine looked at 572 adult women with abnormal Pap smears who agreed to come in for a follow-up evaluation. After analyzing cervical cells from each of the participants, researchers discovered that African-American women tend to get different subtypes of HPV than white women do. Why this matters? HPV 16 and HPV 18, the two subtypes of HPV currently prevented by vaccines, are half as likely to be found in African-American women as they

are in white women—which makes the vaccines way less effective for them. HPV 58, however, was more than twice as common in African Americans, as was HPV 35.

Previous research indicates that [HPV](#) 16 and HPV 18 may be responsible for about 70 percent of cervical cancers—which is why vaccines were created to target them—but this new study suggests that they might not be the only HPV subtypes we need to worry about. “When I went back and looked at the analysis that came up with the HPV 16 and 18 [as the primary causes of cervical cancer], the majority of participants were not women of African-American descent,” says senior study author Cathrine Hoyo, Ph.D., division chief of epidemiology in the department of obstetrics and gynecology at Duke University School of Medicine.

Scary side note: HPV 16 and HPV 18 are also the subtypes most commonly screened for during Pap smears, which may help explain why there's a higher incidence of African Americans dying from cervical cancer, says Hoyo.

Granted, many women have multiple subtypes of HPV (there are more than 40), and researchers can't be sure which ones are actually responsible for cervical cancer until more research is conducted, says Hoyo.

The good news? A new vaccine is in the works that would target more subtypes of HPV, including some that are more prevalent in African-American women. In the meantime, getting vaccinated can still significantly decrease your odds of getting [cervical cancer](#), even if you're not white (36 percent of African-American women in Hoyo's study had HPV 16 or 18, so it's not like it was non-existent in that group). To protect yourself even more, make sure to wear a condom whenever you're with a new or untested partner—regardless of your ethnicity and whether or not you've been vaccinated.

<http://www.womenshealthmag.com/health/hpv-vaccine-and-african-americans>



## **Africa: More Than 30 Million Girls to Be Immunised With HPV Vaccines by 2020 with Gavi Support**

6 December 2012  
GAVI Alliance

### **Press Release**

The GAVI Alliance plans to work with countries to prepare them for nationwide roll outs of the vaccine

*Continued on page 40*

***Continued from page 39 – Africa: More Than 30 Million Girls to Be Immunised With HPV Vaccines by 2020***

against the human papillomavirus (HPV), the leading cause of cervical cancer.



*Photo: Jacqueline Koch/FHCRC, Kenya becomes the first to protect girls against cervical cancer with HPV vaccine (file)*

**Dar es Salaam —** *Cancer vaccine targets leading cause of cancer death among women in GAVI-supported countries*

Pilot projects are expected to start in several developing countries as early as 2013 - the majority in sub-Saharan Africa. Countries will begin to pilot ways of providing the vaccine to protect girls aged 9 to 13 and demonstrate that they have the capacity and infrastructure to fully vaccinate girls nationwide.

"The demand for HPV vaccines has exceeded expectations and we are looking forward to supporting developing countries in introducing these vaccines to protect adolescent girls against cervical cancer," said Dr Seth Berkley, GAVI CEO. "HPV vaccines are our best hope to protect millions of girls against this deadly disease."

Rwanda and Uganda have been conducting HPV pilot projects through donations from vaccine manufacturers and are expected to roll out the vaccine nationwide with GAVI support in 2014.

By 2015, GAVI plans to immunise approximately one million girls with HPV vaccines and a large number of other countries are expected to run HPV pilot projects.

By 2020, more than 30 million girls will be immunised against HPV with GAVI support.

"I am very happy to see that GAVI is investing in HPV vaccines and offering our African girls the same access to life-saving vaccines as girls in developed countries," said Her Excellency Christine Kaseba, First Lady of Zambia and a leading advocate for women's health.

"Too many girls are robbed of their future by this cancer. I am personally committed to do what it takes to ensure that girls have access to HPV vaccines."

Too many girls are robbed of their future by this cancer. I am personally committed to do what it takes to ensure that girls have access to HPV vaccines.

One of the challenges to effectively delivering HPV vaccines is that many developing countries do not offer routine preventative health services for girls in the 9 to 13 age group.

Other challenges include identifying the appropriate target group and ensuring the right infrastructure is in place to reach adolescent girls. However, initial experience in offering HPV vaccinations in schools in Africa, Asia and Latin America has been encouraging.

The introduction of HPV vaccines also provides many opportunities to strengthen adolescent health services, and exploit synergies with nutrition, HIV education, sexual and reproductive health.

"We applaud GAVI's historic commitment to make the HPV vaccine available in many sub-Saharan African countries in 2013 and for expanding access in coming years," said Maria Blair, National Vice President of the American Cancer Society.

"Making this life-saving vaccine more accessible and affordable presents an unprecedented opportunity to prevent the global threat of cervical cancer in the developing world, securing a brighter future for women and girls, who are the backbone of their families and communities."

GAVI has been working with vaccine manufacturers to secure the most affordable price for HPV vaccines. To date, one manufacturer has announced an indicative price of USD 5.00 per dose, a 64% reduction in the current lowest public price. GAVI expects to announce a new price in early 2013.

"It is imperative that young women and girls in developing countries have access to the best healthcare possible, especially when it involves immunisation to protect against the most common cancer in women in our region," said Vanessa Mdee - presenter of MTV Africa's weekly show "MTV's Base Select 10" - who has spoken out on girls' health and HPV.

"I'm happy that GAVI is investing in HPV vaccines for my sisters around the continent. This is a chance at a brighter future."

An estimated 275,000 women die every year from cervical cancer. Over 85% of these deaths occur in developing countries, where women often lack access to cervical cancer screening and treatment.

In GAVI-supported countries<sup>1</sup>, cervical cancer is the leading cause of cancer deaths among women. Without

*Continued on page 41*

**Continued from page 40 – Africa: More Than 30 Million Girls to Be Immunised With HPV Vaccines by 2020**

changes in prevention and control, cervical cancer deaths are expected to increase to 430,000 each year by 2030, virtually all in developing countries.

HPV vaccines can protect against 70 per cent of cervical cancer, and together with screening and treatment could prevent most cervical cancer. However, in developing countries where women often lack access to those services, vaccines are critical to prevention. Vaccination against HPV is only effective before the person is infected with the virus.

Immunising girls before sexual initiation - and before exposure to HPV infection - is a key strategy to preventing cervical cancer.

<sup>1</sup> GAVI supports the 73 poorest countries in the world. 16 countries are in the process of graduating from GAVI support.

GAVI is funded by the following governments, as well as private, corporate and foundation donors: Absolute Return for Kids (ARK), Anglo American plc, Australia, Bill & Melinda Gates Foundation, Brazil, Canada, The Children's Investment Fund Foundation (UK), Comic Relief, Denmark, European Commission (EC), France, Germany, His Highness Sheikh Bin Zayed Al Nahyan, Ireland, Italy, JP Morgan, Japan, 'la Caixa' Foundation, LDS Charities, Luxembourg, Netherlands, Norway, Other private donors, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, United Kingdom, United States of America. Click to view the full donor [list](#).

<http://allafrica.com/stories/201212071049.html>



## Human Papillomavirus Vaccine Support

*Record low price agreed for HPV vaccines*

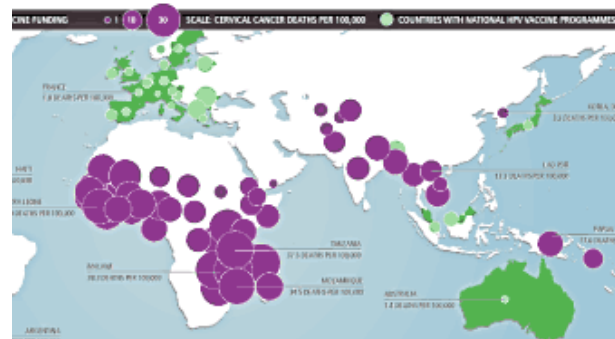
A record low price for HPV vaccines has opened the door for poor countries to vaccinate millions of girls against a devastating women's cancer.

Thanks to the GAVI Alliance, the poorest countries now have access to a sustainable supply of HPV vaccines for as low as US\$ 4.50 per dose. The same vaccines can cost more than \$100 in developed countries and the previous lowest public sector price was \$13 per dose.

For HPV demonstration programmes, the GAVI Alliance will cover the full cost of HPV vaccines. However, countries introducing HPV vaccine nationally are required to meet the standard co-financing commitment.

### GAVI ALLIANCE TACKLES CERVICAL CANCER

EVERY YEAR, 266,000 WOMEN DIE OF CERVICAL CANCER. OVER 85% OF THOSE DEATHS ARE IN DEVELOPING COUNTRIES



[View infographic](#) to see how GAVI's support for HPV vaccines will help redress inequity, delivering vaccines to countries with the highest burden. [Download as PDF](#).

HPV vaccines are available in the routine immunization programmes of mostly high-income countries. And yet of the 266,000 women in the world who die of cervical cancer every year, more than 85% are in low-income countries where access to cancer screening and treatment services is often lacking.

The high cost of the vaccine and challenges of immunising girls aged 9 to 13 years have been barriers to introduction in poorer countries. GAVI is working to bridge the equity gap by providing the vaccine at affordable and sustainable prices, and to support countries with demonstration projects in order to build capacity and infrastructure to deliver the vaccines.

Since GAVI began providing support for HPV vaccines in 2013, over 20 countries have been approved to introduce the vaccines - the large majority will be HPV demonstration projects. This will allow them to test the best ways to deliver HPV vaccines to girls. These demonstration projects will pave the way for countries to build the capacity and infrastructure needed to vaccinate girls nationwide. Rwanda will introduce HPV vaccine nationally. By 2020, it is estimated that over 30 million girls in more than 40 countries will be vaccinated against HPV.

### The vaccine

Safe and effective human papillomavirus (HPV) vaccines protect against HPV types 16 and 18 which cause about 70% of cervical cancer cases.

Cervical cancer is a leading cause of cancer deaths among women in GAVI-eligible countries. GAVI's commitment to protecting women against cervical cancer supports the [UN Secretary-General's Global Strategy on Women's and Children's Health](#) to address key global health priorities by increasing access to life-saving vaccines.

*Continued on page 42*



### **Two application pathways**

Countries that have demonstrated the ability to deliver HPV vaccine to adolescent girls, can apply for national introduction support. Demonstrated ability is defined as prior experience in delivering multi-dose vaccines to at least 50% of a target population of 9-13 year old girls in an average-sized district; please see [GAVI new and underused vaccines support \(in English and French\)](#) for more details. Countries lacking experience can apply for support to conduct smaller-scale demonstration projects in order to gain the experience necessary to apply for national roll-out.

### **Working with partners**

GAVI is partnering with cancer, reproductive health and women's organisations to help countries deliver HPV vaccines cost-effectively, integrated with other important interventions for girls such as adolescent reproductive health, HIV prevention, nutrition, family planning and safe motherhood.

Initial experience in offering HPV vaccination in Africa, Asia and Latin America has been encouraging. Lessons learnt documents are available through the [Reproductive Health Outlook Cervical Cancer library](#). WHO, the [Alliance for Cervical Cancer Prevention](#), the [Cervical Cancer Action coalition](#) and the [UNFPA](#) have called for comprehensive cervical cancer prevention plans that include both vaccination of young girls and screening and treatment of women.

<http://www.gavialliance.org/support/nvs/human-papillomavirus-vaccine-support/>



## **The HPV Vaccine and the Case for Race-Based Medicine**

**By Charlotte Alter**

November 1, 2013  
Time.com

The human papillomavirus (HPV) vaccine, approved in 2006, protects against strains of the virus responsible for 70% of cervical cancers. But what about the remaining 30%?

It turns out that those strains circulate more frequently among African-American and non-white Hispanic women, meaning that even if they are properly immunized, these populations aren't protected against the sexually transmitted virus and the [cancer](#) it can cause.

Researchers led by Dr. Cathrine Hoyo, Associate Professor of Obstetrics and Gynecology at Duke University Medical School, believe that could explain why these women are more likely to contract [HPV](#) and have a [higher cervical cancer mortality rate](#) than white women, despite the fact that they tend to get screened for the cancer more regularly. Prior to the study, says Hoyo, it wasn't clear whether the immune systems in African American women did not respond as potently against HPV or whether the virus that was infecting these women was different. Based on her results, presented at the [American Academy of Cancer Research](#), it's likely the latter.

Hoyo says that the HPV subtypes included in the existing two HPV vaccines — Gardasil, developed by Merck, and Cervarix, made by GlaxoSmithKline — are most common among white women but are significantly less common in non-white women. Within Hoyo's trial, 65% of white women with HPV had the subtypes known as 16 or 18, while only 36% of African-American women did. That means African-American women are only half as likely to get the type of HPV against which the vaccine works.

The findings highlight the complex role that race plays in medicine, especially as genetic studies reveal more biological reasons behind why racial and ethnic groups may have different propensities for disease, and respond in varying ways to drugs. "We don't like to admit that race and ethnicity count, but they certainly do in the distribution of [infectious diseases](#)," says Dr. Arthur Caplan, a bioethicist at the University of Pennsylvania. "Not to sound like a dope, but when [race] matters it matters."

HPV infection is hardly the first disease to be linked to race. Tay-Sach's is more common in Ashkenazi Jews, sickle-cell anemia is found mostly in Mediterranean or African populations, and cystic fibrosis has a higher incidence among people with Irish or English ethnicity. But all of those conditions are driven by genetic mutations that can be detected through testing. What makes the HPV findings trickier is the fact that the vaccine is designed to protect women before they become infected, and there is no way to tell which strains a woman will get — except, as Hoyo's findings suggest, by her race.

That suggests that medical predictions should be based on some type of racial profiling; is it ethical to recommend different vaccines for different women based on race?

Caplan doesn't think so, but not because of political correctness. Instead, he cautions that race, from a medical perspective, is much more complicated than physical appearance. "The HPV situation is a reminder that race does count, but it also should remind us that the categories we're using aren't even the right ones to manipulate," he says, referring to the fact that race as defined on a societal

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level is different from race defined biologically, by a set of genes that are more common among people who share the same racial background. “We have a physical definition of race; when we see people from [India](#) and China, we call them ‘Asian,’ but there’s no way they do that in China.” At this point, it’s not even clear, he says, whether it’s possible to create clearly delineated genetic or biologic categories of race.

In response to the latest findings, Dr. Liana Clark, a medical director for Merck vaccines who helped develop Gardasil, said that in her studies the HPV vaccine had identical results in both African-American and white women. She acknowledged that different populations may be more likely to contract different subtypes, but says that the HPV strains in the vaccine were chosen because studies showed that the subtypes 16 and 18 are responsible for 70% of cervical cancers. “We may have different types,” Clark says, “but that doesn’t mean that our cervical cancers are caused more by these other types than by 16 or 18.” Hoyo acknowledges that in her study, she did not correlate the difference in strains to a change in the prevalence or mortality from cervical cancer among vaccinated white and African-American women.

“Black women have more invasive cervical cancer, and they die from it more often,” Clark says. “and those types are still caused by 16 and 18.”

Hoyo is still convinced that cervical cancer in African-American women may be caused by subtypes other than 16 and 18, which means many women may be unprotected, even if they are vaccinated. “Is it possible that the reason we are missing these women and they end up showing up with cervical cancer is because they don’t carry those very-high risk strains?” she says. “They’re told ‘oh there’s nothing, go home.’”

She hopes to see the next generation of HPV vaccines include additional strains of HPV, so that the the shots can protect against more than the 70% of cervical cancers caused by the most common forms of the virus. “I don’t want Merck to think that they did a bad job, because they didn’t,” she says. “Maybe it’s that they’re a victim of their own success, because now we’re moving beyond 16 and 18.” Lauri Markowitz, a CDC scientist, wrote in an email response that protecting against more strains would protect a broader group of women and potentially make the vaccine even more effective as a barrier against cancer.

<http://healthland.time.com/2013/11/01/the-hpv-vaccine-and-the-case-for-race-based-medicine/>



## HPV Vaccination: the Way Things Are

### Is South Africa’s human papilloma-virus (HPV) vaccination plan a necessity?

May 28, 2013

The South African Health Ministry’s recent announcement to vaccinate young girls against the human papillomavirus has been met with mixed public reaction. But how effective are the available HPV vaccines, and is South Africa’s health infrastructure stable enough to roll them out?

#### Did you know?

- The human papillomavirus is a root cause of cervical cancer in women.
- South Africa will start administering cervical cancer vaccines in some schools from February 2014.
- More than 100 strains of HPV exist, and 30 of them are associated with below-the-belt cancer.
- Gardasil and Cervarix (two of the available vaccines) target HPV 16 and 18, which are thought to be main causes of cervical cancer.
- Research shows the shots provide complete protection from both 16 and 18, and Cervarix offers extra protection against three other cancer-related versions.
- Researchers say there is no proof that vaccination will encourage earlier and riskier sex.

#### Greater awareness

An estimated 500,000 of the world’s women are diagnosed with cervical cancer each year, and the bulk of those deaths occur in developing countries, which lack the infrastructure and resources to implement routine screening. In South Africa, cervical cancer is the second most common cancer among women and, according to the National Cancer Registry, the highest rates can be found among black women aged 66 to 69 years of age.

“When a woman is exposed to HPV, her immune system usually prevents the virus from doing any serious harm. Although in a small number of women, the virus survives for years. Eventually, it can lead to the conversion of normal cells on the surface of the cervix into cancerous ones,” says Doctor Mary M Gallenberg of the US-based Mayo Clinic.

But while the cells may at first only show signs of a viral

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### ***Continued from page 43 – HPV Vaccination: The Way Things Are***

infection, they may eventually develop into precancerous changes, according to Dr Gallenburg.

So, the vaccination plan should be relevantly clean-cut: three quick shots over six months guarantee immunity from HPV, which, in turn, equals protection from cervical cancer.

However, what about public perception, vaccine costs and other possible barriers?

The general South African consensus is that the vaccine is a much-needed intervention against cervical cancer, with a recent News24 poll of 14,000 readers showing that 7,800 were in favour of young girls getting it, “provided it was with parental consent”.

But not everyone is eager to roll up their sleeves for the shot, as was revealed with some online comments: “the government is secretly trying to neuter young girls” and “they are encouraging them [young girls] to engage in early, riskier sex”, since the vaccine also protects against sexually transmitted infections.

“There is very little evidence that this vaccine encourages early sexual activity, and our data shows huge support for the vaccination of young girls before they become sexually active,” Dr Sinéad Delany-Moretlwe, Director of Research at the Wits Reproductive Health and HIV Research Institute (WRHI).

And researchers at Emory University, in Atlanta, USA, say girls already vaccinated against HPV in that country didn’t show signs of increased sexual activity.

#### **Possible challenges**

Agreeing that more still needs to be done on public education, Prof Lynn Denny, who heads the Gynaecological Oncology unit at the University of Cape Town, also noted the poor health infrastructure as another concern.

“The plan is to use the school health system and to vaccinate children aged 9 to 13 at schools. The problem is that the school health system itself needs serious revamping and this may be the precise stimulus to get that going.

Another point of interest for many role-players is the pricing structure whether South Africa would be able to afford such a costly exercise.

South African Health Minister Aaron Motsoaledi, during his announcement, noted how prohibitive the current pricing structure is, at between R500 and R750 a dose, and with three doses needed to be effective.

Gates Action for Vaccines and Immunisation (GAVI) to help make the drugs more affordable in developing countries. South Africa, however, did not qualify because it was regarded as “too rich”.

“We will enter negotiations in our own right to also be given a fair deal in the interest of the lives of the women of this country,” Minister Motsoaledi has said.

Although many countries are now scrambling to offer an HPV vaccine, Australia was the first to roll out a national programme, in April 2007, when big pharmaceutical companies were unflinching on their prices. But with determination, proper financial planning and systems, the country has reported huge successes.

As South Africa prepares to implement its rollout early next year, perhaps Australia’s model of vaccination could offer some guidance?

#### **The way forward**

“Australia provides us with very strong evidence of the benefits of a well-implemented vaccine programme. We anticipate that, over time, we could show similar benefits for both men and women in preventing HPV infection,” WRHI’s Dr Sinéad Delany-Moretlwe concluded.

South Africa’s poor public healthcare system continues to be the topic of heated debate, both here and abroad. This is why the HPV vaccine might be a better option over the long term. Although it will be of little use to those women who already have cancer or have been sexually active, the benefits for the target group could be invaluable. With firm political will and commitment from government and other role-players, South Africa could also, in the near future, be showing the positive results that Australia is now boasting.

#### **Australia’s success**

- Australia’s vaccine rollout started in 2007 and targeted girls between 12 and 13.
- Three years later, coverage rates for girls that age in Australia’s school-based programmes reached 83 percent for the first dose, 80 percent for the second dose and 73 percent for the third.
- Researchers from Sydney’s University of New South Wales found that diagnoses of genital warts among young women aged 12 to 26 plummeted by 59 percent two years after the programme began.
- For men in the same age group, genital warts cases dropped by 39 percent.
- In a phenomenon known as “herd immunity”, the high rate of immunisation among young women also protected young men who had not been vaccinated.

The Bill and Melinda Gates Foundation established the

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*Continued from page 44 – HPV Vaccination: The Way Things Are*

- During the same period, there was also a striking decline in the rate of high-grade cervical abnormalities in teenage girls, a sign that a decline in cervical cancer cases may be on the horizon.
- There was little resistance to the HPV vaccine in Australia, just the usual anti-vaccination people and a few religious groups

<http://www.health24.com/Medical/Cervical-cancer/Cervical-cancer-vaccine/HPV-vaccination-the-way-things-are-20130527>

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## US Court pays \$6 Million to Gardasil Victims



By Dr Peter Lind

April 10, 2013

**WASHINGTON**, April 10, 2013 - Gardasil, the vaccine for HPV (human papillomavirus), may not be as safe as backers claim.

Judicial Watch announced it has received documents from the Department of Health and Human Services (HHS) revealing that its National Vaccine Injury Compensation Program (VICP) has awarded \$5,877,710 dollars to 49 victims in claims made against the highly controversial HPV (human papillomavirus) vaccines. To date 200 claims have been filed with VICP, with barely half adjudicated.

*“This new information from the government shows that the serious safety concerns about the use of Gardasil have been well-founded. Public health officials should stop pushing Gardasil on children.” said Judicial Watch President Tom Fitton.*

The CDC recommends the Gardasil vaccine, made by Merck Pharmaceuticals, for all females between 9 and 26 years to protect against HPV. Furthermore, the CDC says Gardasil is licensed, safe, and effective for males ages 9 through 26 years.

The facts appear to contradict the FDA’s safety statements. The adverse reaction reports detail 26 new deaths reported between September 1, 2010 and September 15, 2011 as well as incidents of seizures, paralysis, blindness, pancreatitis, speech problems, short term memory loss and Guillain-Barré Syndrome. The documents come from the FDA’s Vaccine Adverse Event Reporting System (VAERS) which is used by the FDA to monitor the safety of vaccines.

That’s 26 reported deaths of young, previously healthy, girls after Gardasil vaccination in just one year.

In response to the concern about death reports among those who received Gardasil, the Centers for Disease Control (CDC) insists “there was no unusual pattern or clustering to the deaths that would suggest that they were caused by the vaccine.”

While it is not clear exactly what is causing so many adverse reactions, Gardasil does contain genetically engineered virus-like protein particles as well as aluminum, which can affect immune function.

Further, according to the vaccine manufacturer product information insert, “Gardasil ... not been evaluated for carcinogenicity or impairment of fertility.” (2007 [227] p1986 )

In fact, Merck studied the Gardasil vaccine in fewer than 1,200 girls under 16 prior to it being released to the market under a fast-tracked road to licensure. To date, most of the serious side effects, including deaths, that occurred during the pre-licensure clinical trials and post marketing surveillance have been written off as a “coincidence” by Merck researchers and government health officials.

Neurologist Dr. Ian Sutton reported negative neurological side effects from Gardasil. He reported five cases of multiple sclerosis-like symptoms emerging shortly after women received the Gardasil vaccine, noting:

*“We report five patients who presented with multifocal or atypical demyelinating syndromes within 21 days of immunization with the quadrivalent human papilloma virus (HPV) vaccine, Gardasil. Although the target population for vaccination, young females, has an inherently high risk for MS, the temporal association with demyelinating events in these cases may be explained by the potent immuno-stimulatory properties of HPV virus-like particles which comprise the vaccine.”*

From its inception, the use of HPV (human papillomavirus) vaccines for sexually transmitted diseases has been hotly disputed. According to the Annals of Medicine: “At present there are no significant

*Continued from page 46*

data showing that either Gardasil or Cervarix (GlaxoSmithKline) can prevent any type of cervical cancer since the testing period employed was too short to evaluate long-term benefits of HPV vaccination.”

There are more than 100 types of human papillomaviruses (HPVs). Of them, about 40 types of HPV are sexually transmitted and 15 of these types are most associated with cervical cancers and genital warts in women and men.

HPV vaccines have been illegally administered to millions without informed consent, as the risks rarely disclosed.

Not only are there questions about the safety of the vaccine, there are questions about the need for the vaccine. Over 90 percent of women infected with HPV **clear the infection naturally within two years**, at which point cervical cells *go back to normal*.

Meanwhile, Merck is benefitting tremendously from vaccine sales. The vaccine is expected to reach \$1 billion in sales next year, and could reach more than \$4 billion in sales in five years, according to Wall Street analysts.

*Dr Peter Lind practices metabolic and neurologic chiropractic in his wellness clinic in Salem, Or*

<http://communities.washingtontimes.com/neighborhood/stress-and-health-dr-lind/2013/apr/10/us-court-pays-6-million-gardasil-victims/>



## Four Year Analysis of Adverse Reactions to the Gardasil HPV Vaccine

By Lloyd W. Phillips

### ABSTRACT

Prolonged inflammation initiated by powerful vaccine adjuvants such as Amorphous Aluminum Hydroxyphosphate Sulfate (AAHS), may be life-threatening and/or result in cognitive and motor skill disorders in those individuals with multiple genetic mutations which affect:

- 1) *Transsulfuration (such as CBS 699t),*
- 2) *Glutathione production and utilization (such as GSTM1), and*
- 3) *Pathogen Load (such as HLA-DR15).*

Although other mutations may contribute to the cascade

of debilitating events, such as C282Y, which is associated with Hemochromatosis, the above three genetic conditions formed the core group in this study.

Concomitant (multiple) vaccinations may increase the severity of adverse reactions.

### Physical Activity as a Risk Factor for an Adverse Vaccine Reaction

We observed that children who appeared to be very healthy prior to receiving the Gardasil HPV vaccine, and were the most physically active following the vaccination (participated in sports, cheerleading, dancing, biking, skating, or other physical activity), suffered the most severe debilitating symptoms, possibly due to the increased distribution of the vaccine throughout their body due to increased circulation from exercise.

### Syncope / Fainting

We observed that Syncope (fainting), following the Gardasil HPV vaccine, may be the result of an acute allergic reaction. Dr. L.C., received the Gardasil HPV vaccine in 2006 while attending medical school. She returned to class after receiving the HPV vaccine, and lost consciousness. Her vitals were taken, and it was documented that her blood pressure had plummeted to a life-threatening 50/32. We hypothesize this “fainting” was due to an acute allergy-related response to the yeast associated components in the vaccine, which resulted in a massive histamine release from eosinophils and mast cells. This elevated histamine quickly dilated blood vessels, and appears to be the cause for the drop in blood pressure. We suspect that these children may not have been properly screened for an allergy to mold and other members of the Fungal Kingdom. Fortunately she did not drive home after her vaccination and die in a car crash. Warnings were not issued until three years later (2009).

### Head Pressure (acute)

The majority of children who develop debilitating and/or life threatening conditions reported severe head pressure within one or two hours of receiving the HPV vaccine. Those who received concomitant vaccines appeared to have a quicker onset of new medical conditions after just one or two HPV vaccinations.

### Vitamin D

Vitamin D levels appear to plummet (25 Hydroxy Vitamin D) in this group following the administration of the Gardasil HPV vaccination.

### Intracellular Magnesium

Intracellular magnesium quickly becomes depleted following administration of the Gardasil HPV vaccine. However, serum magnesium typically remains on the low side of lab normal.

*Continued from page 47*

### **Magnesium and the “Fight or Flight” Response**

Our findings indicate that the immune system may not be capable of distinguishing between fear and the inflammation caused by aluminum adjuvants in modern vaccines. Both events were observed to trigger the “Fight or Flight” response, which forced the subject to excrete magnesium.

The human body uses magnesium in the production of about 300 different enzymes. When intracellular (within the cell) magnesium becomes depleted, it is virtually always missed by doctors who look at serum (blood) magnesium. Every cell in the body will contribute its last bit of magnesium to keep the heart pumping. We observed multiple symptoms of a magnesium deficiency: muscle jerks and spasms; pain; irritability; newly acquired panic disorders; heart arrhythmias; headache; and more. Low magnesium may result in personality changes and irritability. One mother described her daughter as the “she bitch from hell” since receiving the Gardasil HPV Vaccine.

Since many cycles fail (methylation, H3K4 Trimethylation, etc.), we observed that it was necessary to administer some vitamins in their active form to maintain proper serum levels. This was especially true of Vitamins B6 and B12.

### **Symptoms of Vitamin B1 Deficiency (Beriberi): Thiamine tetrahydrofurfuryl disulfide**

Although many of the subjects received Vitamin B1 supplements, we observed many symptoms of a Vitamin B1 (Thiamine) Deficiency. Thiamine is involved in a variety of glucose metabolism-related and neurological functions, including the making of myelin. Many symptoms of the B1 Deficiency decreased when *Thiamine tetrahydrofurfuryl disulfide* (TTFD) was administered. Allithiamine is one alternative name for TTFD, a fat-soluble form of Vitamin B1.

We acknowledge the observed genetic deficit(s) in the Transsulfuration Cycle due to the CBS gene, and confirm the findings of *DETH R et al, Thomson*, and others who documented that oxidative stress plays a critical role in the utilization of Thiamine in the human body.

### **Genetics and Pathogens**

The Human Leukocyte Antigen (HLA) Serotype was present in most who were tested. The HLA-DR15 mutation was found in those most seriously affected. Those with HLA-DR15 appeared acutely sensitive to mold, and exposure would cause a re-emergence of debilitating symptoms.

### **Genetics and Transsulfuration**

Many tested positive for the CBS Gene, and were not able to properly process sulfur. The Cystathionine Beta-Synthase gene, especially the CBS 699t genetic mutation, appeared to be causing a life-threatening cascade of events in these patients, and we observed the following sulfur-related symptoms:

- Low Glutathione - Sulfur is required for Glutathione synthesis. ALL who were tested had low glutathione levels.
- Connective Tissue Disorders - Sulfur is responsible for Collagen Synthesis, and lack of sulfur leads to poor tissue (skin) structure and strength.
- Inflammation - low sulfur can lead to the progression of inflammation and degenerative disorders

**Note:** Medical Practitioners should be aware that an infant or toddler who screams for prolonged periods, or any child who bangs their head, may actually be signaling that they are experiencing a breakdown in the TRANSSULFURATION Pathway (CBS Gene). When sulfur is not properly metabolized, EXCRUCIATING HEAD PRESSURE may result when sulfites enter the brain and produce acute pain. You should always be on guard that a migraine may be a warning sign of a CBS Gene mutation, especially CBS 699t.

Sulfur-related sustained inflammation, especially involving inflamed glial cells in the brain, may affect nearby Oligodendrocytes, which may then inhibit myelin production, and result in demyelinating disorders, such as Multiple Sclerosis.

### **Interstitial Cystitis**

A significant number of female subjects developed Interstitial Cystitis, including many months after they appeared to be feeling better. We suspect, but cannot confirm, that the failure of the transsulfuration cycle may have contributed to this condition.

### **Histamine Intolerance and Sustained Inflammation**

We have observed that the majority of subjects developed a Histamine Intolerance, which resulted in self-sustained inflammation. This Histamine Intolerance was not present prior to the Gardasil HPV vaccine, nor was any indication of Mastocytosis.

We took note of the extensive research done by *Husheng Li et al.*, at the University of Tennessee, Knoxville, into how aluminum vaccine adjuvants activate caspase-1 and induce IL-1beta and IL-18 release. We hypothesize that the release of IL-1beta and Interleukin-18 (and possibly other pro-inflammatory cytokines), may have inflamed the gut and caused a breakdown of the mucosal lining.



This appears to have allowed immune cells in the lining of the gut to come into contact with food proteins as they traveled through the gut. The immune cells appear to have made antibodies to some foods, and when these foods were again eaten at a later date, the immune system appeared to treat these food proteins as allergens, and trigger mast cells to produce histamine. We observed that the majority of these children and adults felt lightheaded upon standing. We hypothesize that the elevated histamine, caused by this newly acquired histamine intolerance, dilated blood vessels, and significantly lowered blood pressure to the brain. We further hypothesize that this may be the cause, or a contributing factor to Postural Orthostatic Tachycardia Syndrome (POTS).

We observed that this newly formed histamine intolerance and resulting self-sustaining inflammation did not subside until foods containing moderate to high amounts of histamine were removed from the diet. We observed that Low Dose Naltrexone was beneficial for this condition, and it also helped relieve insomnia.

#### **Insomnia**

Insomnia was present in the majority of the subjects. We attribute this to the pineal gland possibly being inhibited by cortisol as a result of inflammation, including inflammation associated with the newly acquired histamine intolerance.

#### **Pathogens and Body Burden**

##### **(a) Enteroviruses**

The most common enterovirus we observed was Epstein Barr Virus (EBV). EBV can act as an incubator for other pathogens and infect fast-growing cytokines when inflammation is present. A previous history of Mononucleosis (Glandular Fever) was virtually a 100% predictor of a life-threatening adverse reaction to the Gardasil HPV vaccine, and similar results were observed among families of autistic children.

Only one out of approximately 100 families observed or interviewed was eventually diagnosed with Chronic Active Epstein Barr (CAEBV)

##### **(b) Parasites**

Vector borne pathogens such as Bartonella, Borrelia Burgdorferi (Lyme Disease), Mycoplasma Pneumoniae, Babesia, and FL1953 (Protomyxzoa Rheumatica), were the most commonly observed pathogens. Several of these would typically be found together in the children who were tested. Bartonella was never found alone.

Note: NK-CD57 counts typically ranged between 8 and 51, with the majority falling at or below 22.

##### **(c) Bacteria**

A history of Mycoplasma/Mycoplasma Pneumoniae, Acne Vulgaris (which can turn Interleukin-10 into Viral Interleukin-10 (vIL10)), and eczema were identified as risk factors for an adverse event. Interleukin-10 is associated with controlling inflammation.

##### **Pregnancy**

Several girls became pregnant during this four year study, and in each case their symptoms subsided for the length of the pregnancy. We hypothesize that elevated levels of Interleukin-10, released during pregnancy, attenuates inflammation, which is key to this syndrome.

##### **Summation**

1. Insult to immune system, typically a vaccination, may cause inflammation
2. Inflammation triggers the Fight or Flight response
3. The Fight or Flight response causes magnesium to be excreted
4. Inhibition of ~300 magnesium-dependant cycles
5. Failure of transsulfuration cycle results in inhibited sulfur-dependant cycles such as those responsible for glutathione, collagen and connective tissue, control of inflammation, etc.
6. When gene mutations are present, low cycle output may result in a cascade of debilitating or life-threatening events
7. Dormant pathogens may become virulent

<http://sanevax.org/four-year-analysis-adverse-reactions-gardasil-hpv-vaccine/>



## **Museveni Roots for Immunization against Cervical Cancer**

**By Lillian Namagembe**

July 2, 2014

##### **In Summary**

But despite the high burden of the disease, cervical cancer is also the most preventable kind of cancer worldwide.

**MPIGI:** President Museveni has urged parents to take their girl children between the ages of 8-12 years for immunization against cervical cancer that has become a leading gynaecological issue of concern amongst women in Uganda.

*Continued from page 49*

**Continued from page 48 – Museveni Roots for Immunization against Cervical Cancer**

*While commissioning the new maternity ward at Mpigi Health Centre IV on Monday, the president called on parents, religious and political leaders to dissuade their children from engaging in early sex. He said having multi sex partners puts them at risk of suffering from cancer of the cervix and ruining their future.*

*“For girls who have already engaged in sex, they should go for examination and be helped in hospitals. If they are safe, they must continue protecting themselves,” said Mr Museveni.*

Chinese ambassador in Uganda, Mr Zhao Yali donated a 50 inch TV set to the centre for patients to watch current affairs as they wait for attention. Pastor Robert Kayanja of Rubaga Miracle Centre donated an ambulance while Pastor Imelda Namutebi of Liberty worship centre in Lugala contributed towards an HIV/AIDS facility in Muduma Sub County.

In September 2012, the government launched an initiative to vaccinate up to 140,000 young girls against cervical cancer as part of a two-year pilot project. The programme was intended to benefit girls of at least 10 years of age.

According to WHO, cervical cancer is the most common form of cancer affecting Ugandan women and every year, close to 3,577 women are diagnosed with the disease and about 2,464 die from it. But despite the high burden of the disease, cervical cancer is also the most preventable kind of cancer worldwide.

<http://www.monitor.co.ug/News/National/Museveni-roots-for-immunization-against-cervical-cancer/-/688334/2369726/-/uiuuqwc/-/index.html>

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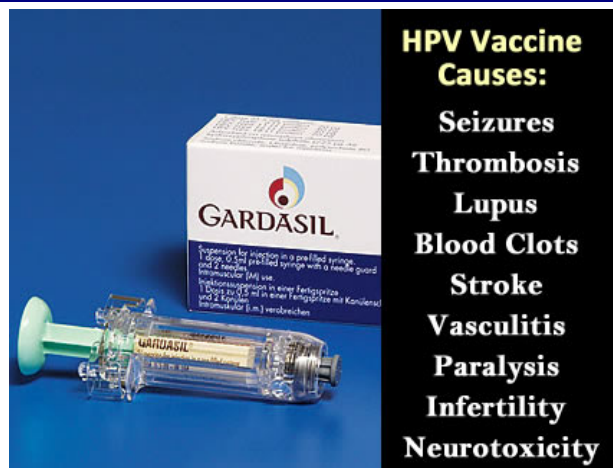
## **Japan's Health Ministry Withdraws Cervical Cancer Vaccine Recommendation**

**By Dave Mihalovic**

June 17, 2013

Japan's health ministry issued a nationwide notice that cervical cancer vaccinations should no longer be recommended for girls due to several hundred adverse reactions to the vaccines reported.

A publication in the [Annals of Medicine](#) has exposed the fraudulent nature of Human papillomavirus (HPV) vaccines such as Gardasil and Cervarix. Key messages the researchers reported include a [lack of evidence for any HPV vaccines in preventing cervical cancer](#) and lack of evaluation of health risks.



One of the problems with vaccinations such as HPV is that they are not preventative, they do compromise safety and physicians will never provide accurate explanations of vaccine risks and benefits because they do not know themselves. Physicians can only rely on the information from vaccine manufacturers and since long-term pharmacokinetic effects which study the bodily absorption, distribution, metabolism and excretion of vaccines and their ingredients are never examined or analyzed, a Physician can never fully inform of patient of any benefits or risks.

“It is necessary to gather information immediately to accurately grasp how often (the side effects) are occurring,” said Mariko Momoi, who chairs the panel at the Health, Labor and Welfare Ministry that decided to suspend the recommendation. Momoi is vice president of the International University of Health and Welfare.

Cervical cancer vaccines are a recent addition to the regular vaccination list and were added after a revision to the Preventive Vaccination Law took effect in April. The government’s subsidy program for vaccination against cervical cancer started in 2010.

The two vaccines sold in Japan are Cervarix, made by GlaxoSmithKlein PLC of Britain, and Gardasil, made by Merck Sharp & Dohme, known as Merck & Co. in the United States.

Mika Matsufuji, 46, who represents an association of cervical cancer vaccination victims’ parents, said the health panel’s decision was a “big step forward.” Her daughter, who was vaccinated with Cervarix in 2011, lost the ability to walk and is now in a wheelchair, she said.

The group is calling for the vaccinations to be halted. Those subject to the vaccination range from six-graders of elementary schools to first-year students of senior high schools.

“We welcome the decision not to recommend the

*Continued on page 61*

## FEATURED ARTICLES

# ‘Baboon Syndrome’: An Unusual Complication of Antibiotics

By Tanya Lewis  
Livescience, January 2, 2014

A 40-year-old man with a sore throat and fever was diagnosed with tonsillitis, and was prescribed penicillin, a common antibiotic. But several days later, the man developed a rash over his armpits, groin and buttocks — an unusual condition known as "baboon syndrome."

The condition, more formally called symmetrical drug-related intertriginous and flexural exanthema (SDRIFE), is known as baboon syndrome because the [rash](#) on the patient's buttocks resembles the red hindquarters of some monkeys.

Because doctors often [prescribe penicillin antibiotics](#) to treat tonsillitis and other bacterial infections, it is important to be aware that baboon syndrome is one of the medication's possible side effects, wrote the researchers who reported the man's case online Nov. 28 in the journal BMJ Case Reports.

The condition is usually caused by an allergic reaction to penicillin drugs, but can also be caused by exposure to mercury or nickel, said Dr. Andreas Bircher, a dermatologist at University Hospital of Basel in Switzerland. (He was not involved in the study but has reported other cases of baboon syndrome.)

In the present case, during the man's initial examination, he had enlarged and inflamed [tonsils](#), according to the physicians at the NHS Lothian hospital in the United Kingdom who reported the case. His regular doctor had prescribed penicillin for him two days earlier, but the patient became unable to swallow. [[8 Strange Signs You're Having an Allergic Reaction](#)]

The emergency-department doctor who saw the man started him on a course of intravenous benzylpenicillin (a different type than the oral penicillin) four times a day and gave him a single dose of intravenous dexamethasone, a steroid medic-

ation used to treat inflammation.

By the next day, the patient had developed a rash over his groins and inner elbow. Assuming it was a reaction to the penicillin, the doctor changed his antibiotic to clarithromycin (which is in a different class of antibiotics).

On the third day after being seen at the hospital, the patient's throat was much better, and he was able to swallow liquids and soft foods, but his rash had spread and become painful. At that point, the rash covered his armpits, buttocks, lower abdomen and upper thighs, and his groin showed signs of necrosis (dead tissue).

The doctors had to determine whether the patient was having a severe drug reaction, which would get better on its own, or a dangerous infection of [flesh-eating bacteria](#) (necrotizing fasciitis), which would require immediate removal of the dead or infected tissue.

The team started the patient on non-penicillin broad-spectrum antibiotics, which act against a range of bacteria, and took a tissue sample from his right groin. The sample tested negative for flesh-eating bacteria, so the patient was diagnosed with baboon syndrome.

"It's not a very common condition," Bircher told LiveScience. For unknown reasons, it's more prevalent in males, and usually seen in postpubescent people.

The patient stopped taking antibiotics, and used oral and topical steroids to treat his rash. He was discharged from the hospital 11 days after being admitted, and the rash disappeared.

"It's a true allergy," Bircher said. With steroid treatment, the rash usually fades within a week, but re-exposure to the drug or allergen can cause a relapse within one to two days, Bircher said.

Baboon syndrome typically appears a few hours to two days after a person takes an antibiotic. The syndrome

*Continued on page 51*



*Continued from page 52 – ‘Baboon Syndrome’: An Unusual Complication of Antibiotics*

rarely affects small children, but cases have been reported in an 18-month-old and a 5-year-old, the researchers noted in their case report. Recovery can sometimes take up to three weeks.

Exposure to penicillin, nickel or mercury are the most common causes of the syndrome, but it has also been linked to certain heartburn drugs, biological agents and chemotherapy.

<http://news.yahoo.com/39-baboon-syndrome-39-unusual-complication-antibiotics-132946228.html>



## **U.S. Uses 40 Tons of Antibiotics a Day Just to Grow Food**

December 29, 2013  
Allgov.com

The United States consumes more than 50 tons of antibiotics a day—80% of which is not used for humans.

Rather, about 40 tons goes to promote agricultural production, such as giving antibiotics to cattle and chickens.

This practice has dire ramifications for human health, two experts warn, as the abundance of antibiotics in the food chain has resulted in drug-resistant bacteria that can leave people vulnerable to infections and other illnesses.

“Antimicrobial resistance is a critical threat to public health,” Aidan Hollis and Ziana Ahmed [wrote](#) in *The New England Journal of Medicine*. “The value of antibiotics for human health is immeasurable.”

Hollis, an economics professor at the University of Calgary, and Ahmed, an economist at the University of Toronto, estimated the U.S. goes through 51 tons of antibiotics a day. They estimate that each year The U.S. uses 13,540,000 kilograms (kg) for livestock, 3,290,000 kg for humans, 150,000 for aquaculture, 150,000 kg for pets and 70,000 kg for crops.

But, “the main use of this invaluable resource is rather disappointing: approximately 80% of antibiotics in the United States are consumed in agriculture and aquaculture,” they wrote.

Hollis and Ahmed say there is “a great deal of concern” that the overuse of antibiotics is “contributing to the development and spread of resistant organisms. Agricultural industry groups, in line with their short-term financial interests, argue that there is no conclusive proof

that the antibiotics used in agriculture harm human health. Unfortunately, evidence is mounting that resistant pathogens are emerging and being selected for at least partly because of nonhuman uses of antibiotics”

Farmers and other agricultural industry groups have come to rely too much on these drugs to boost food production and achieve short-term financial gains, Hollis and Ahmed say. One solution, they argue, would be to impose a user-fee on the non-human application of antibiotics. This would discourage farmers from overusing these medicines.

“Modern medicine relies on antibiotics to kill off bacterial infections,” Hollis told Homeland Security News Wire. “This is incredibly important. Without effective antibiotics, any surgery—even minor ones—will become extremely risky. Cancer therapies, similarly, are dependent on the availability of effective antimicrobials. Ordinary infections will kill otherwise healthy people.”

He added: “The real value of antibiotics is saving people from dying. Everything else is trivial.” -Noel Brinkerhoff

<http://www.allgov.com/news/top-stories/us-uses-40-tons-of-antibiotics-a-day-just-to-grow-food-131229?news=852027>



## **Antibiotic Resistance Soars: Cases of Gut Bacteria not destroyed by Drugs - Increase by 12,000% in Seven Years**

By Emma Innes

6 March 2014

Soaring numbers of patients in England are carrying bacteria that is resistant to antibiotics, hospitals are reporting.

The number of laboratory-confirmed cases of a strain of gut bacteria that can destroy antibiotics has risen from just five in 2006, to more than 600 in 2013.

Health officials have said that the increase in cases has shown the ‘urgent need’ for hospitals to implement plans and procedures to stem the spread of antibiotic resistance.

Public Health England (PHE) has launched a new toolkit for hospitals to help them control antibiotic-resistant bacterial infections caused by carbapenemase-producing Enterobacteriaceae (CPE).

This is the name given to some strains of gut bacteria that can be resistant to carbapenem antibiotics. Carbapenems are considered to be ‘last resort’ antibiotics which medics

*Continued on page 52*

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***Continued from page 51– Antibiotic Resistance Soars: Cases of Gut Bacteria not destroyed by Drugs***

use to treat difficult infections when other antibiotics would or have failed, PHE said.

While infections caused by CPE can still be treated with other antibiotics, treatment may be more difficult, a spokesman said.

He added that in the last decade there has been a 'sustained' increase in the number of CPE cases.

About two thirds of trusts in England have had between one and 20 patients identified with CPE carriage or infection over the past five years.

This includes two trusts in Manchester that have had more than 100 patients identified with CPE.

PHE's medical director Dr Paul Cosford said: 'In order to minimise the wide spread of these multi-drug resistant infections across England it is essential that all trusts are aware of this toolkit. They must also develop plans for detecting and managing patients with infections caused by CPE and other antibiotic-resistant bacteria.

'These infections are already causing national concern due to the observed increasing trends in the number of infections, outbreaks and clusters across England.

'We now have a window of opportunity, if we act quickly and decisively, to address this very real public health threat and prevent widespread problems by minimising the negative impact of these organisms.'

England's chief medical officer Professor Dame Sally Davies said: 'Antibiotic resistance poses a real threat to our ability to treat diseases. 'Although there has been an increase in this strain of bacteria, the new toolkit will ensure that hospitals are well placed to detect, manage and control any cases. Systems of monitoring for resistant bacteria are essential in safeguarding the effect of our antibiotics.'

Health experts have previously warned of the 'catastrophic threat' of people becoming resistant to antibiotics, saying that in just 20 years' time routine operations could become deadly if we lose the ability to fight infection. Last year, Dame Sally said that resistance to antibiotics is one of the greatest threats to modern health. She said many of the drugs are being used unnecessarily for mild infections or illnesses which should not be treated with antibiotics - helping to create resistance.

[www.dailymail.co.uk/health/article-2574864/Antibiotic-resistance-soars-Cases-gut-bacteria-not-destroyed-drugs-increase-12-000-seven-years.html](http://www.dailymail.co.uk/health/article-2574864/Antibiotic-resistance-soars-Cases-gut-bacteria-not-destroyed-drugs-increase-12-000-seven-years.html)



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## **Notre Dame Chemists discover new Class of Antibiotics**

**By Gene Stowe and Marissa Gebhard**

March 06, 2014

A team of University of Notre Dame researchers led by [Mayland Chang](#) and [Shahriar Mobashery](#) have discovered a new class of antibiotics to fight bacteria such as methicillin-resistant Staphylococcus aureus (MRSA) and other drug-resistant bacteria that threaten public health. Their research is published in the Journal of the American Chemical Society in an article titled "[Discovery of a New Class of Non-beta-lactam Inhibitors of Penicillin-Binding Proteins with Gram-Positive Antibacterial Activity](#)."

The new class, called oxadiazoles, was discovered in silico (by computer) screening and has shown promise in the treatment of MRSA in mouse models of infection. Researchers who screened 1.2 million compounds found that the oxadiazole inhibits a penicillin-binding protein, PBP2a, and the biosynthesis of the cell wall that enables MRSA to resist other drugs. The oxadiazoles are also effective when taken orally. This is an important feature as there is only one marketed antibiotic for MRSA that can be taken orally.

MRSA has become a global public-health problem since the 1960s because of its resistance to antibiotics. In the United States alone, 278,000 people are hospitalized and 19,000 die each year from infections caused by MRSA. Only three drugs currently are effective treatments, and resistance to each of those drugs already exists.

The researchers have been seeking a solution to MRSA for years. "Professor Mobashery has been working on the mechanisms of resistance in MRSA for a very long time," Chang said. "As we understand what the mechanisms are, we can devise strategies to develop compounds against MRSA."

"Mayland Chang and Shahriar Mobashery's discovery of a class of compounds that combat drug resistant bacteria such as MRSA could save thousands of lives around the world. We are grateful for their leadership and persistence in fighting drug resistance," said [Greg Crawford](#), dean of the [College of Science](#) at the University of Notre Dame.

<http://news.nd.edu/news/46745-notre-dame-chemists-discover-new-class-of-antibiotics/>



## **COME BACK TO YOUR ROOTS**

# Antibiotic Crisis bigger than Aids as Common Infections will Kill, WHO warns

*Common infections and minor scratches could soon kill because antibiotics are becoming useless against new superbugs, World Health Organisation warns*



*The crisis is bigger and more urgent than the AIDS epidemic of the 1980s Photo: Alamy*

**By Rebecca Smith**

30 April 2014

A child's scratched knee from falling off their bike, common bladder infections among the elderly in care homes and routine surgery to replace broken hips could all become fatal as antibiotics are becoming increasingly useless, the World Health Organisation has said.

The crisis is bigger and more urgent than the Aids epidemic of the 1980s, it was warned.

UK experts said the 'era of safe medicine is coming to an end' and government funds must be pumped into the production of new drugs.

In the foreword to the report Dr Keiji Fukuda, WHO's Assistant Director-General for Health Security, wrote: "A post-antibiotic era — in which common infections and minor injuries can kill — far from being an apocalyptic fantasy, is instead a very real possibility for the 21st century."

He said: "Unless we take significant actions to improve efforts to prevent infections and also change how we produce, prescribe and use antibiotics, the world will lose more and more of these global public health goods and the implications will be devastating."

He said modern medicine, from the treatment of urinary tract infections and pneumonia in babies to chemotherapy and kidney dialysis are under threat.

"This is not an abstract problem. We have a big problem

now and it is going to get bigger.

"What do we do when we have infections we cannot treat or when we lose the ability to protect people when having chemotherapy? I think there are very concrete implications," he said.

The report, *Antimicrobial resistance: global report on surveillance*, focuses on antibiotic resistance in seven different bacteria responsible for common, serious diseases such as sepsis, diarrhoea, pneumonia, urinary tract infections and gonorrhoea.

It is the most comprehensive picture of drug resistance across the globe with data from 114 countries.

It found that antibiotic resistance is present in all areas of the world and is growing.

Over the last 30 years no new types of antibiotics have been developed, the WHO said.

Dr Danilo Lo Fo Wong, Senior Adviser Antimicrobial Resistance at WHO Europe, told the Telegraph: "A child falling off their bike and developing a fatal infection would be a freak occurrence in the UK but that is where we are heading.

"Antibiotic resistance travels with infectious diseases and infectious diseases travel around the world. Whatever good is being done in the UK and elsewhere it can be made redundant by a lack of action elsewhere in the world."

The report comes after England's Chief Medical Officer, Dame Sally Davis, said the issue 'scared' her and called for greater restriction of antibiotics and incentives for pharmaceutical companies to produce new medicines.

Professor Laura Piddock, Director of Antibiotic Action and Professor of Microbiology at University of Birmingham said: "The world needs to respond as it did to the Aids crisis of the Eighties.

"To do this, we need to be ambitious to succeed — moves such as a fully funded mandatory global surveillance programme will document the size of the problem and funded public education will help minimise use — but these are just starting points. We still need a better understanding of all aspects of resistance as well as new discovery, research and development of new antibiotics."

She said governments need to pump money into research to develop new drugs and added that UK funding on antibiotic research as dropped to less than one per cent of available research funds.

Dr Lo Fo Wong warned that antibiotic resistance was bigger than the 1980s Aids crisis because "everyone is potentially in danger".

*Continued on page 54*



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*Continued from page 53– Antibiotic Crisis bigger than Aids as Common Infections will Kill*

The report highlighted drug resistance in viral infections also, such as HIV treatments, Tamiflu which is used to combat flu during epidemics and in some fungal infections.

Dr Paul Cosford, Director for Health Protection and Medical Director at Public Health England, said: "Whilst the UK does not have the levels of antibiotic resistance seen in some parts of the world we do see patients with infections resistant to antibiotics and we take these very seriously. "Combating the development and spread of antibiotic resistance requires a multifaceted approach and PHE is working very closely with its stakeholders to address this. Our work is contributing to the new cross-government national strategy that aims to tackle one of the biggest health care issues of our time."

Members of the public, health workers and pharmacists, and policymakers could all play a part in fighting the superbugs, said the WHO.

Patients could help by only using antibiotics when they were prescribed by a doctor, making sure they completed the full course of treatment even if feeling better, and never sharing antibiotics or using left over prescriptions.

Health professionals were reminded only to prescribe and dispense antibiotics when they are truly needed and to ensure the right drugs were used for particular infections.

Antibiotic use in food production can be reduced, Dr Fukuda said, and better diagnostic tests need to be used in health care so drugs can be focused on those infections they will be most effective against.

The rise of antibiotic resistance will mean patients will spend longer in hospital, incurring greater costs for health care systems globally, Dr Fukuda said.

<http://www.telegraph.co.uk/health/healthnews/10797764/Antibiotic-crisis-bigger-than-Aids-as-common-infections-will-kill-WHO-warns.html>



## Doctors Report Tuberculosis Now 'Virtually Untreatable'

By Marc Lallanilla

February 12, 2013

Medical experts are alarmed that strains of tuberculosis, or TB, have emerged that are so virulent they're being called "virtually untreatable," even with the most powerful drugs available.

The latest issue of the journal [Emerging Infectious Diseases](#), published by the Centers for Disease Control and Prevention, reports that cases of "totally drug-resistant" TB have now been seen in South African clinics.

TB is a respiratory infection caused by the bacteria *Mycobacterium tuberculosis*; it was once widespread until antibiotics such as streptomycin were developed in the years following World War II. Though TB was eliminated in much of the industrialized world, pockets of the disease remained in developing countries.

And now, TB is poised to make a dramatic — and deadly — comeback. "Whatever we may have once optimistically thought, TB remains with death, taxes and political chicanery as being inevitable, unavoidable and deeply unpleasant," Andrew Bush and Ian Pavord, editors of the journal [Thorax](#), wrote in the latest issue.

"It shows every sign of weathering the storm of potent anti-tuberculous medications," they added, noting that the disease is capable of "potentially turning the clock back to the 1930s," when TB clinics and sanitariums were commonplace.

Even doctors are concerned about catching the disease, which is easily spread by coughing, sneezing or even speaking. Dr. Uvistra Naidoo contracted a virulent case of TB while working in his pediatric clinic in Cape Town, South Africa, [US News](#) reports.

Within a few months, Naidoo had lost 30 pounds; an X-ray revealed his right lung had filled with fluid. "One night I nearly passed away — it didn't look good," he told US News.

The complex drug regimen required to treat Naidoo's TB was almost as problematic as the disease itself. He developed Stevens-Johnson syndrome, a deadly condition that causes layers of skin to separate from each other, and he often bled from his eyes.

"The TB doesn't feel like it's killing you, but the drugs do," Naidoo told US News. After three years of grueling treatment, he eventually recovered, but he is left with permanent lung scarring.

Drug-resistant TB has already spread to the United States and other developed countries. A hospital in New York City was struck with a case of drug-resistant TB in the 1990s, according to the [Daily Mail](#). Of the 32 patients who caught the disease, only three survived.

And the U.K. is also reporting a 50 percent increase in tuberculosis cases over the past decade, according to the [Telegraph](#). Roughly three-quarters of the cases of TB reported in the U.K. are seen in immigrants from other regions, especially sub-Saharan Africa and south Asia, according to the Telegraph.

*Continued on page 55*

The speed and ease with which TB spreads have helped make it "unarguably the most successful human pathogen of all time," according to Bush and Pavord of the journal Thorax.

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journal Thorax.

<http://www.livescience.com/27052-tuberculosis-tb-incurable-antibiotics.html>



## **Scientist Finds Link between Antibiotics and Chronic Infections**

July 10, 2014

Researchers from the University of Southern California and the Oak Crest Institute of Science have discovered the link between antibiotics and bacterial biofilm formation leading to chronic lung, sinus and ear infections. The study results, published in the current issue of PLOS ONE, illustrate how bacterial biofilms can actually thrive, rather than decrease, when given low doses of antibiotics.

"This research addresses the long standing issues surrounding chronic ear infections and why some children experience repeated ear infections even after antibiotic treatment," said Paul Webster, PhD, lead author, senior staff scientist at USC and senior faculty at the Oak Crest Institute of Science. "Once the biofilm forms, it becomes stronger with each treatment of antibiotics."

During the study, non-typeable *Haemophilus influenzae* (NTHi) bacteria a common pathogen of humans was exposed to non-lethal doses of ampicillin, a class of antibiotics commonly used to treat respiratory, sinus and ear infections, or other beta-lactam antibiotics. The dose of the antibiotic was not enough to kill the bacteria which allowed the bacteria to react to the antibiotic by producing glycogen, a complex sugar often used by bacteria as a food source, to produce stronger biofilms when grown in the laboratory.

Biofilms are highly structured communities of microorganisms that attach to one another and to surfaces. The microorganisms group together and form a slimy, polysaccharide cover. This layer is highly protective for the organisms within it, and when new bacteria are produced they stay within the slimy layer. With the introduction of antibiotic-produced glycogen, the biofilms have an almost endless food source that can be used once antibiotic exposure has ended.

There are currently no approved treatments for biofilm-related infections. Therefore, bacteria forced into forming stronger biofilms will become more difficult to treat and will cause more severe chronic infections. Adults will suffer protracted lung infections as the bacteria hunker down into their protective slime, and children will have repeated ear infections. What may appear to be antibiotic

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**Continued from page 55 - Scientist Finds Link between Antibiotics and Chronic Infections**

resistance when an infection does not clear up may actually be biofilms at work.

Webster believes modern medicine needs to find ways of detecting and treating biofilm infections before the bacteria are able to form these protective structures. The difficulties of treating biofilm infections, which can be up to 1,000 times more resistant to antibiotics, have prompted some physicians to propose a gradual move away from traditional antibiotic treatments and toward non-antibiotic therapies.

"If antibiotics are to continue to be relevant for treating bacterial infections it is important that their effects on biofilms be explored," says Dr. Webster.

"One step in this direction would be to develop routine screening methods to test the effects of antibiotics on in vitro formed biofilms."

<http://www.naturalblaze.com/2014/07/scientist-finds-link-between.html>



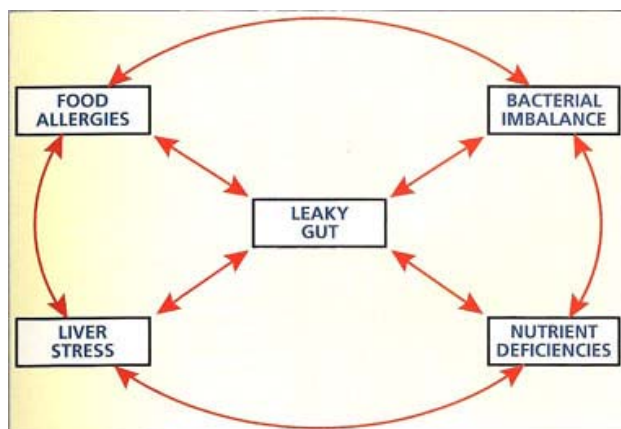
## Intestinal Disease, Immune Disease and GMOs

By N.L. Swanson

Could crops that are genetically engineered as pesticide producers be a factor in the explosion of intestinal and immune disorders in the U.S.?

### GE engineering for insect resistant (IR) crops

Sections of the DNA from the bacteria known as *Bacillus thuringiensis* (Bt) are isolated and inserted into the plant cells by a process known as genetic transformation. The entire plant is then regenerated from the transgenic plant cells.



There are thousands of different Bt strains that produce proteins toxic to insect pests. Particular strains are chosen to target specific plant pests. The resulting plant contains the Bt toxin in its cells. [When the plant is eaten](#) by the target insect the toxin binds to receptors in the insect's gut, causing the gut wall to break down and allowing toxins and normal gut bacteria to enter the body. As the toxins and bacteria proliferate in the body, the insect dies.

Could it be coincidence that this is the exact description of "Leaky Gut syndrome"?

### Leaky Gut syndrome

According to [Dr. Andrew Weil](#), "Leaky gut syndrome is not generally recognized by conventional physicians, but evidence is accumulating that it is a real condition that affects the lining of the intestines. The theory is that leaky gut syndrome (also called increased intestinal permeability), is the result of damage to the intestinal lining, making it less able to protect the internal environment as well as to filter needed nutrients and other biological substances. As a consequence, some bacteria and their toxins, incompletely digested proteins and fats, and waste not normally absorbed may "leak" out of the intestines into the blood stream. This triggers an autoimmune reaction, which can lead to gastrointestinal problems such as abdominal bloating, excessive gas and cramps, fatigue, food sensitivities, joint pain, skin rashes, and autoimmunity."

### Can Leaky Gut be caused by the Bt crops?

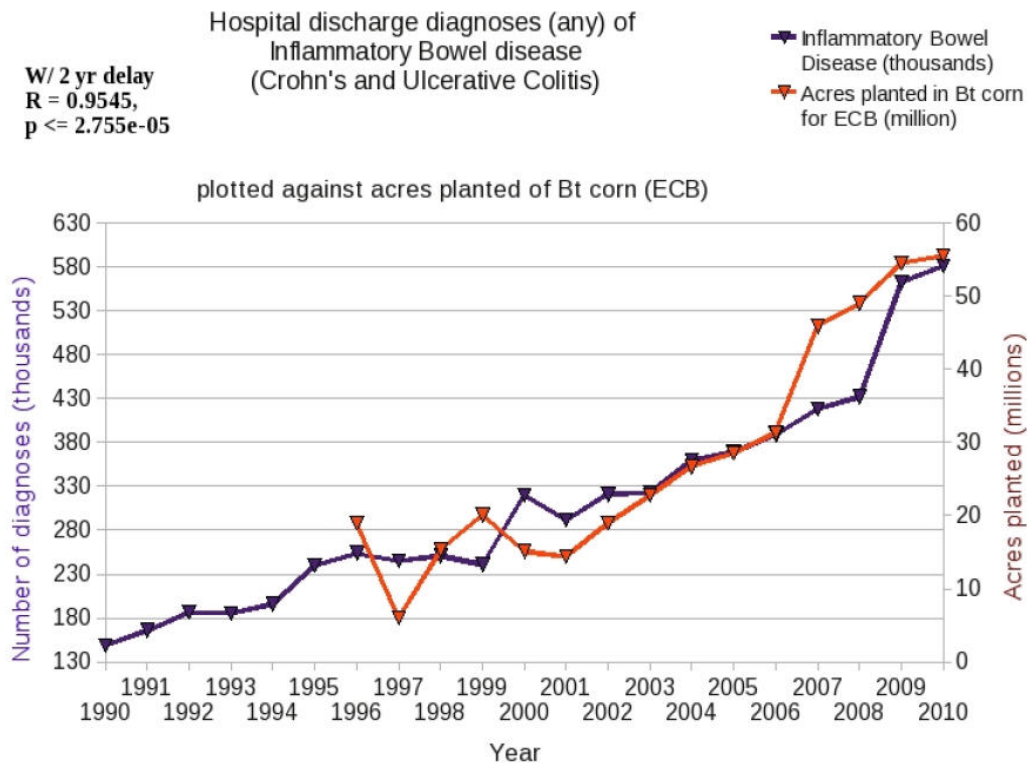
According to the producers of the Bt insecticide crops, the portion of the Bt DNA that is used does not survive the digestive process in humans. This may be true for the bare DNA strands, but the Bt proteins do survive. [Aris](#) et al. found these Bt toxins in the blood of pregnant women and their fetuses which they reported in the journal of Reproductive Toxicology (2011). Even so, say the manufacturers, there is no cause to worry because the toxins are selective and only bind to receptors in the insect gut. Humans don't have these receptors.

According to [Dr. Arpad Pusztai](#), who was involved in the pioneering research on the Bt potato, "There is no [such thing as] absolute selectivity!" Furthermore, he says that the very process of genetic modification causes unknown and uncontrollable mutations in the plant. There is "no means of directing the gene transfer ... You are shooting blindfold ... genetic insertion causes mutations ... You can't say where it [the genetic bit] landed ... you don't know how things were reshuffled." The plant's own genes are affected and we don't really know how. Pusztai calls this, "insertional mutagenesis," mutation of an organism caused by the insertion of DNA into the organism's preexisting DNA.

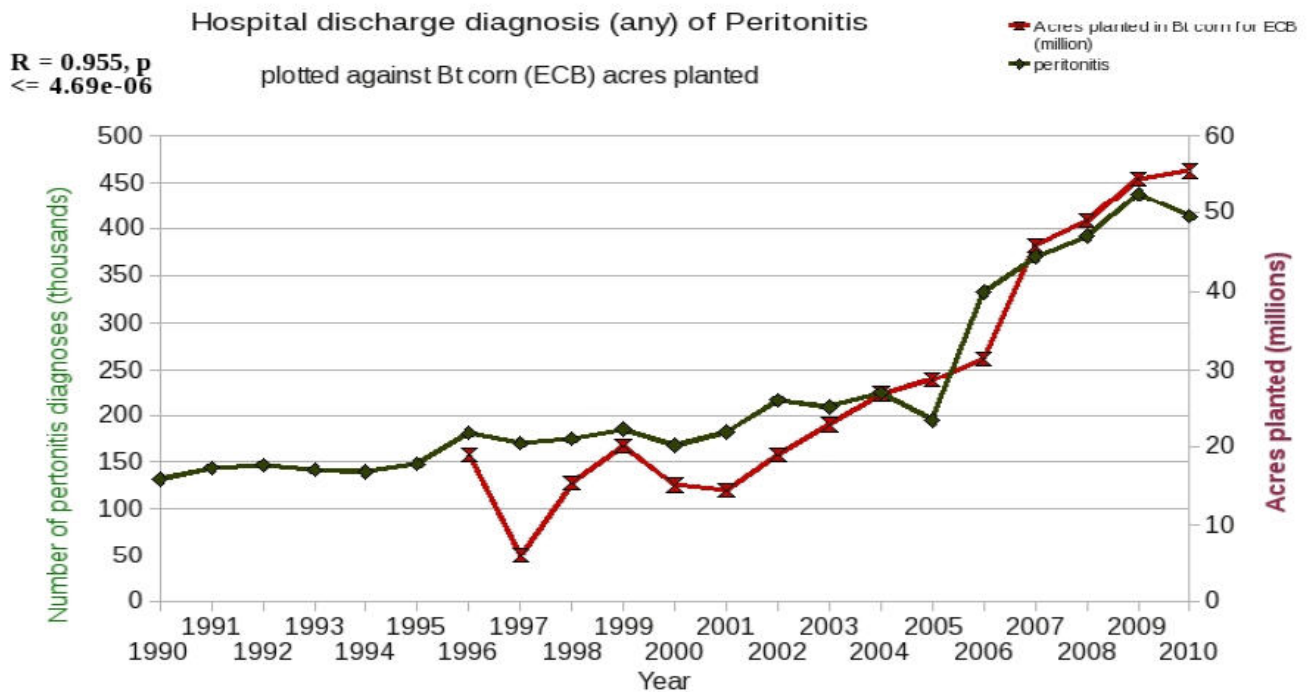
*Continued on page 57*



GRAPH 1



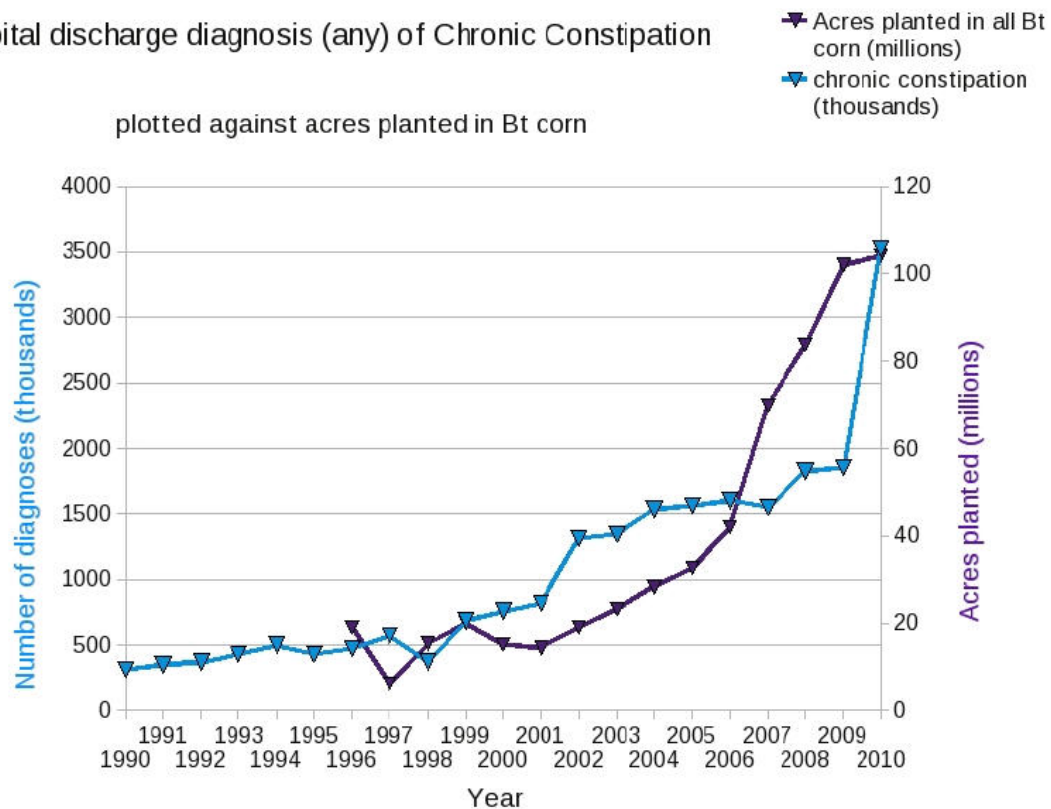
GRAPH 2



Continued on page 58

### GRAPH 3

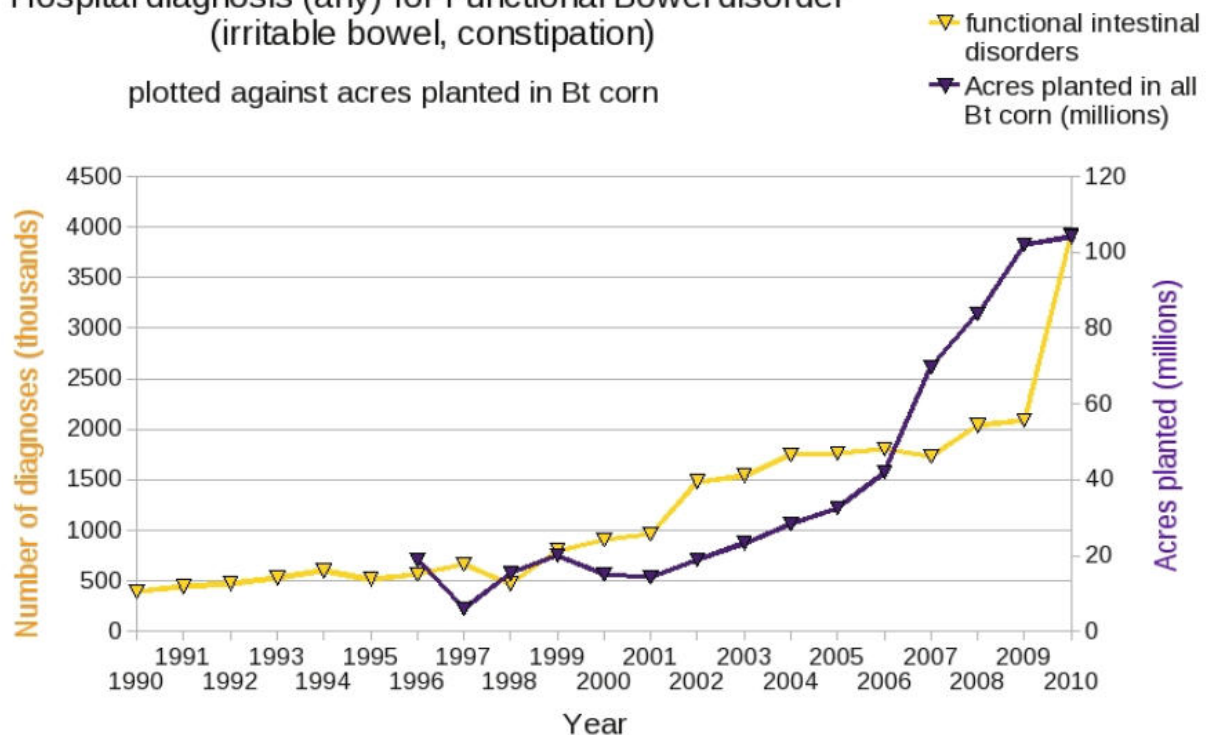
Hospital discharge diagnosis (any) of Chronic Constipation



### GRAPH 4

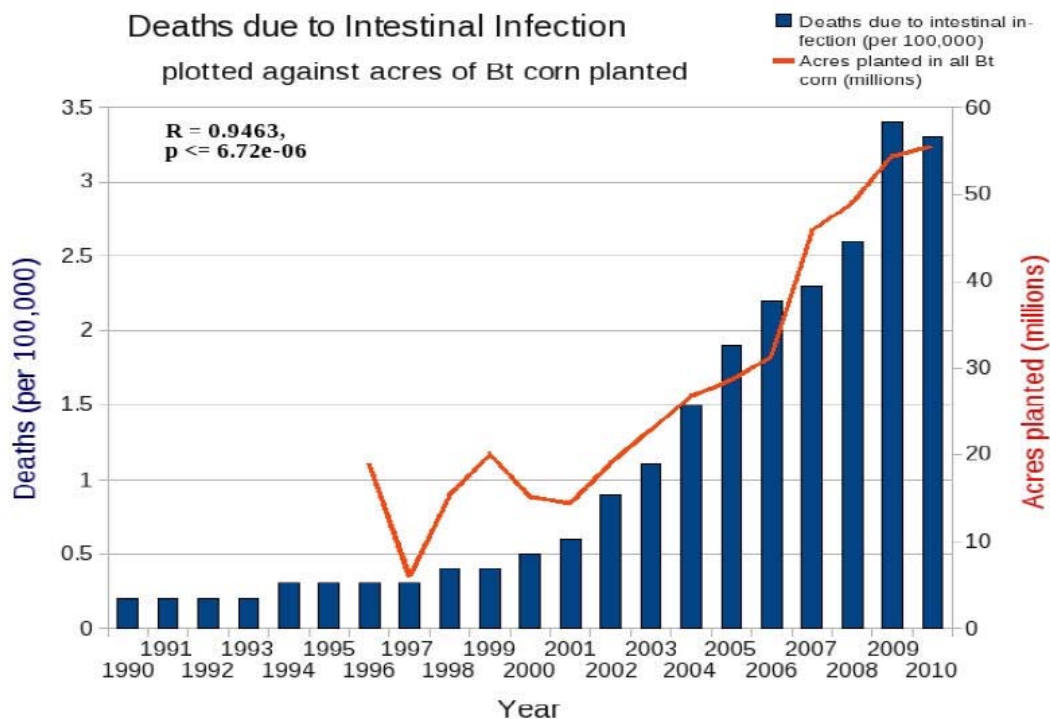
Hospital diagnosis (any) for Functional Bowel disorder (irritable bowel, constipation)

plotted against acres planted in Bt corn

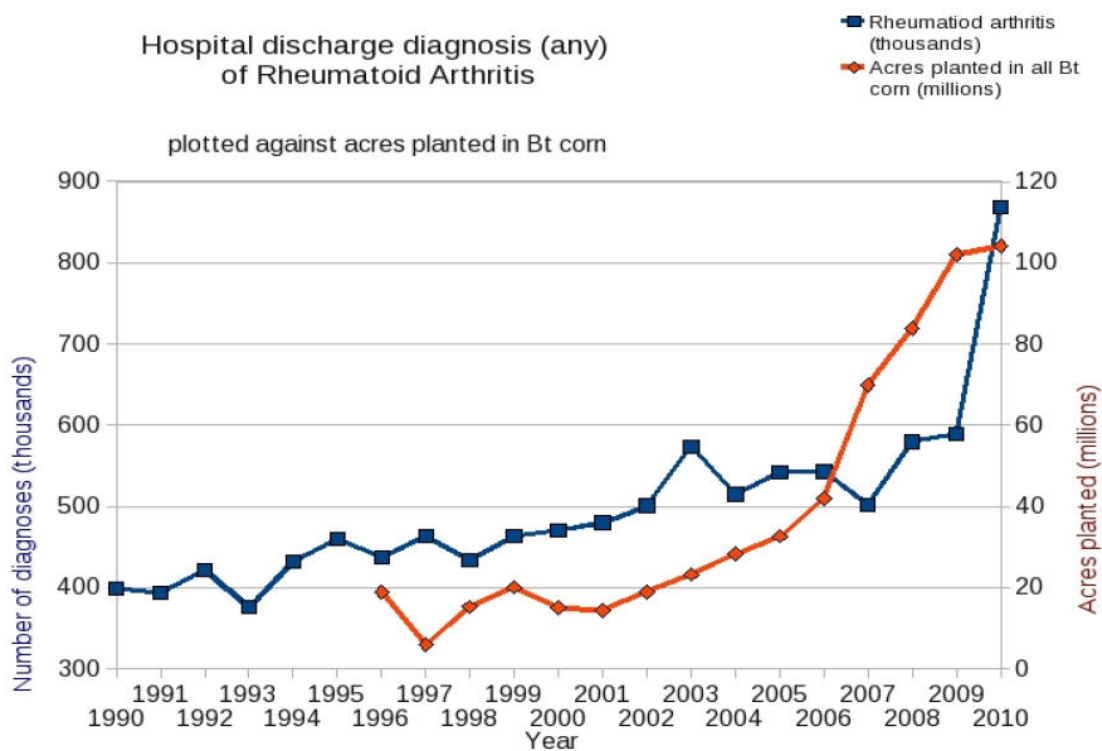


Continued on page 59

GRAPH 5



GRAPH 6



Continued on page 60



Pusztai did an experiment with rats where he fed one group a food mixture that contained the Bt toxin alone and the other group were fed the the same mixture except it contained the Bt potato. The potato mixture contained 800 times less of the Bt toxin. The rats who were fed the Bt toxin alone were fine, as advertised. But the rats who were fed the Bt potato were not. They were smaller, their livers were smaller, but their stomachs and small intestines were larger. The toxin in the potato was different than the toxin alone. Pusztai published his work ([Lancet, 1999](#)) and when his employment contract expired it was not renewed.

The intestinal lining of livestock in the U.S. is so poor these days that meat processors import sausage casings from New Zealand. [According to Dr. Huber](#), “When you look at the intestine of those pigs fed the GMO feed, the lining is deteriorated and the critical microbial balance is drastically changed.”

### **Intestinal disease and Bt corn**

The first Bt corn, cotton and potato were approved by the FDA as food crops in 1995. The corn was genetically engineered to be resistant to the European Corn Borer (ECB). Since then there have been numerous approvals for Bt corn, cotton, potato and, in 2010 for soy. In 2002 the FDA approved another Bt corn variety engineered as an insecticide against the corn rootworm. The Bt potato never really took hold, apparently because the fast-food producers refused to buy it.

The Center for Disease Control ([CDC](#)) maintains the National Hospital Discharge Survey. Records were accessed for discharges with any diagnosis listed for a variety of intestinal ailments from 1990-2010. [Dr. Charles Benbrook](#) of the Washington State University published a report showing that pesticide use has increased since the advent of GMOs. He obtained data from the USDA and Monsanto reports to estimate percentages of GE corn and cotton that were planted in Bt varieties.

These data are plotted in the graphs below. The first graph is a plot of hospital discharge diagnoses of inflammatory bowel disease (IBD — Crohn’s and ulcerative colitis) against the number of acres of Bt corn planted (ECB-targeted). The diagnoses for IBD begins rising in 1995 and rises and drops along with the availability of Bt corn with a one year delay (two years around 2007-8). The incidence of IBD also showed a [high peak](#) around 1978. In an analysis similar to this one, [Qin](#) showed that it was strongly correlated with saccharine consumption at that time.

The second graph depicts the number of hospital discharges listing peritonitis diagnoses plotted against the number of acres of Bt corn planted (ECB). The correlation in time in this graph is not as clear as in the previous, but they are marching along in the same direction at approximately the same time. [Perforation of part of the gastrointestinal tract](#) is the most common cause of peritonitis.

The third graph shows the the number of diagnoses for chronic constipation plotted against Bt corn planted (ECB and rootworm targeted). Chronic constipation jumped 90% from 2009 to 2010.

The fourth graph is a plot of hospital diagnoses of functional bowel disorder (chronic constipation, irritable bowel and undetermined) against the number of acres of all Bt corn. This graph also seems to track well.

The fifth graph shows the number of deaths due to intestinal infections plotted against the number of acres of all Bt corn planted.

### **Leaky gut and immune response**

If toxins and bacteria are leaking into the abdominal cavity, the body will respond as if it is under attack. In addition, according to [Dr. Pusztai](#), “The body will regard any genetically modified substance coming into the digestive system as foreign [because of its mutated DNA].” The body responds to foreign substances by triggering an immune response. This can be instant, as in an allergic reaction, or it can be a slower, cell-mediated response. Food allergies and immune diseases of all kinds are also soaring . Incidence and prevalence data trends are unavailable because many were rare until recently (fibromyalgia, celiacs disease).

[Other immune diseases that are on the rise](#) are: asthma, eczema, lupus, Addison’s disease, Grave’s disease, rheumatoid arthritis, multiple sclerosis, psoriasis, and psoriatic arthritis.

<http://farmwars.info/?p=11741>



### **Good to Have Dark Skin**

*The melanin in dark skin is believed to help enhance the body’s natural ability to combat pathogens. A major function of melanocytes, melanosomes and melanin in skin is to inhibit the proliferation of bacterial, fungal and other parasitic infections of the dermis and epidermis so that the melanization of skin and other tissues form an important component of the innate immune defense system.*

[http://www.africaresource.com/index.php?option=com\\_content&view=article&id=479:dark-skin-is-very-good-for-you-a-scientific-review&catid=105:genetics&Itemid=360](http://www.africaresource.com/index.php?option=com_content&view=article&id=479:dark-skin-is-very-good-for-you-a-scientific-review&catid=105:genetics&Itemid=360)



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***Continued from page 49 - Japan's Health Ministry  
Withdraws Cervical Cancer Vaccine Recommendation***

vaccination even though it is a small step,” said Mika Matsufuji, head of a group of parents who say their children have suffered side effects from the vaccination. “Parents can decide whether their children should receive the vaccination or not.”

At present there are no significant data showing that either Gardasil or Cervarix (GlaxoSmithKline) can prevent any type of cervical cancer since the testing period employed was too short to evaluate long-term benefits of HPV vaccination. The longest follow-up data from phase II trials for Gardasil and Cervarix are 5 and 8.4 years, respectively, while invasive cervical cancer takes up to 20 -40 years to develop from the time of acquisition of HPV infection.

Persistent HPV infections caused by high-risk HPVs will usually not lead to immediate precursor lesions, let alone in the longer term to cervical cancer. The reason for this is that as much as 90% HPV infections resolve spontaneously within 2 years and, of those that do not resolve, only a small proportion may progress to cancer over the subsequent 20 - 40 years. Moreover, research data show that even higher degrees of atypia can either resolve or stabilize over time. Thus, in the absence of long-term follow-up data, it is impossible to know whether HPV vaccines can indeed prevent some cervical cancers or merely postpone them.

- To date, the efficacy of HPV vaccines in preventing cervical cancer has not been demonstrated, while vaccine risks remain to be fully evaluated.

- Current worldwide HPV immunization practices with either of the two HPV vaccines appear to be neither justified by long-term health benefits nor economically viable, nor is there any evidence that HPV vaccination (even if proven effective against cervical cancer) would reduce the rate of cervical cancer beyond what Pap screening has already achieved.

- Cumulatively, the list of serious adverse reactions related to HPV vaccination worldwide includes deaths, convulsions, paraesthesia, paralysis, Guillain-Barre syndrome (GBS), transverse myelitis, facial palsy, chronic fatigue syndrome, anaphylaxis, autoimmune disorders, deep vein thrombosis, pulmonary embolisms, and cervical cancers.

- Because the HPV vaccination programme has global coverage, the long-term health of many women may be at risk against still unknown vaccine benefits. In the United States, thanks to the wealth of information available on the HPV vaccine fraud, the proportion of insured girls and young women completing the human

papillomavirus (HPV) vaccine among those who initiated the series has dropped significantly -- as much as 63 percent -- since the vaccine was approved in 2006, [according to new research](#) from the University of Texas Medical Branch (UTMB) in Galveston.

Here are [some examples](#) of what Merck the manufacturer does not know about Gardasil and is consequently threatening the health of every person who is injected with this vaccine.

Summing up their evidence, the authors in the [Annals of Medicine](#) publication stated that the presentation of partial and non-factual information regarding cervical cancer risks and the usefulness of HPV vaccines, as cited above, is neither scientific nor ethical. None of these practices serve public health interests, nor are they likely to reduce the levels of cervical cancer. Independent evaluation of HPV vaccine safety is urgently needed and should be a priority for government sponsored research programmes. Any future vaccination policies should adhere more rigorously to evidence-based medicine as well as strictly follow ethical guidelines for informed consent.

[http://preventdisease.com/news/13/061713\\_Japans-Health-Ministry-Withdraws-Cervical-Cancer-Vaccine.shtml](http://preventdisease.com/news/13/061713_Japans-Health-Ministry-Withdraws-Cervical-Cancer-Vaccine.shtml)

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## **Africa: Antibiotics Overuse Is Price of Success in Malaria Fight**

**By Steve Baragona**

26 February 2014

As malaria rates decline across much of Africa, a new study seeks to fight another problem. Drug-resistant bacteria are a growing concern as antibiotics have become the automatic choice for treating a child with a fever.

Research from Tanzania, published in the New England Journal of Medicine, shows that most illnesses are caused by viral infections. Antibiotics do not kill viruses, and overuse of these important drugs is decreasing their effectiveness.

### **Success and challenge**

Until recently, malaria has been so prevalent in many African countries that health workers assumed any child with a fever had it. But after a decade of intensive efforts and billions of dollars of global investment, malaria rates are declining across the continent.

A recent report found lower rates in 40 of 44 African countries studied. But that leaves doctors with a new set of challenges: If malaria is not causing a child's fever, what

*Continued on page 62*

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***Continued from page 61- Africa: Antibiotics Overuse Is Price of Success in Malaria Fight***

Untreated, the disease progresses to the bones, causing severe disfigurement and disability. It mainly affects under-15s in poor, remote populations.

Only 12 countries – three Pacific islands, eight African countries and Indonesia – are affected by yaws. A global vaccination programme in the 1950s treated more than 300 million people and rid 90 endemic countries of the infectious bacteria.

In the remaining endemic countries, up to 10% of children suffer skin ulcers, which suggests that between 40% and 60% have the infection in their bloodstream. These latent cases can become sources of reinfection, said Oriol Mitjà, a technical adviser for the WHO's neglected tropical diseases department who works on the yaws treatment programme in [Papua New Guinea](#).

"How can we morally justify not using such a simple and inexpensive tool to rid the children of these communities of an infection that causes years of suffering?" he said.

The WHO set 2020 as the deadline for the eradication of yaws, and has successfully carried out treatment campaigns using the new antibiotic in Congo-Brazzaville, Ghana, Papua New Guinea and [Vanuatu](#). With a single dose given to everyone, the disease can quickly be eliminated from the community, said Mitjà.

"We were very happy to see that about 95% of the population living in the four countries took a single dose of the drug. And we are encouraged by the results, that after one round of treatment the disease goes down dramatically," said Kingsley Asiedu, responsible for yaws in the WHO's neglected tropical diseases department.

In Lihir in Papua New Guinea, the number of new cases dropped by 90% just six months after the antibiotic was administered, Asiedu said.

But the air of optimism is tinged with uncertainty about where funding for the antibiotic will come from.

The next step, according to Asiedu, is to expand the treatment into other countries, but this will require more resources, particularly the drug azithromycin.

"If we leave it to a country's ability to buy the drug, it's going to really delay the speed at which we can reach the target. Our basic objective is now to secure the donation of azithromycin. We're trying to discuss with [Pfizer](#) whether it will be interested to assist in yaws eradication efforts," he said.

"It's up to the pharmaceutical companies to make the

donation of 200m tablets. There are currently 40 million people who are at risk from the disease and we need to treat them all," Mitjà said.

As the treatment requires only one round, Asiedu is sure that if they get the funding yaws can be wiped out within six years. The ability to reach remote areas would not be a problem, he said, because previous vaccination programmes had successfully reached them.

Matthew Coldiron, a doctor who took part in a Médecins Sans Frontières campaign to eradicate yaws in the remote northern regions of Congo-Brazzaville, said, however, that treating Aka pygmy communities in the most inaccessible regions of the tropical rainforest was "an immense logistical burden".

"One of the major places where yaws is present is in the central African rainforest. Logistic access and insecurity is going to make it a real struggle to eradicate the disease," he said.

There is also concern that the bacteria that causes yaws will become resistant to azithromycin, according to Michael Marks, a Wellcome Trust clinical research fellow at the London School of Hygiene and Tropical Medicine. Resistance to the drug has occurred in the bacteria that causes syphilis, which is closely related to the yaws bacteria, he said.

"Monitoring for the development of resistance in the yaws bacteria will be extremely important during the yaws eradication programme," he said. "Although there are challenges to overcome, if we can maintain the momentum we have, then worldwide elimination is a realistic goal."

Health experts see the yaws eradication effort as an indicator of similar global drives to wipe out other diseases. "If we can't eradicate something like yaws, why are we so concerned about eradication of other diseases. This is the simplest disease to eradicate, medically speaking," Coldiron said.

"Yaws is going to be the second disease to be eradicated from the world after smallpox. This will probably encourage other public health officials to pursue eradication of other diseases, such as malaria and tuberculosis," Mitjà said.

<http://www.theguardian.com/global-development/2014/feb/21/yaws-bacterial-skin-disease-who-donated-antibiotics>

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## FEATURED ARTICLES

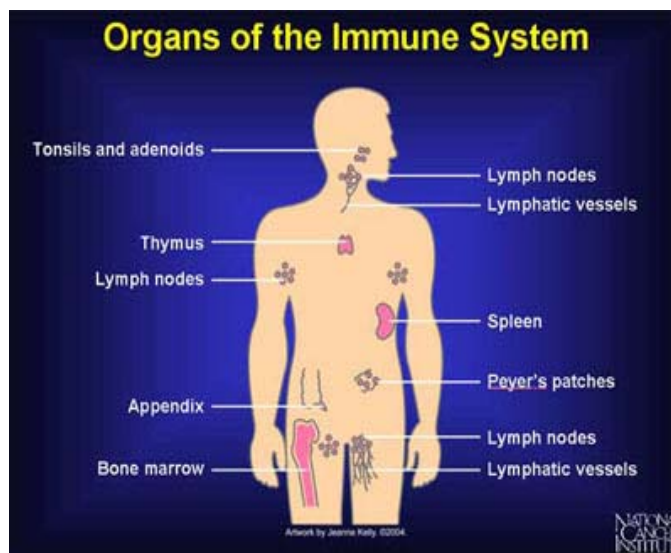
# Immune System 101

By Aids.Gov

### How does your immune system work?

Your immune system works because your body is able to recognize "self" and "non-self." This means that your body is able to tell if an invader (virus, bacteria, parasite, or other another person's tissues) has entered it—even if you aren't consciously aware that anything has happened. Your body recognizes this invader and uses a number of different tactics to destroy it.

### Major Players of the Immune System



**Lymph nodes** (also called "lymph glands"): These small, bean-shaped structures are part of your *lymphatic system*. That system is made up of tissues and organs (bone marrow, spleen, thymus, and lymph nodes) that produce and store cells that fight infection and disease, along with the clear fluid, *lymph*, that carries those cells to different parts of the body. Lymph nodes filter the lymphatic fluid and store special cells that can trap cancer cells or bacteria that are traveling through your body in the lymph fluid. Lymph nodes are critical for your body's immune response and many of your immune reactions begin there. When you have an infection, your lymph nodes can get larger and feel tender or sore.

**Thymus:** A small organ located just behind your

breastbone. This is where your *T-cells* mature. (That's why they are called T-cells. The "T" is for "thymus.")

**Spleen:** The largest lymphatic organ in the body—it's about the size of your fist. Your spleen is located in the upper-left part of your abdomen. It contains white blood cells that fight infection or disease. Your spleen also helps control the amount of blood in your body and destroys old and damaged blood cells.

**Bone Marrow:** The yellow tissue in the center of your bones that is responsible for making white blood cells that are destined to become lymphocytes.

**Lymphocytes:** A small white blood cell that plays a large role in defending the body against disease. There are two main types of lymphocytes: B-cells and T-cells. B-cells make antibodies that attack bacteria and toxins. T-cells help destroy infected or cancerous cells attack body cells themselves when they have been taken over by viruses or have become cancerous.

### The Immune System in Action

Your immune system has many different ways of fighting off foreign invaders. When confronted with a virus, your body responds by activating specific processes of the immune system. First your body recognizes a foreign *antigen* and delivers it to the lymph system, where it is ingested by a *macrophage*.

Then the macrophage processes the virus and displays the antigens for that particular virus on its own exterior. This antigen then signals a helper *T-cell*.

Next the T-cell reads this signal and sounds the alarm for other parts of your immune system to respond.

The *B-cell* responds to this call and comes to read the antigen from the surface of the macrophage.

*Continued on page 64*

The B cell then becomes activated and produces millions of *antibodies that are specific to the antigen*. These antibodies are released into your body to attach to the virus particles.

These antibodies are important because the invading virus may outnumber your own immune system cells. The antibodies attach to the antigens and hold on tight.

These antibodies then send a signal to other macrophages and other immune cells to come and engulf and destroy the antibody and whatever it has captured.

The final stage of your immune response involves the suppressor T-cell. Once the number of invaders has dropped significantly and the infection has resolved, the *suppressor T-cell* will signal the other cells of the immune system to rest. This is important as prolonged activation of your immune response could eventually lead to damage to your healthy cells.

### How HIV affects this complex process

HIV disrupts this process by directly infecting the helper T-cells. Your initial immune response does get rid of a great deal of HIV, but some of it manages to survive and infect these important cells. Once the infected helper T-cells are activated, they work to **create new viruses** instead of doing the job they are supposed to do in your immune system. In addition, many helper T-cells are destroyed in the HIV replication process.

### What HIV does in your body

When you are infected with HIV, there are multiple things happening in your immune system at the cellular level.

### Transmission

When HIV enters your body through sexual contact, transfusions with infected blood, or by injection with a needle that has infected blood in or on it, researchers believe that the virus attaches to a specific type of *immune system* cell called a *dendritic cell*. These cells are found in *mucocutaneous* (mucosal membranes) areas that line the mouth, the vagina, rectum, penis, and the upper gastrointestinal tract. Scientists think that these dendritic cells transport the virus from the site of the infection to your lymph nodes where HIV can infect other immune system cells.

### The life-cycle of HIV in your cells

HIV can infect multiple cells in your body, including brain cells, but its main target is the *CD4 lymphocyte*, also called a **T-cell** or **CD4** cell. When a CD4 cell is infected with HIV, the virus goes through multiple

steps to reproduce itself and create many more virus particles.

The process is broken up into the following steps:

1. **Binding and Fusion:** This is the process by which HIV binds to a specific type of *CD4 receptor* and a *co-receptor* on the surface of the CD4 cell. This is similar to a key entering a lock. Once unlocked, HIV can fuse with the host cell (CD4 cell) and release its genetic material into the cell.
2. **Reverse Transcription:** A special *enzyme* called *reverse transcriptase* changes the genetic material of the virus, so it can be integrated into the host DNA.
3. **Integration:** The virus' new genetic material enters the *nucleus* of the CD4 cell and uses an enzyme called *integrase* to integrate itself into your own genetic material, where it may "hide" and stay inactive for several years.
4. **Transcription:** When the host cell becomes activated, and the virus uses your own enzymes to create more of its genetic material—along with a more specialized genetic material which allows it make longer **proteins**.
5. **Assembly:** A special enzyme called *protease* cuts the longer HIV *proteins* into individual proteins. When these come together with the virus' genetic material, a new virus has been assembled.
6. **Budding:** This is the final stage of the virus' life cycle. In this stage, the virus pushes itself out of the host cell, taking with it part of the *membrane* of the cell. This outer part covers the virus and contains all of the structures necessary to bind to a new CD4 cell and receptors and begin the process again.

These steps of the life-cycle of HIV are important to know because **the medications used to control HIV infection act to interrupt this replication cycle**.

### WHAT are the stages of hiv infection?

HIV infection has a well-documented progression. If you are infected with HIV and don't get treatment, HIV will eventually overwhelm your immune system. This will lead to your being diagnosed with Acquired Immune Deficiency Syndrome (AIDS).

However, there's good news: when used consistently, *antiretroviral therapy* (ART) prevents the HIV virus from multiplying and from destroying your immune system. This helps keep your body strong and healthy by helping you fight off life-threatening infections and preventing HIV from progressing to AIDS. In addition, research has shown that taking ART can help prevent the spread of HIV to others. (Read more about [HIV treatment](#).)

Continued on page 65

## Stages of HIV Infection

### 1 ACUTE INFECTION:

During this time, large amounts of the virus are being produced in your body.

Many, but not all, people develop flu-like symptoms often described as the "worst flu ever."

### 2 CLINICAL LATENCY:

During this stage of the disease, HIV reproduces at very low levels, although it is still active.

During this period, you may not have symptoms. With proper HIV treatment, people may live with clinical latency for several decades. Without treatment, this period lasts an average of 10 years, but some people may progress through this stage faster.

### 3 AIDS:

As your CD4 cells fall below 200 cells/mm<sup>3</sup>, you are considered to have progressed to AIDS.

Without treatment, people typically survive 3 years.

Below are the stages of HIV infection. People may progress through these stages at different rates, depending on a [variety of factors](#).

#### Acute Infection Stage

Within 2-4 weeks after HIV infection, many, but not all, people develop flu-like symptoms, often described as "the worst flu ever." Symptoms can include fever, swollen glands, sore throat, rash, muscle and joint aches and pains, fatigue, and headache. This is called "acute retroviral syndrome" (ARS) or "primary HIV infection," and it's the body's natural response to the HIV infection.

During this early period of infection, large amounts of virus are being produced in your body. The virus uses *CD4 cells* to replicate and destroys them in the process. Because of this, your *CD4 count* can fall rapidly. Eventually your immune response will begin to bring the level of virus in your body back down to a level called a *viral set point*, which is a relatively stable level of virus in your body. At this point, your CD4 count begins to increase, but it may not return to pre-infection levels. It may be particularly beneficial to your health to begin ART during this stage.

It is important to be aware that you are at particularly high risk of transmitting HIV to your sexual or drug using partners during this stage because the levels of HIV in your blood stream are very high. For this reason, it is very important to take steps to [reduce your risk of transmission](#).

#### Clinical Latency Stage

After the acute stage of HIV infection, the disease moves into a stage called the "clinical latency" stage. "Latency" means a period where a virus is living or developing in a person without producing symptoms. During the clinical latency stage, people who are infected with HIV experience no HIV-related symptoms, or only mild ones. (This stage is sometimes called "asymptomatic HIV infection" or "chronic HIV infection.")

During the clinical latency stage, the HIV virus continues to reproduce at very low levels, although it is still active. If you take ART, you may live with clinical latency for several decades because treatment helps keep the virus in check. (Read more about [HIV treatment](#).) For people who are not on ART, the clinical latency stage lasts an average of 10 years, but some people may progress through this stage faster.

It is important to remember that people in this symptom-free stage are still able to transmit HIV to others, even if they are on ART, although ART greatly reduces the risk of transmission.

*Continued on page 66*



If you have HIV and you are not on ART, then eventually your viral load will begin to rise and your CD4 count will begin to decline. As this happens, you may begin to have *constitutional symptoms* of HIV as the virus levels increase in your body.

## **AIDS**

This is the stage of HIV infection that occurs when your immune system is badly damaged and you become vulnerable to infections and infection-related cancers called *opportunistic infections*. When the number of your CD4 cells falls below *200 cells per cubic millimeter of blood (200 cells/mm<sup>3</sup>)*, you are considered to have progressed to AIDS. (In someone with a healthy immune system, CD4 counts are between 500 and 1,600 cells/mm<sup>3</sup>.) You are also considered to have progressed to AIDS if you develop one or more opportunistic illnesses, regardless of your CD4 count.

Without treatment, people who progress to AIDS typically survive about 3 years. Once you have a dangerous opportunistic illness, life-expectancy without treatment falls to about **1 year**. However, if you are taking ART and maintain a low viral load, then you may enjoy a near normal life span. You will most likely never progress to AIDS.

## **Factors Affecting Disease Progression**

People living with HIV may progress through these stages at different rates, depending on a variety of factors, including their genetic makeup, how healthy they were before they were infected, how soon after infection they are diagnosed and linked to care and treatment, whether they see their healthcare provider regularly and take their HIV medications as directed, and different health-related choices they make, such as decisions to [eat a healthful diet](#), [exercise](#), and [not smoke](#).

## **Time between HIV infection and AIDS**

### **Factors that may shorten the time between HIV and AIDS:**

- Older age
- HIV subtype
- Co-infection with other viruses
- Poor nutrition
- Severe stress
- Your genetic background

### **Factors that may delay the time between HIV and AIDS:**

- Taking antiretroviral therapy
- Staying in HIV care
- Closely adhering to your doctor's recommendations
- Eating healthful foods
- Taking care of yourself
- Your genetic background

By making healthy choices, you have some control over the progression of HIV infection.

As noted above, when used consistently, ART prevents the HIV virus from multiplying and from destroying your immune system. And there are other treatments that can prevent or cure some of the illnesses associated with AIDS, though the treatments do not cure HIV itself. The earlier you detect your HIV infection and start treatment, the better.

But not everyone is diagnosed early. Some people are diagnosed with HIV and AIDS concurrently, meaning that they have been living with HIV for a long time and the virus has already done damage to their body by the time they find out they are infected. These individuals need to [seek a healthcare provider](#) immediately and be linked to care so that they can stay as healthy as possible, as long as possible. Use the [HIV Testing and Services Locator](#) to find an HIV provider near you.



**As HIV disease progresses in your body,  
YOU MAY NOTICE PHYSICAL CHANGES.**  
— Some changes may occur —  
as side-effects of medical treatment for HIV.

### **Physical changes to your body**

As HIV disease progresses in your body, you may notice physical changes. Some changes may occur as side-effects of medical treatment for HIV. Others may occur as a result of the impact that HIV (or AIDS) has on your body.

WHILE THIS IS OFTEN A SIGN OF LATE STAGE DISEASE, WASTING SYNDROME CAN BE TREATED BY:



Proper diet



Medications to stimulate appetite

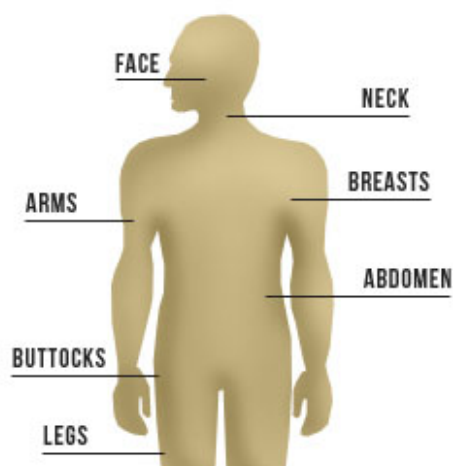


Medications to control diarrhea



Hormonal therapy to build muscle

YOUR BODY CAN GAIN EXTRA FAT OR LOSE FAT IN THESE PLACES:



### Body fat changes

Some medications you may take to control HIV cause changes in the way your body produces, uses, and stores fat. These changes are called *lipodystrophy*. This condition causes you to gain or lose fat in particular parts of your body.

You can get extra fat in the following places:

- Abdomen
- Neck
- Breasts (both men and women)
- Face
- In addition, you can also develop small deposits of fat, called *lipomas*, elsewhere on your body.

Other changes can occur when the fat under your skin (called subcutaneous fat) is **lost**. This can occur in your:

- Face
- Arms
- Legs
- Buttocks

It is important to note that these changes in the way your body handles fat can also coincide with changes in *cholesterol*, an increase in *triglycerides*, increases in blood sugar, and lowered sensitivity to insulin, which may lead to *diabetes*.

### Wasting Syndrome

Wasting syndrome is the involuntary loss of more than **10%** of your body weight, in addition to more than **30 days** of either diarrhea or weakness and fever. Wasting refers to a loss of muscle mass, although part of the weight loss may also be due to loss of fat. HIV-associated wasting syndrome is considered an AIDS-defining condition.

While this is often a sign of late stage disease, wasting syndrome can be treated by:

- Proper diet
- Medications to stimulate appetite
- Medications to control diarrhea
- Hormonal therapy to build muscle

<http://aids.gov/hiv-aids-basics/just-diagnosed-with-hiv-aids/hiv-in-your-body/immune-system-101/>



## Disorders of the Immune System

Your immune system is your body's defense against infections and other harmful invaders. Without it, illnesses from bacteria or viruses, for example, would be constant.

Your immune system is made up of special cells, tissues, and organs that work together to protect you.

The lymph, or lymphatic, system is a major part of the immune system. It's a network of lymph nodes and vessels. Lymphatic vessels are thin tubes that branch, like blood vessels, throughout the body. They carry a clear fluid called lymph. Lymph contains tissue fluid, waste products, and immune system cells. Lymph nodes are small, bean-shaped clumps of immune system cells that are connected by lymphatic vessels. They contain white blood cells that trap viruses, bacteria, and other invaders, including cancer cells. *Continued on page 68*

White blood cells are the cells of the immune system. They are made in one of your lymph organs, the bone marrow. Other lymph organs include the spleen and thymus.

### **What can go wrong with your immune system?**

When your immune system doesn't work the way it should, it is called an immune system or immunodeficiency disorder. You may:

- Be born with a weak immune system. This is called primary immune deficiency.
- Get a disease that weakens your immune system. This is called acquired immune deficiency.
- Have an immune system that is too active.
- Have an immune system that turns against you. Conditions called autoimmune disease occur.

### **Immunodeficiency disorders**

Here are some common examples:

- **Severe combined immunodeficiency (SCID).** This is an example of an immune deficiency that is present at birth. Children are in constant danger of infections from bacteria, viruses, and fungi. This disorder is sometimes called "bubble boy disease." In the 1970s, a boy had to live in a sterile environment inside a plastic bubble. Children with SCID are missing important white blood cells.
- **Temporary acquired immune deficiencies.** Your immune system can be weakened by certain drugs, for example. This can happen to people on chemotherapy or other drugs used to treat cancer, or to people following organ transplants who take medication to prevent organ rejection. Also, infections like the flu virus, mononucleosis (mono), and measles can weaken the immune system for a brief time. Your immune system can also be weakened by smoking, alcohol, and poor nutrition.

**AIDS.** HIV, which causes AIDS, is an acquired viral infection that destroys important white blood cells and weakens the immune system. People with HIV/AIDS become seriously ill with infections that most people can fight off. These infections are called "opportunistic infections" because they take advantage of weak immune systems.

### **An overactive immune system**

If you are born with certain genes, your immune system may react to substances in the environment that are normally harmless. These substances are called allergens.

Having an allergic reaction is the most common example

of an overactive immune system. Dust, mold, pollen, and foods are examples of allergens.

Some conditions caused by an overactive immune system are:

- **Asthma.** The response in your lungs can cause coughing, wheezing, and trouble breathing. Asthma can be triggered by a common allergen like dust or pollen or by an irritant like tobacco smoke.
- **Eczema.** An allergen causes an itchy rash known as atopic dermatitis.
- **Allergic rhinitis.** Sneezing, a runny nose, sniffing, and swelling of your nasal passages from indoor allergens like dust and pets or outdoor allergens like pollens or molds.

### **Autoimmune disease**

In autoimmune diseases, the body attacks normal, healthy tissues. The cause is unknown. It is probably a combination of a person's genes and something in the environment that triggers those genes.

Three common autoimmune diseases are:

- **Type 1 diabetes.** In this type of diabetes, the immune system attacks the cells in the pancreas that make insulin. Insulin removes sugar from the blood to use as energy. .
- **Rheumatoid arthritis.** This type of arthritis causes swelling and deformities of the joints. An auto-antibody called rheumatoid factor is in the blood of some people with rheumatoid arthritis.
- **Lupus.** Systemic lupus erythematosus is an autoimmune disease that attacks body tissues, including the lungs, kidneys, and skin. Many types of auto-antibodies are found in the blood of people with lupus.

No one knows exactly what causes autoimmune diseases, but many factors seem to be involved. If you have an immune system disorder, learn as much as you can about it and work closely with your health care providers to manage it.

<http://www.urmc.rochester.edu/Encyclopedia/Content.aspx?ContentTypeID=134&ContentID=123>



## **Innate vs Adaptive Immunity**

The innate immune system is the first line of defense the body has against foreign particles. It acts as a physical and chemical barrier to pathogens. Innate immunity is non-specific and it does not provide long-lasting protection for the body.

*Continued on page 69*



The innate immune system is responsible for bringing in other immune cells to sites of infection in the body. White blood cells secrete cytokines, chemical messengers, to draw in other immune cells called the complement system in order to identify the pathogen and activate specialized white blood cells (adaptive immunity) to help remove and clear the pathogen.

The innate immune system can only do so much to protect the body. It then has to activate the adaptive immune system to eradicate the pathogens. The adaptive immune system can “remember” previous pathogens and therefore provides faster, more effective infection eradication (Murray, 2008).

The adaptive immune system is composed of T and B cells. T cells mature in the thymus gland and are activated by thymulin hormone, a hormone that requires zinc in its active form. B cells recognize foreign particles, or antigens and alert other immune cells to seek out and destroy the invading pathogen. B cells and their antibody production make the adaptive immune system highly specific to each foreign particle.

The memory cells produced after an infection allow for a faster defense if the body is exposed again because the memory cells will alert the adaptive immune system first, rather than having the innate immune system try to handle the pathogen itself before alerting the adaptive immune system.

*The innate and adaptive immune systems share two types of cells:*

- T cells (both Th1 and Th2)
- Natural Killer T cells

*Types of cells involved in Innate Immunity:*

- Dendritic cells
- Macrophages
- Mast cell
- Natural Killer cell
- Granulocyte
- Basophil
- Eosinophil
- Neutrophil
- Complement protein

*Types of cells involved in Adaptive Immunity:*

- B cells and the antibodies they produce
- T cells (CD4<sup>+</sup> and CD8<sup>+</sup>)

### *How The Immune System Works:*

Macrophages are the first-line of defense against bacteria or other foreign particles. They reside in the spleen, bone marrow, lungs, and lymph. They excrete lysozymes and proteolytic enzymes to destroy foreign particles. Additionally, the cytokines TNF and interleukin-1 are excreted to start the inflammatory cascade around the site of infection.

Neutrophils are the second line of defense that create superoxide radicals to destroy pathogens.

The macrophages present the antigen to B and T cells so they can look for more of the pathogen throughout the body. B cells transform into plasma cells and release large quantities of immunoglobulin(Ig) antibodies into the lymph that eventually end up in the blood stream through the jugular vein in the neck. The activated T cells reproduce and circulate through the blood, looking to destroy the pathogens.

There are several different types of T cells. When the innate immune system activates the T cells via antigen presentation, they differentiate into Th1 and Th2. Th1 cells direct cytotoxic T cells to in the case of tumors or viral or bacterial infections. Th2 cells activate B cells during the allergy response. Helper T cells secrete cytokines (interferon, lymphotoxin, and interleukins) that warn and stimulate B cells, T cells, and neutrophils, while also stimulating both natural and cytotoxic killer cells.

The immune system also has a system of restoring balance after an infection. Suppressor T cells secrete chemicals at the sites of infection to calm down the T and B cells. Moreover, both B and T cells produce memory cells that circulate in the bloodstream, looking for another exposure to the pathogen that just attacked.

In this way, the immune system can mount a faster defense against the pathogen, with a higher chance of defeating it before any serious damage occurs.

The innate and adaptive immune systems work together to protect the body. They each have different but equally important roles in keeping the body healthy and free of infection.

<http://www.holistic-nourishment.com/2012/07/31/innate-vs-adaptive-immunity/>



**We Can Make You Healthy and Wise**

# Radiation & Immune Function

## Fast Facts

- Radiation is all around us – power lines, the sun, television sets, radon gas. It's a long list and it's impossible to avoid altogether. Airplane travel is a big one.
- Radiation is cumulative. All forms interfere with cellular activity and suppress immune system function.
- Radiation creates dangerous free radicals that damage cells and cytokine pathways (communication pathways) in the immune system.

The largest group of us probably most familiar with the results of severe radiation exposure are those persons being treated with radiation therapy. Some of those symptoms of radiation poisoning are nausea, vomiting, fatigue, headache, dry mouth, loss of taste and appetite, diarrhea, malaise, rapid heartbeat, shortness of breath, hair loss, dry cough, inflammation of the skin and possibly the heart, sexual impotence and low blood cell counts. [Reference: *Dr. Anthony J. Cichoke*]

This is an acute exposure. Most of us aren't getting acute exposures; we're getting low level repeated exposures. However, radiation is cumulative.

## Radiation Is Virtually Impossible To Avoid

"Radiation is around us all the time in both natural and artificially introduced forms." *Dr. James F. Balch*

We get it in lower amounts from many places: cellular phones, x-rays, computer monitors, television sets, smoke detectors, and microwave ovens are common culprits. From a natural perspective we get it from the sun, radon gas is radiation, water, and the human body is a source of some as well.

It comes from electromagnetic frequencies (EMF's) which are virtually impossible to eliminate; like the power lines in your house and along your route to work just above you, fluorescent lights and heating pads. According to Janice Wittenberg, R.N., "All forms of radiation interfere with cellular activity and are immunosuppressive."

## Typical Levels

Radioactive elements are unstable atoms that give off energy as a result of decay of their center or nucleus. If the energy is strong enough it will dislodge other molecules in its path.

Radiation is measured in units called rem. The EPA (Environmental Protection Agency) estimates that the

average American is getting about 360 millirem (1/1000 rem) of radioactivity per year – or about 1/4 to 1/3 rem per year. Some estimated numbers are:

Our bodies: 39 millirem

Dental x-rays: 3 millirem

Chest x-rays: 20-50 millirem

Smoke detectors: 1 millirem

All foods: some level

Acute radiation sickness, as mentioned above, is caused by exposures exceeding 100 rem that might be a consequence of some cancer treatments. [Reference: *Dr. James Balch*]

The current "safe" level of occupational radiation exposure as determined by the federal Occupational Safety and Health Administration is 5 rem.

## Radiation and Nutrition

"Radioactive elements are structurally similar to their non-radioactive counterparts. This is why nutrition (vitamins, minerals) is important in preventing or blocking damage from exposure to radioactive elements... If the cells are able to obtain all nutrients they need from your diet, they will be less likely to absorb radioactive substitutes, which are then more likely to be discarded from the body." *Prescription for Nutritional Healing*.

## Radiation Damages Immune Cell Production

A good example of what radiation does is shown in the treatment of cancer. Cells of the immune system and red blood cells are produced in the bone marrow. These are bone marrow stem cells. Cell division and proliferation goes on rapidly in the bone marrow.

Cancer cells are also in a state of rapid cell division, almost continuously. Therapies that are focused on eliminating cells with rapid cell division make sense.

However, cells in the bone marrow are also eliminated (collateral damage) along with cancer cells since they are also rapidly dividing cells.

"Because there is a tremendous amount of cell division going on in the bone marrow – more than almost any other place in the body – the bone marrow is particularly sensitive to drugs, chemicals, and radiation used to treat cancer cells..."

High doses of radiation kill mature white cells circulating in the blood, as well as the bone marrow stem cells and the intermediate stages of blood cells developing in the marrow." *Dr. William Clark*

## Radiation and Breast Cancer

Dr. John Lee states in "What Your Doctor May Not Tell

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You About Breast Cancer, "Most women in the United States are exposed to radiation through chest x-rays.

Radiation is one of the most potent risk factors for breast cancer, and its effects are cumulative. This means that the damage done to the breast tissue doesn't disappear with time: Each dose of radiation to the breast adds to the last one [due to tissue damage]."

#### **Radiation Creates Free Radical Damage**

"Radiation creates increased numbers of free radicals in the tissue, and free radicals induce apoptosis (cellular death)..." When used as a cancer treatment, "Doctors hope that radiation therapy kills more cancer cells than normal cells and that the radiation will not start a new cancer." Dr. Burt Berkson

Dr. Ralph W. Moss states, "Scientific work over the last few decades has shown that free radicals [produced by radiation] can also damage genetic material, lipids (fats), or proteins [communication molecules in the immune system are proteins].

#### **Some Experts Believe Low Levels of Radiation Are Dangerous Too**

"Arriving at safe levels of radiation exposure is hard because little data exist on how low doses affect health." American Association for the Advancement of Science Dr. Steven Wing, an epidemiologist at the University of North Carolina suggests the federal standard for occupational radiation exposure may be inadequate.

He determined that Hanford Nuclear Reservation workers exposed to what is considered safe levels of radiation still died from cancer at higher rates. His findings are supported by other studies.

#### **Radiation, Free Radical Damage, Damaged Cytokines and Immune Function**

Dr. Jesse Stoff says that x-ray ionizing radiation directly affects the immune system. He states, "Free radicals [from radiation] can bind to and destroy cytokines."

He further adds, for example, that in one flight cross-country (4hours) on a commercial airline (at 35,000-40,000 feet), you'll receive about the same amount of radiation as if you'd had a chest x-ray. (This is also supported by Alice Stewart, well known epidemiologist.)

It attacks DNA and "behind this energy particle is left a trail of free radicals that destroy receptor sites and cytokines directly." Note: Cytokines are communication molecules of the immune system. The immune system doesn't function well, if at all, without their activity.

<http://immunedisorders.homestead.com/radiation.html>



## **Putting the Brakes on Inflammation: Signal Prevents Immune System from Spinning out of Control**

By Daniel Stolte

July 23, 2013

#### **Summary:**

Researchers discovered a previously unknown mechanism that prevents the immune system from going into overdrive. The findings shed light on the mechanisms underlying autoimmune disorders such as Crohn's disease, allergies, chronic inflammation and cancer, and offer potential applications for therapies.

A team led by a University of Arizona researcher has discovered a previously unknown mechanism that prevents the immune system from going into overdrive, shedding light not only on how our body controls its response to pathogens but on conditions such as autoimmune diseases, allergies and chronic inflammation as well.

The group found a protein previously believed to only play a role in blood clotting acts as a negative feedback signal, telling defense cells to calm down, thereby preventing an immune reaction from spiraling out of control. The results, which could lead to new therapeutics for a variety of disorders caused by a faulty immune response, are published in the scientific journal *Immunity*.

When pathogens such as viruses or bacteria invade our body, the immune system reacts by producing a flurry of chemical signals, known as chemokines that act as a bugle call recruiting specialized defender cells to the scene, such as macrophages, which devour the intruders. This first line of defense is known as inflammation.

"Inflammation is a necessary defense mechanism -- you can't live without it," said Sourav Ghosh, assistant professor in the department of cellular and molecular medicine at the UA College of Medicine and lead author of the study. "On the flip side, if you can't regulate the inflammation, it can damage the body."

To be effective against pathogens, yet prevent collateral damage from the body's own defenses, the immune system has to maintain just the right level of inflammation, explained Ghosh, who is also a member of the University of Arizona Cancer Center and the UA's BIO5 Institute.

"It needs to be not too high and not too low," he said.

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"The question had always been, how does the immune system maintain that balance? Our discovery explains this."

All organisms, even plants, have some kind of immune system at their disposal that acts as an army fighting against the onslaught of microbes, viruses, parasites and other pathogens in the environment. Vertebrates have evolved the most sophisticated arsenal of "soldiers" and "weapons," relying on two powerful lines of defense: a non-specific, or innate, immune response and the specific, or adaptive, immune response.

In the non-specific response, the immune system throws a first wave of countermeasures at the intruders, consisting of -- among other things -- aggressive chemicals, destructive enzymes and kamikaze-like neutrophils, specialized white blood cells that destroy the attackers by devouring them, killing themselves in the process.

"First you don't know who the enemy is, so you fire everywhere with your eyes closed," Ghosh explained. "But once you know the enemy, you need to shut off this first response firing and bring in the special ops so to speak."

The special ops come in the form of the specific immunity, capable of targeting pathogens very precisely, taking out the enemy in a sniper-like fashion, while sparing friendly microbes and cells belonging to the body. Most importantly, this portion of the immune system contains cells that remember every attacker trying to conquer an organism throughout its lifetime, allowing the immune system to summon the most effective, specialized task force to counter a pathogen it recognizes from a previous battle.

"The innate immune response is necessary to activate the adaptive response," Ghosh said. "But once activated, there has to be a mechanism that prevents the adaptive response from going into overdrive. From previous studies, we knew there had to be some kind of signal that does this, but we didn't know the nature of that signal. Now we do."

Two kinds of immune cells turned out to be the key players in mediating the immune response: the dendritic cells, so called because of the tree-like branches they grow during their development ("dendron" means "tree" in Greek), which belong to the first wave of defense; and the T-cells, so named because they mature in the thymus gland of the second, which are part of the second wave, the specific immune response.

"The dendritic cells activate the T-cells," Ghosh explained. "Only when they're activated, not when they're resting, do the T-cells produce this protein that we knew only from the blood clotting process, called Protein S."

The T-cells display Protein S on their surface, where it makes contact with a receptor the dendritic cells carry on their surface. This triggers a signal telling the dendritic cell to stop switching on T-cells, causing the immune response to slow down.

"We thought about which cells could be the source of that signal," said Carla Rothlin of the School of Medicine at Yale University, who led the study together with Ghosh. "You don't want to put the brakes on from the very beginning, or otherwise the immune response would never amount to anything. But you want to slow it down once it starts going too fast."

"We figured that once the specific response is underway, you don't really need the unspecific response anymore, so the T-cells appeared to be the best candidates for the source of this signal."

To test their hypothesis, the researchers studied the immune response in mice in which the gene coding for Protein S had been deactivated selectively in their T-cells, rendering them unable to communicate with the dendritic cells.

As expected, these mice were unable to regulate their immune response, resulting in higher levels of inflammation compared to their normal counterparts.

To assess the relevance of their findings to humans, Ghosh and his co-workers then studied blood from patients with inflammatory bowel diseases such as ulcerative colitis and Crohn's disease. Consistent with their previous results, patients suffering from increased inflammation had lower levels of Protein S in their blood stream compared to healthy volunteers.

The findings could help scientists and clinicians develop better treatments for inflammatory diseases, for example by designing drugs that substitute for insufficient Protein S. According to Ghosh, patients with inflammatory bowel disease are 20 times more likely to develop colon cancer, further underlining the significance of this study.

Study co-author Dr. Jonathan Leighton reported anecdotal evidence from the clinical practice that is in line with the dual roles Protein S is believed to play.

"Patients with inflammatory bowel disease can develop blood clots if they have active disease," said Leighton, a UA alumnus who holds the Chair of the Division of Gastroenterology at Mayo Clinic in Scottsdale, Ariz.

"From a clinical standpoint, we think that three factors predispose to inflammation in inflammatory bowel disease -- genetic, environmental and the immune system. This research is exciting because it focuses on the immune system. No one has found a consistent inflammatory pathway that explains all the clinical manifestations, and it may be that different pathways are affected in different patients. We don't understand how it all relates quite yet, but this study is a step toward a better understanding that will ultimately help us treat patients more effectively."

The study was funded by the National Institutes of Health (NIH) grants R01 AI077058, R01 AI089824, CA95060 and T32 AI007019; the Crohn's and Colitis Foundation; the American Heart Association; the American Asthma Foundation; the Lupus Research Institute; a CONICET Postdoctoral Fellowship and a Gershon-Trudeau Postdoctoral Fellowship.

**Journal Reference:** Eugenio A. Carrera Silva, Pamela Y. Chan, Leonel Joannas, Andrea E. Errasti, Nicola Gagliani, Lidia Bosurgi, Maurice Jabbour, Anthony Perry, Faye Smith-Chakmakova, Daniel Mucida, Hilde Cheroutre, Tal Burstyn-Cohen, Jonathan A. Leighton, Greg Lemke, Sourav Ghosh, Carla V. Rothlin. *T Cell-Derived Protein S Engages TAM Receptor Signaling in Dendritic Cells to Control the Magnitude of the Immune Response*. *Immunity*, 2013; DOI: [10.1016/j.immuni.2013.06.010](https://doi.org/10.1016/j.immuni.2013.06.010)

<http://www.sciencedaily.com/releases/2013/07/130723103456.htm>



## How Ebola Sneaks Past Immune System

By Holly Korschun-Emory

December 17, 2012

**EMORY (US)** — The Ebola virus uses a protein decoy to undermine and evade the immune response of its infected host, new research shows.

Ebola virus is the causative agent of Ebola Hemorrhagic Fever (EHF), a disease with up to 90 percent mortality. While human outbreaks of Ebola hemorrhagic fever have been confined to Africa, Ebola virus infections in bats, the presumed natural reservoir of the virus, have also been detected in Europe and Asia. Ebola virus infection has also been reported in domestic pigs in Southeast Asia.

The high lethality of the disease, combined with its short incubation period and the lack of vaccines or effective

treatments, makes Ebola virus a significant public health threat as well as a potentially devastating biological weapon.

Efforts to develop a vaccine against Ebola virus have met with limited success, and it is likely that the virus employs complex immune evasion mechanisms that present unique challenges for vaccine design. Understanding these evasion mechanisms is a critical first step in developing an effective vaccine.

In this study, published in [PLoS Pathogens](https://doi.org/10.1016/j.immuni.2013.06.010), the authors examined the role of a protein secreted in large quantities by Ebola virus-infected cells. The protein shares regions with a membrane protein that the virus expresses on its surface and uses to initiate the infection process.

The authors studied antibodies generated by immunizing mice with the viral surface protein and/or the secreted protein. They determined that the secreted protein can selectively drive induction of antibody responses to itself and also compete for antibodies to the viral surface protein that would otherwise bind to and inactivate the virus.

Gopi Mohan, a graduate student at Emory University is first author of the paper. Richard Compans, professor of microbiology and immunology, led the research along with assistant professor Chinglai Yang.

"Our findings provide an explanation for the lack of protective antibodies against the viral surface protein in patients who have survived Ebola virus infection," says Yang. "We hypothesize that the secreted protein allows the virus to subvert the host antibody response in vivo, and that this may enable the virus to cause repeated or sustained infection in its natural reservoir."

The results suggest that immunity induced by a vaccine may need to reach a sufficient threshold to effectively neutralize all the incoming virus to protect against Ebola virus infection.

These findings raise new challenges for Ebola vaccine design, as vaccines will probably have to be tailored to overcome or avoid the ability of the secreted decoy protein to interfere with host antibodies. Such approaches could enable the development of more efficacious vaccines to prevent Ebola virus infection.

The study is supported by grants from the National Institutes of Health.

<http://www.futurity.org/how-ebola-sneaks-past-immune-system/>



## COME BACK TO YOUR ROOTS

## FEATURED ARTICLES

# Systemic Autoimmune Diseases: Not So Rare in Black Africans

By O. O. Adelowo and M.K.N. Bello

February 25, 2014

### Abstract

Conventional beliefs and some publications, had in the past, asserted that systemic auto - immune diseases such as inflammatory arthritis, connective tissue diseases and vasculitis are rare. Many of such reports had been hospital based and were not based on the ACR criteria. Rheumatoid arthritis was reported as being rare, especially among West Africans; so also Systemic Lupus Erythematosus, Scleroderma and Inflammatory myopathies. Even rarer are the Vasculitis. However, increasing reportage of these conditions may indicate that these conditions do occur, although under reported. As efforts are being made to overcome acute and chronic infections such as Malaria, Tuberculosis, chronic debilitating diseases such as arthritis and cancers may rear their head.

**Keywords:** Sytemic auto immune disease; Black Africans; Rheumatology; Arthritis; Vasculitis

### Introduction

Conventional beliefs and some publications, had in the past, asserted that systemic auto – immune diseases such as inflammatory arthritis, connective tissue diseases and vasculitis are rare among black Africans

Rheumatoid arthritis (RA) was reported as being rare, especially among West Africans. Systemic lupus erythematosus (SLE), scleroderma and inflammatory myopathies, vasculitis have also been reported as rare. However, increasing reportage of these conditions may indicate that these conditions do occur, although under reported.

As efforts are being made to overcome acute and chronic infections such as malaria and tuberculosis, chronic debilitating diseases such as arthritis and cancers will become prominent.

This review is intended to highlight recent reports of these systemic auto immune diseases among black Africans. Differences and similarities with reports elsewhere will be discussed.

Materials will be obtained from the search of data bases such as Pubmed, African Journals Online as well as abstracts from the proceedings of conferences of the African League of Associations of Rheumatology (AFLAR).

### Rheumatoid Arthritis

Rheumatoid Arthritis (RA) is a chronic systemic auto immune inflammatory disease affecting mostly the joints as well as other organs. Genetic factors may play a big role in the pathogenesis of RA.

Genes encoded within HLA DRB1 provide the most consistent genetic evidence. It is well recognised that HLA DRB1 shared epitope alleles largely influence development of seropositive RA and specifically AntiCCP positive disease. Smoking is a very important environmental factor. Other suggested environmental factors include obesity, silica dust, exposure to mineral oils and socio-economic class. Viruses and mycoplasma organisms may also be implicated. The highest prevalence is found among the Native American populations [1].

Prevalence among Caucasian North American and European populations is of the order of 0.5 to 1 % [2]. Population studies from South Africa, especially the rural black populations, have shown a low prevalence. [3, 4].

On the contrary, reports from Zimbabwe showed that prevalence of RA may be as high as among Caucasians and that there is no difference in the frequency between the rural and urban populations [5]. RA,, on the other hand, had been reported as rare among West Africans [6]. For instance, in a study of

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2,000 inhabitants of two rural townships in southern Nigeria in West Africa, there was not a single case of RA reported [6, 7]. Further genetics studies in this cohort showed a rarity of HLA DR 3, although HLA DR 1 was seen in 13% in this group.

However, recent reports from Nigeria in which 200 cases of RA were reported may negate this [8]. RA presently constitutes 10 – 15% of the rheumatologic cases seen in many of the rheumatology clinics in Nigeria (unreported observation). Other reports from Burkina Faso [9]; Kenya [10]; Cameroun [11]; South Africa [12]; Democratic Republic of Congo [13]; Senegal [14]; Zambia [15] also indicate that this condition may not be rare after all.

From the foregoing, the frequency of RA relative to other rheumatological cases, however, varies from country to country: Nigeria – 12.3%; Zambia – 4.7% (1994 – 1998), 24% (2010 – 2012); Kenya – (37.3%); Democratic Republic of Congo – 0.9% – 1.4%; South Africa – 52%. The wide variations may be due to the patients' selection. The sex distribution is as seen elsewhere, with female preponderance – Kenya (F: M – 6.5:1); Zambia (F: M – 10:1); Nigeria (F: M – 2.4:1). The frequencies of rheumatoid factor positivity also vary – Nigeria (38.5%); Democratic Republic of Congo (48.6%); Zambia (64%). A previous rheumatoid factor estimation among black South Africans showed a positivity of 12.1% [4], though a more recent study showed similar frequency with Caucasians [16]. Anti-CCP was seen in only 48.6% of cases of RA from DRC [17]. Although anti-CCP is said to be more specific and sensitive than rheumatoid factor, Hodgkinson et al in a report from South Africa concluded that the diagnostic ability of anti-CCP is no better than rheumatoid factor in South Africans with early RA.

Owing to the general non-availability or non-affordability of DMARDs, most RA patients from Africa have often not been treated with these drugs and even less with biologic agents. Singwe – Ngandeu has asserted that methotrexate should be the drug of choice considering its low cost [18]. However, a study from South Africa has shown that less than a third of black RA patients on traditional DMARDs achieved a low disease activity at 12 months. Patients who are unable to achieve adequate response at 6 months are unlikely to show further improvement [19]. Biological agents have been sparingly used among black Africans and there are reports of their efficacies from Nigeria [20] and South Africa [21].

## **Systemic Lupus Erythematosus**

Systemic lupus erythematosus (SLE) is a multi-systemic autoimmune connective tissue disease. Its aetiology is still poorly understood, though factors such as genetic, environmental, hormonal and immunologic have been implicated in its aetiopathogenesis. The major factor is genetic. B cells produce autoantibodies that mediate tissue injuries by many mechanisms. Also abnormal T cell signaling and gene expression lower T cell activation threshold and facilitate production of pro-inflammatory cytokines. Environmental factors such as UV light, ionising radiation, exposure to heavy metals, drugs and viruses have also been implicated. Apoptotic debris also play a role by being source of auto antigens. SLE had been said to be rare among black Africans, in contrast to its high prevalence among American blacks and Hispanics. Symmons [22] had proposed a prevalence gradient theory which postulates an increasing prevalence of SLE as one moves from Africa to North America and Europe. Butcher [23] has also postulated that the endemic malaria in sub-Saharan Africa inhibits occurrence of autoimmune diseases such as SLE and sarcoidosis. This has been attributed to inhibition of macrophage function in the immune process. It has been postulated that despite the increase in frequency of SLE in the indigenous populations of East, Central and Southern Africa, SLE remains rare among West Africans [6, 24].

Despite these, there have been increasing reportage of SLE among black Africans – Dessein et al [25], Tikly et al (South Africa) [26]; Adelowo et al (Nigeria) [27]; Ekwom et al (Kenya) [28]. As a corroboration of this increased reportage there were for instance only three abstracts on SLE during the 5th AFLAR Congress, Nairobi, Kenya in 2007 whereas there were 15 abstracts during the 7<sup>th</sup> Congress held in Durban, 2013. This may suggest an increasing awareness of the disease.

There have been other reports from Cameroun [29], Zambia [30] and Zimbabwe [31]. Complications of lupus have also been reported such as lupus nephritis [32,33] and neuropsychiatric lupus [34]. Rare complications have also been reported such as an associated digital gangrene [35]. Juvenile SLE has also been reported in 14 black patients out of 36 cases of lupus nephritis from a study in South Africa [36].

The female preponderance, as elsewhere, is also seen in all these reports e.g Cameroun (F: M – 12:1); Zambia (29:0); Nigeria (10:1). In the report by Adelowo, SLE constituted 5.3% of a total of 1,250 cases seen in a rheumatology clinic in Nigeria [27].

Serologic markers are as seen elsewhere – Nigeria – ANA (95.7%); ds DNA (54.4%); Anti- Sm (75.7%); Ro/SSA

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***Continued from page 75 – Systemic Autoimmune Diseases:  
Not So Rare in Black Africans***

(69.7%) [37]. Among South African blacks – ANA (98.2%); ds DNA (66.2%), Ro/SSA (60.5%). Cameroon – ANA (86%) [38]. Mean age at presentation were similar. For instance, South Africa (35 years); Kenya (34 years);

Nigeria (33 years); Cameroons (38 years). Mortality among black SLE has only been extensively studied among South African blacks and this is reported as being high [39].

Clinical features of SLE such as skin manifestations are less frequently reported in most of the studies. However, polyarthritis and polyarthralgia are common as well as serositis. Many of the Nigerian patients for instance presented with fever of unknown origin variously diagnosed as malaria or typhoid fever. Alopecia and hair loss are quite common presentations as well as neuropsychiatric symptoms [34].

### **Systemic Sclerosis**

Scleroderma is a rare systemic autoimmune connective tissue disease of unknown aetiology. The pathogenetic mechanisms of the disease include immune dysregulation, endothelial dysfunction, and excessive fibrous deposits in the skin and internal organs. The incidence varies among different populations with a reported incidence of 3.7 per million per year in the United Kingdom [40] and 18.7-22.8 per million per year in the USA [41]. Most studies have shown ethnic variations with a higher frequency of the diffuse subset among African Americans [42]. This higher incidence has been attributed to certain connective tissue responses involved in protection against infection and repair after injury also predisposing to certain chronic diseases [43]. There is also increasing reports of systemic sclerosis among caucasians [44,45]

There is no community based study in black Africa and most of the recent reports have been case series. Tager et al have reported a high incidence especially among South African gold miners [46].

Fourteen cases had been reported among Nigerians, this number constituting 1.1% of the total of 1,240 cases presenting to a rheumatology clinic during the study period [47]. Of the reported systemic sclerosis patients seen, 8 had diffuse scleroderma, 3 patients were diagnosed with limited scleroderma, 2 cases with undifferentiated connective tissue disease and 1 with one case of sine scleroderma.

### **Inflammatory Myopathies**

Inflammatory myopathies are rarely reported among

black Africans. There were single case reports from Nigeria, 1960 [48]; South Africa, 1969 [49]. Of recent however, there have been some case series from Senegal [50], Nigeria [51] and South Africa [52].

In the Nigerian report, 7 had probable polymyositis (PM), 4 possible PM and 3 probable dermatomyositis. Mean age at presentation was 35 years and there were 13 females to 1 male.

Although reports from South Africa have shown association with HIV [53], this was not so in other reports from black Africa.

### **Juvenile Idiopathic Arthritis**

This condition has rarely been reported among black Africans.

There has however been a recent upsurge in reportage [54, 55, 56]. The reports show predominance of the rheumatoid factor negative polyarticular type.

### **Antiphospholipid Syndrome**

This disease has rarely been reported among black Africans, although recent case series may indicate expected increased reportage [57,58, 59]. It is usually seen in conjunction with systemic lupus erythematosus and is, as expected, associated with pregnancy losses.

### **Spondyloarthropathy**

Spondyloarthropathies have rarely been reported among black Africans. It has been suggested that lack of recognition may play a part in the underreporting. Another explanation may be the near absence of HLA B27 among black Africans [60]. Of recent however there has been an upsurge in reportage of spondyloarthropathy especially among patients with HIV. Psoriatic arthritis and Reactive Arthritis have also been associated with HIV infection among Zambians [61,62]. Psoriatic arthritis in association with HIV infection has been reported from Congo Brazzaville [63]

Overall, systemic auto-immune diseases may not be rare after all. Increasing awareness and dearth of trained rheumatologists have accounted for this increasing reportage. There is still a markedly low number of rheumatologists in sub Saharan Africa. It is expected that as more physicians train in this specialty, further elucidation of these conditions will be possible. Community based studies are also needed.

### **Summary**

Systemic autoimmune diseases such as rheumatoid arthritis, systemic lupus erythematosus, systemic sclerosis, inflammatory myopathies and vasculitis had previously been rarely reported among black Africans.

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This is despite the fact that these conditions occur commonly in black Americans. Various hypotheses have been proffered. However recent reports emanating from African countries have indicated that these conditions may not be rare after all. These conditions may even run as severe a course as in black Americans. An awareness of these diseases is therefore important for physicians practicing in this continent.

This review highlights the frequency, clinical and laboratory presentations of systemic autoimmune diseases in black Africans.

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## **African American Women develop Lupus at a Younger Age with More Complications**

October 24, 2013

Atlanta - There are substantial racial disparities in the burden of lupus, according to initial data from the largest disease and published online today by the journal, Arthritis and Rheumatism. The data also confirms that black females disproportionately are burdened by lupus, a devastating and complicated autoimmune disease.

“Black women had very high rates of lupus, with an incidence rate in Georgia nearly three times higher than that for white women, with significantly high rates in the 30-39 age group,” said principal investigator, S. Sam Lim, MD, MPH, associate professor in the Division of Rheumatology at Emory University School of Medicine.

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“These are young women in the prime of their careers, family and fertility. This means a severely compromised future, with a disease that waxes and wanes, affecting every aspect of daily living for the rest of their lives.”

The study is funded by and under direction of the Centers for Disease Control and Prevention in partnership with the Georgia and Michigan state health departments. Investigators from Emory University and the University of Michigan collaborated on the study to include blacks and whites of all ages in two comparable urban areas, Atlanta and Detroit. The study in Atlanta focused on Fulton and DeKalb Counties.

“These data directly reflect the burden of lupus in our community,” says Lim. “The high burden of lupus in African American women is of particular relevance given Atlanta’s demographics. Also, the high rate of kidney failure, again mostly in African Americans, continues to be unacceptably high. These are mostly young, minority women who are going to dialysis instead of working and caring for their families.”

Lupus is an unpredictable and misunderstood autoimmune disease that ravages different parts of the body. It is difficult to diagnose, hard to live with and a challenge to treat. Lupus has a range of symptoms, strikes without warning, and has no known cause and no known cure. Its health effects can range from a skin rash to a heart attack.

The [National Lupus Patient Registry](#) (NLPR) is the first comprehensive population-based epidemiology study in lupus, with five registry sites located in Georgia, Michigan, California, New York and the Indian Health Service. The sites are collaborating to use similar definitions and data collection procedures to capture diagnosed lupus in these areas and allow more accurate data comparison, critical in assessing this complicated disease. The Georgia and Michigan sites are the first to report their findings.

The Georgia and Michigan investigators noted the challenges with diagnosing lupus, stating that likely there remain undiagnosed cases in the community and that applying more up-to-date diagnostic criteria might result in even higher incidence and prevalence rates. The investigators also said they plan to use the lupus patient registries for ongoing studies to document the progression of the disease and determine the economic burden of lupus over time which, according to data already available, is substantial.

“We found a striking difference in patterns of lupus between the black and white populations, which may help

us better assess risk for developing this disease,” explained Michigan principal investigator, Emily C. Somers, PhD ScM, University of Michigan, Departments of Internal Medicine, Environmental Health Sciences, and Obstetrics & Gynecology. “Not only was the peak risk of lupus earlier among black females, but a higher proportion also developed severe or life-threatening complications of lupus, such as neurologic or kidney disease, including end-stage renal disease. Healthcare providers caring for this population should be aware of the importance of screening for early signs of lupus, in particular kidney disease.”

“The National Lupus Patient Registry provides a tremendous resource,” says Lim, “from which we can build the next line of research projects to determine the additional ‘whys’ of the disproportionate rates in minorities and poorer outcomes as well as other important questions involving the role of the immune system and genetics that we’re continuing to pursue at Emory and at the University of Michigan. We, in Georgia, and particularly at Emory are now sitting in many ways in the middle of one of the lupus capitals of the country and world as it relates to patient communities and groundbreaking research at both the population and immunologic levels.”

“The purpose of the [National Lupus Patient Registry](#) is to develop more complete population-based incidence and prevalence estimates and to assess the impact of lupus,” said Charles Helmick, MD, medical epidemiologist, Centers for Disease Control and Prevention.

“The results of previous lupus epidemiology studies have varied widely for a number of reasons, including lack of representation of populations at high risk, different case definitions, and limited or small source populations. The Georgia and Michigan studies include four counties with a combined population of nearly four million people. The large surveillance population, along with the extensive review of records from many sources, has resulted in the most reliable and up-to-date statistics for lupus,” said Helmick.

### **Georgians Organized Against Lupus (GOAL)**

The registry spawned other important projects, such as GOAL, involving those participants who provided written, informed consent. More than 900 patients agreed to be included in GOAL, making it one of the largest in the country. These patients agree to receive at least yearly surveys that include information related to quality of life, health care utilization and treatment options, disease progression, and other important lupus issues to better understand the impact of lupus on patients’ lives.

Patients were also asked whether they would like to

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participate in future research opportunities, such as clinical trials, through the Division of Rheumatology and Lowance Center for Human Immunology at Emory. In collaboration with Ignacio Sanz, MD, Director of the Lowance Center, Emory University is studying how key immune cells react in lupus, which may lead to a better understanding and predictability of the disease.

**Lowance Center for Human Immunology**

The overall goal of the Lowance Center for Human Immunology is to understand the immunological mechanisms responsible for human autoimmune and allergic diseases with special emphasis on Systemic Lupus Erythematosus (SLE). This goal will be accomplished through the integrated effort of basic, clinical and translational scientists applying state-of-the-art technology as well as advanced epidemiology and outcomes research tools. Specific immunological defects will be identified and used to develop biomarkers of disease heterogeneity in order to better segment SLE into discreet disease subsets. In turn, disease segmentation by molecular mechanisms will be used to select treatments targeted to the molecular pathways that are defective in each disease subset. This approach will result in better and safer treatments for the individual patient (Precision Medicine) instead of treating the disease as a homogenous entity. Moreover, the knowledge derived from our studies will provide better biomarkers of disease progression and response to treatment.

**Summary**

The lupus research program at Emory University is one of only a few in the world that can integrate findings from both the population and molecular/genetic levels. It is uniquely situated to advance our knowledge of lupus for the betterment of all those who suffer with the condition. Together with the Georgia Chapter of the LFA, the state is situated to be the center of advocacy, education, and research activities in lupus for years to come.

<http://www.lupus.org/georgia/news/entry/african-american-women-develop-lupus-at-a-younger-age>



## **Understanding Autoimmune Diseases**

When an intruder invades your body—like a cold virus or bacteria on a thorn that pricks your skin—your immune system protects you. It tries to identify, kill and eliminate the invaders that might hurt you. But sometimes problems with your immune system cause it to mistake

your body's own healthy cells as invaders and then repeatedly attacks them. This is called an autoimmune disease. ("Autoimmune" means immunity against the self.)

**The Immune System**

Your immune system is the network of cells and tissues throughout your body that work together to defend you from invasion and infection. You can think of it as having two parts: the acquired and the innate immune systems.

The acquired (or adaptive) immune system develops as a person grows. It "remembers" invaders so that it can fight them if they come back. When the immune system is working properly, foreign invaders provoke the body to activate immune cells against the invaders and to produce proteins called antibodies that attach to the invaders so that they can be recognized and destroyed. The more primitive innate (or inborn) immune system activates white blood cells to destroy invaders, without using antibodies.

Autoimmune diseases refer to problems with the acquired immune system's reactions. In an autoimmune reaction, antibodies and immune cells target the body's own healthy tissues by mistake, signaling the body to attack them.

**Autoimmune Diseases**

Autoimmune diseases can affect almost any part of the body, including the heart, brain, nerves, muscles, skin, eyes, joints, lungs, kidneys, glands, the digestive tract, and blood vessels.

The classic sign of an autoimmune disease is inflammation, which can cause redness, heat, pain, and swelling. How an autoimmune disease affects you depends on what part of the body is targeted. If the disease affects the joints, as in rheumatoid arthritis, you might have joint pain, stiffness, and loss of function. If it affects the thyroid, as in Graves' disease and thyroiditis, it might cause tiredness, weight gain, and muscle aches. If it attacks the skin, as it does in scleroderma/systemic sclerosis, vitiligo, and systemic lupus erythematosus (SLE), it can cause rashes, blisters, and color changes.

Many autoimmune diseases don't restrict themselves to one part of the body. For example, SLE can affect the skin, joints, kidneys, heart, nerves, blood vessels, and more. Type 1 diabetes can affect your glands, eyes, kidneys, muscles, and more.

No one is sure what causes autoimmune diseases. In most cases, a combination of factors is probably at work. For example, you might have a genetic tendency to develop a disease and then, under the right conditions, an outside invader like a virus might trigger it.

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The list of diseases that fall into the autoimmune category includes:

<ul style="list-style-type: none"><li>• alopecia areata</li><li>• autoimmune hemolytic anemia</li><li>• autoimmune hepatitis</li><li>• dermatomyositis</li><li>• diabetes (type 1)</li><li>• some forms of juvenile idiopathic arthritis</li><li>• glomerulonephritis</li><li>• Graves' disease</li><li>• Guillain-Barré syndrome</li><li>• idiopathic thrombocytopenic purpura</li><li>• myasthenia gravis</li><li>• some forms of myocarditis</li><li>• multiple sclerosis</li><li>• pemphigus/pemphigoid</li></ul>	<ul style="list-style-type: none"><li>• pernicious Anemia</li><li>• polyarteritis nodosa</li><li>• polymyositis</li><li>• primary biliary cirrhosis</li><li>• psoriasis</li><li>• rheumatoid arthritis</li><li>• scleroderma/systemic sclerosis</li><li>• Sjögren's syndrome</li><li>• systemic lupus erythematosus</li><li>• some forms of thyroiditis</li><li>• some forms of uveitis</li><li>• vitiligo</li><li>• granulomatosis with polyangiitis (Wegener's)</li></ul>
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The treatment depends on the disease, but in most cases one important goal is to reduce inflammation. Sometimes doctors prescribe corticosteroids or immunosuppressive drugs.

**Progress and Promise**

Further research should continue to enhance the understanding of the genetics and causes of autoimmune disorders and result in improvements in diagnosing and treating these diseases.

**Key Words**

**Acquired immune system.** The part of the immune system that develops as a person grows. It employs antibodies and immune cells to fight harmful substances.

**Antibody.** A special protein produced by the body's immune system that recognizes and helps fight infectious agents and other foreign substances that invade the body.

**Antigen.** A foreign substance that triggers the production of antibodies when it is introduced into the body.

**Autoimmune disease.** A disease that results when the immune system mistakenly attacks the body's own tissues.

**Corticosteroids.** Potent anti-inflammatory hormones that are made naturally in the body or synthetically (man-made) for use as drugs. They are also called glucocorticoids. The most commonly prescribed drug of this type is prednisone.

**Diabetes, type 1.** A condition in which the immune system destroys insulin-producing cells of the pancreas, making it impossible for the body to use glucose (blood sugar) for energy. Type 1 diabetes usually occurs in children and young adults.

**Graves' disease.** An autoimmune disease of the thyroid gland that results in the overproduction of thyroid hormone. This causes such symptoms as nervousness, heat intolerance, heart palpitations, and unexplained weight loss.

**Immune system.** A complex network of specialized cells and organs that work together to defend the body against attacks by foreign invaders, such as bacteria and viruses.

**Immunosuppressive drugs.** Drugs that suppress the immune response and can be used to treat autoimmune disease. Unfortunately, because these drugs also suppress normal immunity, they leave the body at risk for infection.

**Inflammation.** A reaction of body tissues to injury or disease, typically marked by five signs: swelling, redness, heat, pain, and loss of function.

**Innate immune system.** The part of the immune system that is more primitive. It employs types of white blood cells called granulocytes and monocytes to destroy harmful substances.

**Psoriatic arthritis.** A type of arthritis associated with psoriasis, a chronic skin disease that occurs when cells in the outer layer of the skin reproduce faster than normal.

**Rheumatoid arthritis.** A disease in which the immune system attacks the linings of the joints. This results in joint pain, stiffness, swelling, and destruction.

**Scleroderma/systemic sclerosis.** An autoimmune disease characterized by abnormal growth of connective tissue in the skin and blood vessels. In more severe forms, connective tissue can build up in the kidneys, lungs, heart, and gastrointestinal tract, leading in some cases to organ failure.

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**Systemic lupus erythematosus.** An autoimmune disease affecting primarily young women. Many parts of the body can be affected, including the joints, skin, kidneys, heart, lungs, blood vessels, and brain.

**Thyroiditis.** An inflammation of the thyroid gland that causes the gland to become underactive. This results in symptoms such as fatigue, weakness, weight gain, cold intolerance, and muscle aches.

**Vitiligo.** A disorder in which the immune system destroys pigment-making cells called melanocytes. This results in white patches of skin on different parts of the body.

[http://www.niams.nih.gov/HEALTH\\_INFO/Autoimmune/default.asp](http://www.niams.nih.gov/HEALTH_INFO/Autoimmune/default.asp)



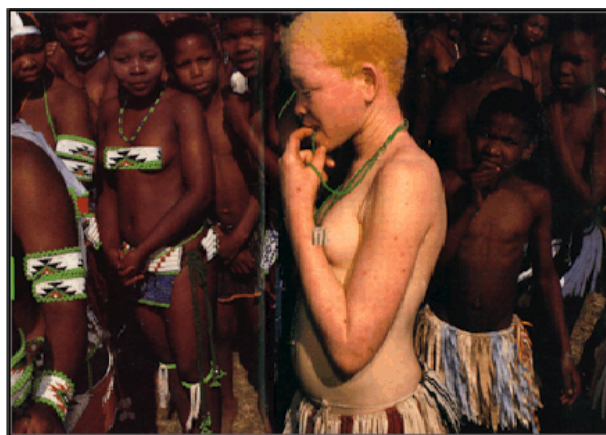
## Human Immune Leukoderma: Vitiligo

### Overview:

There are several diseases marked by a lack of pigment in the skin that are grossly referred to as leukoderma; some are caused by an inability of melanocytes to produce melanin, while others are caused by melanocytes either not being present or being destroyed. The latter are the pathology of the phenotypically similar traits piebaldism and the disease vitiligo. Piebaldism, which is present from birth, is a lack of melanocytes in the skin, while vitiligo is a progressive disease in which the melanocytes are gradually destroyed causing unpigmented areas on the skin. The exact etiology of vitiligo is unknown, but four main theories exist to explain it: the autoimmune hypothesis, the neural hypothesis, the self-destruct hypothesis, and the growth factor defect hypothesis. It is believed that vitiligo is a polygenic trait and that a convergence theory, combining elements of different theories across a spectrum of expression is the most accurate etiology (Njoo & Westerhof 2001). Vitiligo is not a physically damaging disease; other than an increased sensitivity to UV radiation most of the disease's effects are social and psychological, especially for dark-skinned races. There are both surgical and non-surgical treatments for vitiligo (Taneja 2002).

### Overview of Melanogenesis and Melanocytes:

The color in human hair, skin and irises is produced by the pigment melanin, which is produced by the dermal melanocyte cells. The melanocyte cells transform the peptide tyrosinase into two different forms of melanin, which then is spread throughout the dermal cells and the keratinocytes via melanosomes to darken tissue. Figure 1



Picture 1. An African child exhibiting the piebald universalis phenotype-albinism. Notice children with wildtype phenotype in background. Picture from [The appearance of ancient Israelites webs](#)



Picture 2. Two people exhibiting the vitiligo phenotype; notice wildtype pigment-producing skin is present in both pictures. Top panel is a white patient with vitiligo; the lower panel is a black patient with vitiligo. Picture from [The appearance of ancient Israelites website](#).

shows the chemical metabolism that occurs intracellularly to produce melanin from the precursors phenylalanine and tyrosine; this figure is somewhat inaccurate as the end product of melanogenesis should be two different types of melanin, eumelanin and pheomelanin. Eumelanin is metabolized from DHICA and produces a brown color in hair in its intact form; pheomelanin is metabolized from 5,6-indolequinone, which produces a red color in hair in its intact form. From these two slightly different forms of pigment in various degrees of structural integrity come all the differing shades of Caucasian hair (Prota 2000). In

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addition to coloration, melanin pigmentation in the skin also provides photoprotection from UV radiation to the skin. However, the melanocytes themselves are not immune from radiation damage: melanomas are tumors of the melanocytes, which often present themselves as discolorations owing to the pigment-producing nature of the cells (Janeway 2001).

### **Theories for the etiology of Vitiligo**

#### **Autoimmune Theory:**

There is great anecdotal evidence that an autoimmune disorder causes the destruction of melanocytes, and this theory is now generally accepted as the common cause of vitiligo. It is known vitiligo appears in conjunction with several other autoimmune disorders, such as juvenile diabetes mellitus, Addison's disease, and pernicious anemia, and additionally organ-specific antibodies can often be seen in patients with vitiligo. If the immune system raises antibodies or cytotoxic T cells to damage melanocytes, the mode of action the cells take against the melanocytes could be apoptosis induction directly against melanocytes or Ig induced complement-both are demonstrated in figure 3. Proving this theory, there is histological evidence in vitiligo patients that apoptosis is occurring in the unpigmented skin lesions: there is damage to the melanocytes and keratinocytes in these areas, and the melanocytes exhibit nuclear shrinking, vacuolization, loss of dendrites, and detachment. If antibodies do cause vitiligo, some research suggests the Ig's may bind to tyrosinase related proteins 1 and 2, which are important for melanogenesis, instead of Ig's targeting the melanocytes directly (Huang *et al.* 2002).

#### **Neural Theory:**

There is also evidence that peripheral nerve endings may secrete a substance that is cytotoxic to melanocytes and causes their destruction. This is supported by the segmental variety of vitiligo, which occurs in specific dermatomes, indicating the skin is possibly only being affected by the nerves of that specific dermatome. Additionally, vitiligo appears with certain neurological disorders such as encephalitis, and trauma that causes peripheral nerve damage. Nerve endings in depigmented areas were seen to produce abnormal neuropeptides and nerve growth factors, and displayed axonal degeneration-these abnormal chemicals may be toxic to melanocytes. Additionally, depigmented areas showed some abnormal autonomic function, such as increased adrenergic tone, increased norepinephrine, and an increased concentration of catecholamines. These data then suggest that neurotransmitter release could, directly or indirectly, have an affect on melanocyte destruction and depigmentation.

#### **Self-Destruct Theory:**

It is known that some of the intracellular pre-melanogenesis metabolites are toxic to melanocytes, such as dopa and dopachrome. Normally melanocytes possess cellular measures to counteract these toxic substances, but it is believed that cells may lose the ability to counteract these toxic metabolites and are destroyed by leakage of metabolites into the cytoplasm and eventually cell lysis. There is evidence that points to this in that certain hydroquinone derivatives that are similar to these intracellular metabolites cause leukoderma experimentally.

#### **Growth Factor Defect Hypothesis:**

A study in the 1980's found that melanocytes in lesions from vitiligo patients contained melanocytes, but that these cells exhibited "defective growth and passage capacities." The researchers then noted that the growth defects of the melanocytes were partially corrected by adding a growth factor to their culture, additionally suggesting that growth defects may be part of the pathology of vitiligo. In depigmented areas, cellular analysis showed that there were melanocytes but that they grew poorly. These data suggest that, whether a primary or secondary cause, growth defects appear to play a role in leukoderma and vitiligo (Njoo & Westerhof 2001).

#### **Genetic Influences:**

There does appear to be a strong genetic influence in vitiligo: a positive family history has been reported in about 20% of patients and it has been found in monozygotic twins. Studies have shown that vitiligo does not progress via a simple Mendelian pattern, but more likely is coded polygenically and can be expressed across a spectrum. There has been some evidence both proving and disproving the involvement of the HLA system in the occurrence of vitiligo. So, it is believed that genetic factors probably play a key role in the pathogenesis of vitiligo, but the exact cause is unknown.

A team of researchers used the family histories kept by the American Vitiligo Foundation to examine the Mendelian inheritance of vitiligo, and found that most instances of the disease were clustered in families. They found that for patients of vitiligo, offspring have the highest chance of developing the disease, followed by siblings, parents and grandparents (Majumder *et al.* 1988). Before this work Majumder's team published a report in 1988 suggesting a multiple recessive homozygous model for the disease. In 1994 a separate team of researchers validated Majumder's proposition of multiple homozygous recessive alleles, causing non-Mendelian inheritance of the disease; this team found that 3 "epistatically interacting autosomal diallelic loci" are involved in the pathogenesis of the disease and affected individuals exhibit homozygous recessive genotypes for all 3 loci (Nath *et al.* 1994).

## FEATURED ARTICLES

# Herd Immunity: Myth or Reality?

By Tetyana Obukhanych, PhD  
GreenMedInfo, April 5, 2014

Even though endemic outbreaks of common childhood diseases, such as measles, have been eliminated in some regions after prolonged mass-vaccination efforts, we are still being constantly reminded that reducing vaccination coverage of children in a community poses the risk of a reimported disease outbreak with potentially dire consequences to infants and immuno-compromised individuals. We are also being persuaded that implementing strict vaccination compliance will prevent an outbreak and protect vaccine-ineligible infants via the herd-immunity effect.

There is no question that a disease outbreak can happen in a non-immune community, if a virus gets there. The real question is, how well can high-vaccination compliance ensure herd immunity and protect a community from an outbreak?

### Herd Immunity, a Key Principle

Herd immunity is not an immunologic idea, but rather an epidemiologic construct, which theoretically predicts successful disease control when a certain pre-calculated percentage of people in the population are immune from disease. A scholarly article on herd immunity states:

"Along with the growth of interest in herd immunity, there has been a proliferation of views of what it means or even of whether it exists at all. Several authors have written of data on measles, which "challenge" the principle of herd immunity and others cite widely divergent estimates (from 70 to 95 percent) of the magnitude of the herd immunity threshold required for measles eradication." [1]

Herd immunity has been deemed instrumental in rapid disease eradication. Relying upon the meticulous work of Dr. A. W. Hedrich, who documented annual measles attack rates in relation to the proportion of naturally immune people in the 1900s-1930s, the United States Public Health Service

had confidently announced in 1967 its intent to swiftly eradicate measles in the USA over the Winter by vaccinating a sufficient number of still susceptible children.[2] Mass vaccination was implemented, but the expected herd-immunity effect did not materialize and measles epidemics did not stop in 1967.

The concept of herd immunity has been used to justify the idea of vaccinating children against a mild disease, who do not personally benefit from such vaccination, to protect a vulnerable but vaccine-ineligible segment of the population. For example, rubella is not dangerous for children. However, for pregnant women who have not become immune from rubella prior to pregnancy, a rubella infection poses a danger during the first trimester by increasing the risk of fetal developmental abnormalities (congenital rubella). Obviously, vaccination with a live-attenuated viral vaccine, such as the [rubella vaccine](#), is contraindicated during pregnancy.

Perhaps with the good intention to immediately put an end to any risk of congenital rubella in their community, elementary-school children were vaccinated en mass against rubella in 1970 in Casper, Wyoming. Ironically, nine months after this local vaccination campaign, an outbreak of rubella hit Casper. The herd-immunity effect did not materialize and the outbreak involved over one thousand cases and reached several pregnant women. The perplexed authors of the study describing this outbreak wrote:

"The concept that a highly immune group of prepubertal children will prevent the spread of rubella in the rest of the community was shown by this epidemic not always to be valid." [3]

The belief in herd immunity has no doubt been influencing vaccine-related legislation in many U.S. states and other countries. This notion is used as a

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trump card to justify and mandate legal measures aiming to increase vaccination compliance. An implicit assumption is that liberal vaccine exemptions somehow compromise this precious herd immunity, which the public-health authorities strive to establish and maintain via vaccination.

### **Herd Immunity, a Flawed Concept**

Although the evidence for vaccination-based herd immunity is yet to materialize, there is plenty of evidence to the contrary. Just a single publication by Poland & Jacobson (1994) reports on 18 different measles outbreaks throughout North America, occurring in school populations with very-high vaccination coverage for measles (71% to 99.8%). In these outbreaks, vaccinated children constituted 30% to 100% of measles cases. Many more similar outbreaks, occurring after 1994, can be found by searching epidemiologic literature.

Before the 1990s, only a single dose of the measles vaccine was on the childhood schedule in North America. Frequent occurrence of [measles outbreaks in highly vaccinated](#) communities have been blamed by the medical establishment on what they thought was a failure-prone, single-shot vaccination strategy. The second MMR (measles-mumps-rubella) shot was introduced in the United States and Canada in the 1990s, followed by the elimination of the endemic measles virus from North America by 2002.

In 2011, an imported measles outbreak – and the largest in the post-elimination era – hit a community in Quebec, Canada with 95-97% measles vaccination compliance in the era of double vaccination against measles. If double vaccination is not enough to patch those alleged vaccine failures and ensure the elusive herd immunity, should we then look forward to triple (or, might as well, quadruple) MMR vaccination strategy to see how that might work out with respect to herd immunity? Or, should we instead re-examine the herd immunity concept itself?

The herd-immunity concept is based on a faulty assumption that vaccination elicits in an individual a state equivalent to bona fide immunity (life-long resistance to viral infection). As with any garbage in-garbage out type of theory, the expectations of the herd-immunity theory are bound to fail in the real world.

Ochsenbein et al. (2000) conducted an experiment in mice, in which they compared the effect of injecting mice with two preparations of the vesicular stomatitis virus (VSV). They immunized mice with either unmodified VSV (live virus) or ultraviolet light-inactivated VSV incapable of replication (dead virus). Then they tested the capacity of the serum from the two groups of immun-

ized animals to neutralize live VSV over the 300 days following immunization.

The injection of the live-virus preparation induced long-lasting virus-neutralization capacity of the serum in mice, which persisted for the whole duration of the study (300 days). In contrast, the injection of the dead-virus preparation induced much lower levels of virus-neutralizing serum titers to start with. Virus-neutralizing serum titers reached a peak at 20 days post-immunization and then started to wane rapidly. They went below the level detectable by the neutralization test by the end of the study period (300 days). The conclusion of this experiment was that a procedure that attenuates or inactivates the virus also diminishes its ability to induce long-lasting virus-neutralizing serum titers upon immunization of animals.

Vaccines against viral childhood diseases are similarly prepared by first isolating the virus from a sick person, then rendering it artificially attenuated or inactivated to make a vaccine. The attenuation or inactivation of a wild virus to become a vaccine-strain virus is done to reduce the likelihood of it inducing the disease symptoms or complications, although this happens anyway in some cases. The process of attenuation, while making a vaccine virus "safer" than the original wild virus, as far as disease symptoms are concerned, also limits the durability of vaccine protection. In fact, all vaccines are by necessity either attenuated or inactivated microorganisms or their isolated pieces mixed with adjuvants; and, therefore, the protective effect of any vaccine is bound to wane sooner or later.

The protective threshold for measles-virus neutralizing serum titers in humans is known.<sup>[4]</sup> Also known is the duration of time after vaccination with MMR when measles-virus neutralizing serum titers drop below the protective level in a segment of the population. <sup>[5]</sup>

### **The Boston University Measles Study**

In 1990, a blood drive was conducted among the students of Boston University a month before the campus was hit with a measles outbreak. Due to these natural circumstances, researchers happened to have access to blood samples of many students who either got measles or were spared from the disease during the outbreak. The levels of measles virus-neutralizing serum titers were appropriately measured by the plaque reduction neutralization (PRN) technique, a month prior to and two months after the exposure. Pre-exposure PRN titers were then correlated with the degree of protection from measles: (1) no detectable infection or disease; (2) serologically confirmed measles infection

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with a modified clinical course of disease; or (3) full-blown measles. By the way, eight out of nine students who ended up getting full-blown measles, had been vaccinated against measles in their childhood.

The outcome of the Boston University measles outbreak study by Chen et al. (1990) was the following:

(a) In all previously vaccinated students who experienced full-blown measles, pre-exposure PRN titers were below 120;

(b) 70% of students whose pre-exposure PRN titers were between 120 and 1052, ended up having a serologically confirmed measles infection, but since their altered disease symptoms did not conform to the clinical measles case definition, they were categorized as non-cases during the outbreak; and

(c) Students with pre-exposure PRN titers in excess of 1052 were for the most part protected both from the typical clinical disease and measles infection.

During the outbreak, many students with pre-exposure PRN titers between 120 and 1052, who were officially categorized as non-cases, nevertheless had most of the viral-disease symptoms, including cough, photophobia, headache, and fever. These "non-cases" ended up with high post-exposure measles PRN titers, just as the disease cases did, suggesting that they were able to replicate the virus during their illness and possibly transmit it.

### **Subsequent Measles Vaccine Observations**

A study by LeBaron et al. (2007) was conducted to determine the duration of measles virus-neutralization serum titers after the receipt of the second MMR shot. The study enrolled several hundred healthy Caucasian children from rural U.S. areas free of measles outbreaks for the duration of the study. About a quarter of these children generated relatively high titers in response to vaccination, although not nearly as high as the titers after a natural infection would be. The rest responded modestly, and some very poorly. The titers in all children, regardless of being high, moderate, or low, reached a peak in a month after the MMR booster, then came down in six months to the pre-booster levels and continued to decline gradually over the next 5-10 years of observation.

In the above study, only about a top quarter of children (called high responders) were able to maintain PRN titers in excess of 1000 units 10 years following their second **MMR shot**, received at the age of five. These children are therefore likely to still be protected from the measles infection by the time they are adolescents.

The least-efficient vaccine responders (bottom 5%) had their PRN titers fall below 120 units within 5-10 years after the second MMR shot. This percentage of vaccinated children is expected to have full-blown, clinically identifiable measles upon exposure when they get a bit older. This is the reason why vaccinated (and even twice-vaccinated) people show up as disease cases in numbers equal to or even exceeding the unvaccinated cases in communities with very high (>95%) vaccination coverage. Rapid loss of vaccine protection in low responders is the reason for the paradox of a "vaccine-preventable" disease becoming the disease of the vaccinated in highly vaccinated communities. Such disease cases (and outbreaks driven by them) are not due to random vaccine failures, they are anticipated vaccine failures.

For the majority of children, the PRN titers fall between 120 and 1000 by the time they reach adolescence. These individuals can acquire infection upon exposure and be potentially contagious during an outbreak, although they might experience a modified course of measles and therefore not be labeled as measles cases for the purposes of reporting.

### **High Vaccination Compliance Is No Guarantee**

Measles cases imported into North America after the eradication of the endemic virus in the early 2000s had typically resulted in small or no sustained outbreaks in the last decade, in part due to the vigilance of the public-health authorities in quarantine implementation. However, the 2011 imported outbreak of measles in Quebec, Canada, characterized by de Serres et al. (2013), appeared to be ominously different. Strict quarantine measures were not implemented, possibly because of the assumption that the region was well under herd immunity due to an exceptionally high and uniform vaccination compliance for measles (95-97%) in this region. The consequences of relying on non-existent herd immunity as opposed to quarantine in curbing an imported disease outbreak were very telling.

Imported by a high-school teacher during the Spring break trip abroad (he himself having been vaccinated for measles in his childhood), the outbreak spread swiftly from this index case, involved more than 600 individuals, and lasted for half a year. Nearly 50% of the measles cases were twice-vaccinated individuals. As would be predicted by the waning nature of vaccine-based protection, the contribution of twice-vaccinated children to disease cases increased with age. Twice-vaccinated cases constituted only 4.1% of the 5-9 age group, but 18% of the 10-14 age group, and 22% of the 15-19 age group. Unfortunately, the study did not assess how many

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previously vaccinated individuals ended up getting a measles infection with a modified course of disease and thus were not counted as disease cases for the purposes of reporting, yet were spreading the virus around in the community.

The medical establishment assumes that vaccinated children, if they themselves get infected with the virus or even develop full-blown (called breakthrough) disease, cannot transmit it to others. Some cite a paper published in the prestigious *Journal of American Medical Association (JAMA)* as providing evidence for this assumption. Indeed, the title of the article reads "Failure of Vaccinated Children to Transmit Measles." [6] However, careful examination of the study design reveals that it did not properly address the question it purported to address: whether vaccinated children who get infected during an outbreak can or cannot transmit the virus.

The results of the study clearly show that during an outbreak of measles in an Iowa community in 1970s, which involved both vaccinated and unvaccinated children, non-sick vaccinated children were unlikely to transmit measles to their younger preschool siblings, many of whom could have been recently vaccinated themselves and therefore not vulnerable to measles anyway during that particular outbreak. The vaccination status of those younger siblings was not determined (or disclosed) by the study. Curiously, the study shows that non-sick unvaccinated children also "failed" to transmit measles (which they obviously didn't contract during that particular outbreak) to their younger preschool siblings with undisclosed vaccination status. If this tells us anything about the failure of the vaccinated children to transmit the virus, then this failure has nothing to do with their vaccination status. But wouldn't a paper entitled "Failure of Unvaccinated Children to Transmit Measles" be egregiously out of place in *JAMA*?

### **The Real Objective**

Let us now remind ourselves that the touted purpose of establishing herd immunity via a high degree of vaccination compliance is to be able to promptly cease any outbreak of a benign childhood disease so that a vulnerable but vaccine-ineligible population (i.e., infants or individuals taking immuno-suppressive medications) could avoid contracting the disease that is dangerous only at their age or given their state of health. To prevent an outbreak, 70-95% of the population, according to very-broad theoretical estimates, has to be truly immune – that is, resistant to viral infection, not just protected from developing the full range of symptoms that conform to the accepted clinical definition of the disease. However,

even 100% vaccination compliance can at best make only a quarter of the population become resistant to infection for more than ten years. This makes it apparent that stable herd immunity cannot be achieved via childhood vaccination in the long term regardless of the degree of vaccination compliance.

Normal variations in the gene pool (i.e., personal, immuno-genetic profile) affect how efficiently antigens get processed and presented to the immune system for the purposes of antibody production. This might be one of the reasons why only a fraction of children can respond well to vaccination (i.e., can generate and maintain high enough antibody titers for many years), whereas other apparently healthy children do not. Would re-vaccinating those whose personal immunogenetics do not favor high antibody production in response to the measles vaccine, correct their inherently low degree of vaccine responsiveness? The research that attests to the futility of such an endeavor is gleaned from observations summed up by Dr. Gregory Poland:

*"In studies of measles, post-immunization measles antibody in the 'low positive' range did not protect against clinical measles when subjects were exposed to the wild measles virus, whereas high levels were protective. Furthermore, non-responders to a single dose of measles vaccine, who demonstrated an antibody response only after a second immunization, were still six times more likely than were responders to a single dose of measles vaccine to develop measles on exposure to wild virus. Others examined 'poor responders,' who were re-immunized and developed poor or low-level antibody responses only to lose detectable antibody and develop measles on exposure 2-5 years later."* [7]

The answer is clear: poor responders remain poor responders to further vaccination and cannot contribute to herd immunity from viral diseases in the long run. Then why would the medical establishment insist that vaccine-based herd immunity is even possible if only stricter or more frequent vaccination measures were implemented? Why, for the sake of an unattainable idea, would pediatricians and public-health officials pester those families who choose to shield their children from potential vaccine injuries or to ensure their children's health via natural vaccine-independent strategies?

### **A Self-Defeating Public Venture**

The biomedical belief that a vaccine-exempt child endangers society by not contributing to herd immunity is preposterous, because vaccinating every single child by the required schedule cannot maintain the desired herd immunity anyway. It is time to let go of the bigotry against those seeking vaccination exemptions for their

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children. Instead, we should turn our attention to the outcome of mass-vaccination campaigns that lies ahead.

As I have explained elsewhere, mass vaccination of children initially achieves rapid results in disease reduction through attempted viral eradication only because it hitch hikes on top of the permanently immune majority of adults who acquired their real immunity naturally in the pre-vaccination era.[8] The problem is, however, that the proportion of vaccinated but non-immune young adults is now growing, while the proportion of the older immune population is diminishing due to old age. Thus, over time mass vaccination makes us lose rather than gain cumulative immunity in the adult population. At this stage the struggle to control imported outbreaks is going to become an uphill battle regardless of vaccine compliance, with the Quebec experience of 2011 being a harbinger for more of such outbreaks to come.

Mass vaccination eventually ceases endemic disease outbreaks by removing virus circulation in the community, instead of inducing permanent immunity in the vaccinated. However, viral diseases, although reduced in incidence in many countries, are not fully eradicated from all parts of the World. A region-specific elimination of viral exposure by means of mass vaccination at the time when the virus is present globally is hardly good news. Prolonged mass childhood vaccination is a measure of disease control that with time makes our entire adult population (but more importantly infants) more and more defenseless against the incompletely eradicated virus, which can be easily re-imported. Why do we then choose to put so much effort into a self-defeating public-health venture?

Two epidemiologists, who have recognized the potential problem of this waning vaccine-based protection and have included this parameter into their herd-immunity modeling, predict:

*"For infectious diseases where immunization can offer lifelong protection, a variety of simple models can be used to explain the utility of vaccination as a control method. However, for many diseases, immunity wanes over time.... Here we show how vaccination can have a range of unexpected consequences. We predict that, after a long disease-free period, the introduction of infection will lead to far larger epidemics than that predicted by standard models. These results have clear implications for the long-term success of any vaccination campaign and highlight the need for a*

*sound understanding of the immunological mechanisms of immunity and vaccination."*[9]

The medical establishment got it all in reverse: it is not vaccine-exempt children who endanger us all, it is the effects of prolonged mass-vaccination campaigns that have done so. When would the medical establishment (and the media) start paying attention to the long-term consequences of mass-vaccination measures instead of hastily and unjustifiably blaming every outbreak on the unvaccinated?

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<http://www.greenmedinfo.com/blog/herd-immunity-myth-or-reality?>



*Scientists at The Scripps Research Institute have determined the structure of a critical protein from the Ebola virus. The research reveals the shape of the Ebola virus spike protein (which is necessary for viral entry into human cells) bound to an antibody from a human survivor acting to neutralize the virus. The glycoprotein GP is the sole resident of the Ebolavirus surface and is responsible for attaching to and entering new host cells, shielding the viral surface from immune surveillance, and maintaining viral stability when outside host cells (often for long periods of time).*

<http://www.als.lbl.gov/index.php/contact/163-structure-of-the-ebola-virus-glycoprotein-bound-to-an-antibody-from-a-human-survivor.html>





# Drug-Resistant Superbug Infections Explode across U.S. Hospitals: 500% increase Foreshadows 'New Plague' caused by Modern Medicine

By Mike Adams

July 17, 2014

(NaturalNews) Drug-resistant superbug infections have reached near-epidemic levels across U.S. hospitals, with an alarming 500% increase now documented in a study just published in the August issue of *Infection Control and Hospital Epidemiology* (the journal of the *Society for Healthcare Epidemiology of America*). (1)

Lead author of the study, Dr. Joshua Thaden, warned "This dangerous bacteria is finding its way into healthcare facilities nationwide... A CRE epidemic is fast approaching... Even this marked increase likely underestimates the true scope of the problem given variations in hospital surveillance practices."

The study also found that an astonishing 94 percent of CRE infections were caused by healthcare activities or hospital procedures.

## CRE superbugs explained

CRE (carbapenem-resistant Enterobacteriaceae) is an incredibly dangerous superbug causing nearly a fifty percent fatality rate once a patient is infected. The World Health Organization calls it "one of the three greatest threats to human health," and all known antibiotics are useless in treating it.

CRE arose out of the systematic abuse of antibiotics by doctors, who inadvertently created the perfect breeding ground for deadly bacteria by using narrowly-targeted chemical medications that lack the kind of full-spectrum action found in nature (in herbs like garlic, for example). Because of their highly-targeted chemical approach, antibiotics encouraged bacteria to develop molecular defenses that resulted in widespread resistance to Big Pharma's drugs. The situation is so bad today that the entire pharmaceutical industry has no drug, no chemicals and no experimental medicines which can kill [CRE superbugs](#).

Even worse, there are virtually no new antibiotics drugs in the research pipelines, either. Drug companies have discovered that it's far more profitable to sell "lifestyle

management" drugs like statin drugs and blood pressure drugs than to sell [antibiotics](#) which treat acute infections. Antibiotics simply aren't very profitable because relatively few people acquire such infections. Meanwhile, *everyone* can be convinced they might have high cholesterol and therefore need to take a statin [drug](#) for life.

Drug companies, in other words, have all but abandoned the industry of treating infections. Instead, they now primarily engage in the promotion of disease symptoms while selling drugs that attempt to alter measurable markers of those symptoms such as cholesterol numbers. Even though drug companies caused the [superbug](#) pandemic that's now upon us, in other words, they have deliberately abandoned humanity in defending against those superbugs because it's simply not profitable to do so.

## The end of antibiotics has arrived: Humanity faces a new plague caused by modern medicine

The CDC has admitted that we are now living in a "post-antibiotics era." As Infection Control Today states, "Antibiotic resistance is no longer a prediction for the future. It is happening right now in every region of the world and has the potential to affect anyone." (2)

Dr. Arjun Srinivasan, associate director at the Centers for Disease Control and Prevention, went even further in a PBS interview, stating: (3)

*We've reached the end of antibiotics, period... We're here. We're in the post-antibiotic era. There are patients for whom we have no therapy, and we are literally in a position of having a patient in a bed who has an infection, something that five years ago even we could have treated, but now we can't.*

Keep in mind that doctors refuse to use natural substances to treat [infections](#), which is why they believe no defenses against superbugs exist. Their indoctrination into the world of pharmaceuticals is so deeply embedded in their minds, in other words, that they cannot even conceive of the idea that an herb, a food or something from Mother Nature might provide the answer to superbugs. [See this Natural News article on natural antibiotics that kill superbugs](#). The list includes honey.

## Hospitals are the perfect breeding grounds for superbugs

By their very design, hospitals are perfect breeding grounds for superbugs for six very important reasons:

1) They put all the infected people under one roof, creating a high density infectious environment.

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2) They allow doctors and medical staff to quickly and easily carry and transmit infectious diseases to new patients. Previous studies have documented how superbugs easily ride on doctors' ties, for example, or their mobile phones.

3) Medical staff still don't wash their hands as frequently as they should. The intense time demands placed on them discourage careful hand washing, causing many to skip this crucial step between patient visits.

4) Hospitals almost universally refuse to use broad-spectrum antibacterial remedies which are not drugs. Natural substances like honey and garlic show extraordinary multi-faceted antibacterial properties, as do certain metals such as silver and copper. Yet because these substances are not developed by pharmaceutical companies which dominate the field of medical practice, they are simply ignored even though they could save many lives. (And a doctor who prescribes "honey" doesn't sound as amazing and all-knowing as a doctor who prescribes "the latest, greatest laboratory breakthrough patented chemical medication.")

5) Hospital practices suppress human immune function to the point of systemic failure. Rather than boosting immune function, conventional medical treatments such as antibiotics and chemotherapy cause immune system failure. Hospitals lack sunlight and hospital food lacks key immune-boosting minerals such as zinc and selenium. On top of that, most of the drugs prescribed to patients by hospitals **deplete key nutrients** required for healthy immune function, leaving patients even more susceptible to superbug infections.

6) Hospital staff spread infectious diseases to their private homes. After acquiring an infection at work (at the hospital), staffers easily spread those infections to their own family members at home.

### **The antibiotics plague is upon us**

We are right now living through the early stages of a global plague caused by modern medicine. The industry that created this plague is utterly defenseless against it, leaving humanity to fight for survival in a world that's now far more dangerous than the one that existed before the invention of antibiotics.

Antibiotics have indeed saved millions of lives, and they forever have an important place in any medical practice. Yet their careless use -- combined with medicine's willful and foolish abandonment of **natural**

**antibiotics** that work far better -- has led humanity down the path of its own destruction.

Today, a simple scrape of your arm or leg might now be fatal. Infections that occur during routine medical procedures which would have once been considered minor issues are now deadly.

And the worst part is that **the bacteria continue to evolve more elaborate defenses** against drugs while increasing their transmissibility. Human hospitals (and entire cities) are, by design, ideal pandemic hubs that rapidly spread disease. Like it or not, humanity has created **the perfect storm** for a pandemic decimation of the global population.

What will Big Pharma do as this medical catastrophe unfolds? They'll keep selling you more statin drugs, because that's where the money's made.

### **Sources for this article include:**

(1) <http://www.shea-online.org/View/ArticleId/29...>

(2) <http://www.infectioncontrolday.com/news/20...>

(3) <http://www.pbs.org/wgbh/pages/frontline/heal...>

[http://www.naturalnews.com/046041\\_CRE\\_superbugs\\_drug-resistant\\_infections\\_modern\\_plague.html](http://www.naturalnews.com/046041_CRE_superbugs_drug-resistant_infections_modern_plague.html)



## **Vaccine Campaigns may be the Cause of New AIDS-Like Disease in Asia and Drug Resistant HIV Affecting Africa**

**By Dave Mihalovic**

August 29, 2012

Researchers have identified mysterious new symptoms that have left scores of people in Asia and sub-Saharan Africa with an AIDS-like disease and drug-resistant HIV respectively. Coincidentally, vaccine trials took place in several regions in both continents.

The patients' immune systems become damaged, leaving them unable to fend off germs as healthy people do. What triggers this isn't known.

Researchers [publishing in the Lancet](#) studied 26,000 untreated HIV-positive people in developing countries and found the most rapid increase in drug resistance occurred in East Africa, at 29% per year. In Southern Africa, it was 14% per year.

Writing in the Lancet, authors Dr Silvia Bertagnolio from the WHO and Dr Ravindra Gupta at UCL said: "Without

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continued and increased national and international efforts, rising HIV drug resistance could jeopardise a decade-long trend of decreasing HIV/Aids-related illness and death in low- and middle-income countries."

Although Dr. Gupta stated tha drug resistance is a consequence of slacking on medication, vaccine critics are sounding the horn claiming that vaccine trials taking place in the last decade courtesy of Merck are responsible for the increase in drug resistance as new type so of viruses were introduced into these populations.

The AIDS-like symptoms in Asia are causing patients' immune systems to become damaged, leaving them unable to fend off germs as healthy people do. What triggers this isn't known.

This is another kind of acquired immune deficiency that is not inherited and occurs in adults, but doesn't spread the way AIDS does through a virus, said Dr. Sarah Browne, a scientist at the National Institute of Allergy and Infectious Diseases.

She helped lead the study with researchers in Thailand and Taiwan where most of the cases have been found since 2004. Their report was recently published in the *New England Journal of Medicine*.

The disease develops around age 50 on average but does not run in families, which makes it unlikely that a single gene is responsible, Browne said. Some patients have died of overwhelming infections, including some Asians now living in the U.S., although Browne could not estimate how many.

"She was wasting away from this systemic infection" that at first seemed like tuberculosis but wasn't, said Dr. Carlton Hays Jr., a family physician at the Jackson Clinic in Jackson, Tenn. "She's a small woman to begin with, but when I first saw her, her weight was 91 pounds, and she lost down to 69 pounds."

The first large-scale phase HIV vaccine trial in South Africa was stopped in October 2007 because results from a similar trial conducted in the USA showed that the test vaccine was not effective at preventing infection.

In September 2007, the United States' National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health, the pharmaceutical company Merck and the NIAID-funded HIV Vaccine Trials Network (HVTN) announced that vaccinations of

the HIV vaccine clinical trial known as the STEP study would be discontinued.

The decision was based on recommendations made by an independent Data and Safety Monitoring Board (DSMB), which analysed early data and concluded that the vaccine did not prevent HIV infection nor reduce the amount of virus in those who became infected with HIV.

Another large study using a T-cell-based vaccine then attempted another enrollment of an 8,500-person trial, to be conducted in Africa and the Americas, going one step further than the Merck adenovirus vaccine. It was the first attempt to prime volunteers' immune systems with a DNA vaccine compound before delivering a vector-based agent to boost T-cell responses to the virus.

Merck was the only large pharmaceutical company to use its own resources to bring a vaccine this far along the development process in Africa.

South African AIDS researchers ultimately began warning hundreds of volunteers that a highly touted experimental vaccine they received in recent months might make them more, not less, likely to contract HIV in the midst of one of the world's most rampant epidemics.

The move stemmed from the discovery that the AIDS vaccine developed by Merck might have led to more infections than it averted among study subjects in the United States and other countries. Among those who received at least two doses of the vaccine, 19 contracted HIV compared with 11 of those given placebos.

Researchers shut down the trial on the grounds that the vaccine was proving ineffective, but the surge in infection among vaccinated volunteers prompted intense scientific debate and anxiety among researchers.

"There may be a correlation between the vaccine trials and the new infections appearing around the world but we need further investigations," said vaccine researcher Ronald Chu.

The new infections do not spread the same as AIDS does, according to Dr. Sarah Browne, scientist with the National Institutes of Health (NIH) National Institute of Allergy and Infectious Diseases. Browne led the team of researchers in Thailand and Taiwan where the AIDS-like disease made its first appearance.

Browne has concluded that the new AIDS causes those infected to produce autoantibodies that block interferon-gamma, a chemical signal that assists the human body in fighting infections. The new AIDS targets this chemical and leaves the victim unable to fight off any infection -- leaving the person vulnerable to developing deadly sicknesses from even the common cold.

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*Continued from page 92– Vaccine Campaigns may be the Cause of New AIDS-Like Disease in Asia and Drug Resistant HIV Affecting Africa*

[Vaccines are causing an unprecedented number of mutations](http://preventdisease.com/news/12/082912_Vaccine-Campaigns-May-Be-The-Cause-of-New-AIDS-Like-Disease-and-Drug-Resistant-HIV-Affecting-Asia-and-Africas.shtml) creating superbugs and potent viruses and bacteria that may eventually threaten future generations and humanity itself. Life-threatening pathogens are capable of evolving rapidly and developing genetic decoys that serve to disguise them from even the most powerful drugs. Researchers have found that pathogens switch genetic material with other bacteria, switch genetic material with other bacteria, but predominantly for the part of the genome responsible for making the cell coating, which is the area targeted by vaccines.

Novel diseases which are drug resistant such as those presented here may only be the beginning of what is to come if mass vaccine trials continue.

[http://preventdisease.com/news/12/082912\\_Vaccine-Campaigns-May-Be-The-Cause-of-New-AIDS-Like-Disease-and-Drug-Resistant-HIV-Affecting-Asia-and-Africas.shtml](http://preventdisease.com/news/12/082912_Vaccine-Campaigns-May-Be-The-Cause-of-New-AIDS-Like-Disease-and-Drug-Resistant-HIV-Affecting-Asia-and-Africas.shtml)



## Scientists Are Now Worried That MERS Could Be Airborne

By Kate Kelland

July 22, 2014

LONDON (Reuters) - Saudi scientists have found gene fragments of the deadly Middle East Respiratory Syndrome (MERS) virus in air from a barn housing an infected camel and say this suggests the disease may be transmitted through the air.

MERS, a serious respiratory illness caused by a virus known as a coronavirus (CoV), has infected at least 850 people since it first emerged two years ago and killed at least 327 of them, according to latest figures from the European Centre for Disease Prevention and Control (ECDC).

The vast majority of human cases have been in Saudi Arabia, but isolated MERS cases have been reported across Europe and in Asia and the United States in people linked who have recently traveled in the Middle East.

Scientists are not sure of the origin of the virus, but several studies have linked it to camels and some experts think it is being passed to humans through close physical contact or through the consumption of camel meat or camel milk.

However, in this latest study, published in the online journal of the American Society for Microbiology mBio, scientists said the detection of the virus in air samples was concerning and needed to be followed up.

"The clear message here is that detection of airborne MERS-CoV molecules, which were 100 percent identical with the viral genomic sequence detected from a camel actively shedding the virus in the same barn on the same day, warrants further investigations and measures to prevent possible airborne transmission of this deadly virus," said Esam Azhar, an associate professor of medical virology at King Abdulaziz University in Jeddah who led the study.

Viruses that spread through air - such as flu viruses for example - are far more likely to spread swiftly and widely in human populations than those that can only move from an animal to a person, or from person to person, via direct contact.

For their research, Azhar's team collected three air samples on three consecutive days from a camel barn near Jeddah owned by a 43-year-old male MERS patient who later died from the disease.

Four of the man's nine camels had shown signs of nasal discharge the week before the patient became ill, and he had applied a topical medicine in the nose of one of the sick camels a week before experiencing symptoms.

Using a laboratory technique called reverse transcription polymerase chain reaction (RT-PCR) to detect levels of particular genes, the scientists found that the first air sample, collected on Nov. 7, 2013, contained genetic fragments of the MERS virus.

This was the same day that one of the patient's camels tested positive for the disease, they explained in a report of their work.

The other samples did not test positive for the MERS virus - suggesting short or intermittent shedding of the virus into the air surrounding the camels, Azhar said.

Further tests of the first air sample confirmed the presence of MERS genetic sequences and showed that the fragments were identical to fragments detected in the camel and its sick owner.

"This study also underscores the importance of obtaining a detailed clinical history with particular emphasis on any animal exposure for any MERS case, especially because recent reports suggest higher risk of (MERS) infections among people working with camels," Azhar said.

The World Health Organisation and the Saudi Health Ministry have advised camel farm and slaughterhouse

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workers to take precautions against MERS by ensuring good hygiene, including frequent hand washing after touching animals, facial protection where feasible, and wearing of protective clothing.

<http://www.businessinsider.com/r-mers-virus-detected-in-air-samples-from-saudi-camel-barn-2014-22#ixzz38Dec3QRB>

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## China Seals Off City of 30,000 People after Man Dies of Bubonic Plague

By George Dvorsky

July 22, 2014

The Chinese city of Yumen in the northwestern province of Gansu has been sealed off and 151 people placed in quarantine after a man died of the bubonic plague — the bacterium responsible for some of the worst blights in human history.

China Central Television (CCTV) is reporting that the 30,000 people of Yumen are not being allowed to leave, and police at roadblocks on the perimeter of the city are telling motorists to find alternative routes. The China Daily newspaper says four quarantine sectors have been set up in the city.

"The city has enough rice, flour and oil to supply all its residents for up to one month," CCTV added. "Local residents and those in quarantine are all in stable condition." Thankfully, no further plague cases have been reported.

It all started last week when a 38-year-old man died after he had been in contact with a dead marmot — a small furry animal related to the squirrel.

The bubonic plague is a bacterial infection known for the Plague of Justinian and the Black Death, the latter of which killed tens of millions of people in 14th century Europe. The culprit is *Yersinia pestis*, a bacterium that can infect humans and other animals.

Disturbingly, a *Lancet* study from earlier this year made the claim that [the Black Death could happen again](#).

"If the Justinian plague could erupt in the human population, cause a massive pandemic, and then die out, it suggests it could happen again," noted one of the researchers. "Fortunately we now have antibiotics that could be used to effectively treat plague, which lessens

the chances of another large scale human pandemic."

Indeed, the U.S. Center for Disease Control says modern antibiotics are effective in treating plague, but that without prompt treatment the disease can cause serious illness or death.

Clearly, the Chinese aren't taking any chances.

<http://io9.com/china-seals-off-city-of-30-000-people-after-man-dies-of-1608834104>

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## Genetically Engineered HIV Vaccine INCREASED Risk of HIV Infection

By Sayer Ji

May 24th 2014

A new study published in *Lancet* reveals that an experimental vaccine manufactured by Merck using a genetically modified adenovirus *actually increased* the risk of contracting HIV infection in recipients.

Titled, "[Recombinant adenovirus type 5 HIV gag/pol/nef vaccine in South Africa: unblinded, long-term follow-up of the phase 2b HVTN 503/Phambili study](#)," researchers randomly assigned a total of 801 HIV-1 uninfected, sexually active adults aged 18—35 years from five sites in South Africa to receive either the vaccine (400) or a placebo (401). 216 (27%) received only one injection, 529 (66%) received only two injections, and 56 (7%) received three injections.

The results were reported as follows:

*"At a median follow-up of 42 months (IQR 31—42), 63 vaccine recipients (16%) had HIV-1 infection compared with 37 placebo recipients (9%; adjusted HR 1.70, 95% CI 1.13—2.55; p=0.01). Risk for HIV-1 infection did not differ according to the number of vaccinations received, sex, circumcision, or adenovirus type 5 (Ad5) serostatus. Differences in risk behaviour at baseline or during the study, or annualised dropout rate (7.7% [95% CI 6.2—9.5] for vaccine recipients vs 8.8% [7.1—10.7] for placebo recipients; p=0.40) are unlikely explanations for the increased rate of HIV-1 infections seen in vaccine recipients."*

In other words, those receiving vaccines had a 70% increased risk [HR 1.70] of contracting HIV versus those receiving the placebo. The researchers concluded:

*"The increased risk of HIV-1 acquisition in vaccine recipients, irrespective of number of doses received,*

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**Continued from page 94– Genetically Engineered HIV Vaccine INCREASED Risk of HIV Infection**

*further investigation to understand the biological mechanism. We caution against further use of the Ad5 vector for HIV vaccines."*

[According to a report about the study](#) by Dr. Mark Thoma, MD:

"Since the end of the last century, there have been a number of HIV vaccines developed and tested. Over 30 clinical trials of these vaccines have been done to see if they conferred immunity to HIV to those volunteers who agreed to participate in the trials. **To date, none of the trials have shown that any of the vaccines can produce significant immunity in a number of people against infection with HIV.**"

Now, with the discovery of [vaccine-enhanced risk of HIV-1 acquisition](#), clearly there is a risk that the 'cure' offered by HIV vaccines may actually be worse than doing nothing at all. The researchers hypothesized that the genetically engineered adenovirus vector used to deliver HIV antigens into the vaccine recipient may lead to an expansion of activated Ad5-specific T cells thereby increasing the number of HIV-1 target cells.

While a specific mechanism has yet to be identified to explain vaccine-enhanced risk, the study clearly shows that rather than conferring increased immunity the vaccine reduces it. With the recent resurgence of [measles](#), [whooping cough](#), varicella ([shingles](#)) in highly immunized populations, research like this speaks to fundamental flaws in the vaccine-centric preventive health model. Perhaps the focus should return to supporting immunity by decreasing unnecessary harmful chemical and biological exposures, and optimizing dietary support for natural immunity – it worked for millions of years before synthetic immunity via vaccines became the dominant paradigm only a half century ago. Also, cases of [HIV clearance using natural products](#) should provide sufficient motivation to conduct trials on natural compounds with [proven efficacy in cell, animal and preclinical studies](#).

<http://www.greenmedinfo.com/blog/genetically-engineered-hiv-vaccine-increased-risk-hiv-infection>



**Continued from page 84- Human Immune Leukoderma: Vitiligo**

**Convergence Theory:**

Following genetic studies, researchers have begun to lean towards a multi-faceted etiology for vitiligo, that combines components of the aforementioned theories and genetics. This theory states that genetic influences

have a role in causing vitiligo in addition to other elements, such as stress, accumulation of toxic compounds, infection, autoimmunity, mutations, and impaired melanocyte proliferation (Njoo & Westerhof 2001).

**Treatment:**

**Immuno Suppressive Treatments:**

As vitiligo is believed to be an autoimmune disorder, suppressing the immune system would then be an effective treatment at halting the spread of vitiligo and even inducing repigmentation. Corticosteroids are the main choice for this treatment and they effectively halt the progressive spread of vitiligo and also lead to repigmentation of lesioned areas. For small, localized lesions, topical and intralesional corticosteroids are used once a day. For rapidly spreading vitiligo or vitiligo universalis, systemic corticosteroids are employed; however, the role of systemic corticosteroids is controversial due to the serious adverse side effects.

**Non-surgical Treatment: phototherapy and photochemotherapy**

Currently, the most popular treatments for vitiligo are forms of phototherapy; it is known that various sources of UV light can be successfully used to stimulate repigmentation. Phototherapy can either be used by itself or in conjunction with light-sensitizing drugs.

PUVA treatment is the most popular treatment for vitiligo currently; the concept for the treatment dates back thousands of years, when the plants *Psoralea coryifolia* Linnaeus and *Ammi majus* Linnaeus were eaten or used topically in Egypt and India to treat vitiligo. Today, isolates of the plants are used topically or orally in conjunction with a synthetic compound to chemically increase sensitivity to light. The patient is then exposed to a measured amount of natural sunlight (PUVASOL) or artificial UV radiation (PUVA) to induce re-pigmentation.

The amino phenylalanine is also used to treat vitiligo, although it is not a photo-sensitizing chemical. It is known that phenylalanine is a precursor for melanin via L-tyrosine, and it appears that there is a problem with L-phenylalanine metabolism in vitiligo. A combination of topical application and oral ingestion of phenylalanine with natural sunlight exposure resulted in repigmentation for 83% of patients.

In addition to photochemotherapy, there are several forms of phototherapy, without the light-sensitizing chemicals.

UV light in the wavelengths from 290-320 nm are often used to treat vitiligo. There are few studies reporting the efficacy of this treatment, but anecdotally the treatment appears effective, though not as good as other forms of phototherapy. In addition to broad band UV (BUVB), there is also narrow band UV treatment (NBUVB). This

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is a more recent form of UV phototherapy and was initially used to treat psoriasis. This UV treatment operates between 305 and 311 nm, and is highly effective for treating psoriasis and moderately effective at treating vitiligo. When used as monotherapy, NB-UVB is slightly but not significantly more effective at stimulating repigmentation than PUVA treatment.

In addition to UV treatment, the excimer laser has now been implemented as phototherapy for vitiligo. The 308 nm laser produces light similar to the narrow band UVB treatment, and has shown good results in stimulating repigmentation of about 90% of patients. The excimer laser also allows more focused treatment on specific lesions, or hard to reach areas of the body.

There is little scientific evidence examining why phototherapies are effective at stimulating repigmentation; however, it is very strongly believed that if there are stores of unaffected but immature melanocytes in the lesioned area, these melanocytes can be induced to produce melanin in the lesioned areas. Likewise, there are often functional, but not melanin producing melanocytes at lesion boundaries that can produce melanin that spreads into the lesions causing repigmentation.

**Surgical Treatment:**

In addition to phototherapy, there is also surgical treatment for vitiligo that mainly consists of grafting patches of skin with healthy melanocytes to lesioned sites. In both minigrafting and suction blister grafting, superficial layers of skin are removed from normally-pigmented skin and these patches then grafted onto the lesioned areas. These techniques are believed to work by healthy melanocytes from the grafts proliferating into the lesioned areas and repopulating them. Success rates for these techniques are between 80% and 90%. Full thickness grafts of skin are implanted in minigrafting, using 1-2 mm healthy skin punches from areas such as the buttocks and followed by exposure to sunlight or PUVA treatment. Success of minigrafting is around 67% in patients.

The future of surgical treatment for vitiligo is actually extracting melanocytes from a donor area of the patient's healthy skin, culturing these melanocytes into a large population, then grafting them as sheets onto the lesioned areas. Preliminary trials with this technique have been highly successful; however there is some concern about controlling malignancy in the cultured melanocytes.

**Bleaching Treatment:**

In addition to treatments to repigment skin, in extremely progressive, full-body vitiligo called vitiligo universalis, the patient can opt to bleach the remaining pigment off healthy skin. This treatment does have profound psychosocial implications, especially for naturally dark-skinned individuals who become light or white-skinned. This is the proposed medical scenario with performer Michael Jackson, who claims to have been afflicted with vitiligo universalis. As opposed to seeking repigmentation, Jackson opted instead for depigmentation of remaining, naturally dark areas. This is a feasible scenario, although there is great debate as to the authenticity of Jackson's claim (Taneja 2002).

<http://www.bio.davidson.edu/Courses/Immunology/Students/Spring2003/Leese/Vitiligo.htm>



## **Ebola Confirmed In Nigerian Capital City of Lagos; 21 Million City Residents Now At Risk of Exposure**

**By Dana Dovey**

July 25, 2014

Nigeria's Health Minister, Onyebuchi Chukwu, has officially announced the first case of the Ebola virus in the Nigerian capital of Lagos. The victim, a Liberian businessman who had only recently flown into the city of 21 million people, was placed in quarantine on Sunday, only to die a few days later.

Nigeria's patient zero is likely to have contracted the virus from his sister, who died of its symptoms only three weeks prior, *Reuters* reported. The sick man is said to have given himself over to healthcare workers. "He made it known that he wasn't feeling well," WHO spokesman Paul Garwood told Reuters. It was then that he was taken into isolation where he died only days later.

Tests taken last Friday showed the man to be positive for the Ebola virus, but it is still unknown if the virus was the actual cause of death. "Our understanding is that the cause of death was Ebola," Liberia's finance minister Amara Konneh told *Reuters*. At a press conference Lagos's health commission Jide Idris announced that they were still "waiting for a confirmation test to double check," the virus' presence.

If the virus does break out in the African megacity, officials are hopefully that they may have better success containing

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## FEATURED ARTICLES

# Rockefeller Anti-Fertility Vaccines Exposed

By Jurriaan Maessen  
ExplosiveReports.Com, June 9, 2012

In the course of August and September 2010, I wrote several articles for Infowars on the Rockefeller Foundation's admitted funding and developing of anti-fertility vaccines intended for "mass-scale distribution." As the soft-kill depopulation agenda accelerates it seems all the more relevant to re-post these articles as one.

### 1- Rockefeller Foundation Developed Vaccines For "Mass-Scale" Fertility Reduction

In its [1968 yearly report](#), the Rockefeller Foundation acknowledged funding the development of so-called "anti-fertility vaccines" and their implementation on a mass-scale. From page 51 onward we read:

"(...) several types of drugs are known to diminish male fertility, but those that have been tested have serious problems of toxicity. Very little work is in progress on immunological methods, such as vaccines, to reduce fertility, and much more research is required if a solution is to be found here."

The possibility of using vaccines to reduce male fertility was something that needed to be investigated further, according to the Rockefeller Foundation, because both the oral pill and the IUD were not suitable for mass-scale distribution:

"We are faced with the danger that within a few years these two "modern" methods, for which such high hopes have been held, will in fact turn out to be impracticable on a mass scale."

"A semipermanent or renewable subcutaneous implant of these hormones has been suggested, but whether or not the same difficulties would result has not been determined."

Saying that research thus-far had been too low-grade to produce any substantial results, the report was adamant:

"The Foundation will endeavour to assist in filling

this important gap in several ways:

1- "Seeking out or encouraging the development of, and providing partial support to, a few centres of excellence in universities and research institutions in the United States and abroad in which the methods and points of view of molecular biology are teamed with the more traditional approaches of histology, embryology, and endocrinology in research pertinent to development of fertility control methods;"

2- "Supporting research of individual investigators, oriented toward development of contraceptive methods or of basic information on human reproduction relevant to such developments;"

3- "Encouraging, by making research funds available, as well as by other means, established and beginning investigators to turn their attention to aspects of research in reproductive biology that have implications for human fertility and its control;"

4- "Encouraging more biology and biochemistry students to elect careers in reproductive biology and human fertility control, through support of research and teaching programs in departments of zoology, biology, and biochemistry."

The list goes on and on. Motivation for these activities, according to the RF?

"There are an estimated five million women among America's poverty and near-poverty groups who need birth control service (...). The unchecked fertility of the indigent does much to perpetuate poverty, undereducation, and underemployment, not only in urban slums, but also in depressed rural areas."

It wasn't long before all the Foundation's efforts began to have effect. In its [annual report of 1988](#), The RF was happy to report the progress made by the Foundation's Population Division in the field of anti-fertility vaccines:

*Continued on page 98*

“India’s National Institute of Immunology successfully completed in 1988 the first phase of trials with three versions of an anti-fertility vaccine for women. Sponsored by the government of India and supported by the Foundation, the trials established that with each of the tested vaccines, at least one year of protection against pregnancy could be expected, based on the levels of antibodies formed in response to the immunization schedule.”

In its [1997 review of anti-fertility vaccines](#), Indian based International Centre for Genetic Engineering and Biotechnology didn’t forget to acknowledge its main benefactor:

“The work on LHRH and HCG vaccines was supported by research grants of The Rockefeller Foundation, (...)”

In the 1990s the work on anti-fertility vaccines went in overdrive, especially in third-world nations, as did the funding provided by the deep pockets of the Rockefeller Foundation. At the same time, the target-population of the globalists- women- began to stir uncomfortably with all this out-in-the-open talk of population reduction and vaccines as a means to achieve it.

Betsy Hartman, Director of the Population and Development Program at Hampshire College, Massachusetts and “someone who believes strongly in women’s right to safe, voluntary birth control and abortion”, is no supporter of the anti-fertility vaccine, as brought into being by the Rockefeller Foundation. She explains in her essay [Population control in the new world order](#):

“Although one vaccine has been tested on only 180 women in India, it is being billed there as ‘safe, devoid of any side effects and completely reversible’. The scientific community knows very well that such assertions are false – for instance, many questions still remain about the vaccine’s long-term impact on the immune system and menstrual cycle. There is also evidence on film of women being denied information about the vaccine in clinical trials. Nevertheless, the vaccine is being prepared for large-scale use.”

The Women’s Global Network for Reproductive Rights based in Amsterdam, the Netherlands, [quoted](#) “a leading contraceptive researcher as saying:

“Immunological birth control methods will be an ‘antigenic weapon’ against the reproductive process, which left unchecked, threatens to swamp the world.”

Animal rights activist ms. Sonya Ghosh also [expressed concerns](#) about the Rockefeller-funded anti-fertility vaccine and its implementation:

“Instead of giving individual women more options to prevent pregnancy and protect against AIDs and sexually transmitted diseases, the anti fertility vaccine is designed to be easily administered to large numbers of women using the least resources. If administered to illiterate populations the issues of user control and informed consent are further cause for concern.”

To avoid such debates, the Foundation has in the last couple of decades consorted to its long-practised and highly successful methods of either outright lying through its teeth or using deceptive language to hide the fact that it continues to work tirelessly toward its long-stated mission.

## **2- Global Distribution of Rockefeller-Funded Anti-Fertility Vaccine Coordinated by WHO**

In addition to the recent PrisonPlanet-exclusive [Rockefeller Foundation Developed Vaccines For “Mass-Scale” Fertility Reduction](#)- which outlines the Rockefeller Foundation’s efforts in the 1960s funding research into so-called “anti-fertility vaccines”- another series of documents has surfaced, proving beyond any doubt that the UN Population Fund, World Bank and World Health Organization picked up on it, further developing it under responsibility of a “Task Force on Vaccines for Fertility Regulation”.

Just four years after the Rockefeller Foundation launched massive funding-operations into anti-fertility vaccines, the Task Force was created under auspices of the World Health Organization, World Bank and UN Population Fund. Its mission, [according to one of its members](#), to support:

“basic and clinical research on the development of birth control vaccines directed against the gametes or the preimplantation embryo. These studies have involved the use of advanced procedures in peptide chemistry, hybridoma technology and molecular genetics as well as the evaluation of a number of novel approaches in general vaccinology. As a result of this international, collaborative effort, a prototype anti-HCG vaccine is now undergoing clinical testing, raising the prospect that a totally new family planning method may be available before the end of the current decade.”

In regards to the scope of the Task Force’s jurisdiction, the Biotechnology and Development Monitor [reported](#):

“The Task Force acts as a global coordinating body for anti-fertility vaccine R&D in the various working groups and supports research on different approaches, such as

*Continued on page 99*



anti-sperm and anti-ovum vaccines and vaccines designed to neutralize the biological functions of hCG. The Task Force has succeeded in developing a prototype of an anti-hCG-vaccine.”

One of the Task Force members, P.D. Griffin, [outlined the purpose and trajectory](#) of these Fertility Regulating Vaccines. Griffin:

“The Task Force has continued to coordinate its research activities with other vaccine development programmes within WHO and with other international and national programmes engaged in the development of fertility regulating vaccines.”

Griffin also admitted to the fact that one of the purposes of the vaccines is the implementation in developing countries. Griffin:

“If vaccines could be developed which could safely and effectively inhibit fertility, without producing unacceptable side effects, they would be an attractive addition to the present armamentarium of fertility regulating methods and would be likely to have a significant impact on family planning programmes.”

Also, one of the advantages of the FRVs over “currently available methods of fertility regulation” the Task Force states, is the following (179):

“low manufacturing cost and ease of delivery within existing health services.”

Already in 1978, the WHO’s Task Force (then called Task Force on Immunological Methods for Fertility Regulation) [underlined the usefulness of these vaccines](#) in regards to the possibility of “large scale synthesis and manufacture” of the vaccine:

“The potential advantages of an immunological approach to fertility regulation can be summarized as follows: (a) the possibility of infrequent administration, possibly by paramedical personnel; (b) the use of antigens or antigen fragments, which are not pharmacologically active; and (c) in the case of antigens of known chemical structure, there is the possibility of large-scale synthesis and manufacture of vaccine at relatively low cost.”

In 1976, the WHO Expanded Programme of Research, Development and Research Training in Human Reproduction [published a report](#), stating:

“In 1972 the Organization (...) expanded its programme of research in human reproduction to provide an international focus for an intensified effort to improve existing methods of fertility regulation, to develop new

methods and to assist national authorities in devising the best ways of providing them on a continuing basis. The programme is closely integrated with other WHO research on the delivery of family planning care by health services, which in turn feeds into WHO’s technical assistance programme to governments at the service level.”

Although the term “Anti-Fertility Vaccine”, coined by the Rockefeller Foundation, was replaced by the more bureaucratic sounding “Fertility Regulating Vaccine (FRV), the programme was obviously the same. Besides, the time-line shows conclusively that the WHO, UN Population Fund and World Bank continued on a path outlined by the Rockefellers in the late 1960s. By extension, it proves that all these organization are perfectly interlocked, best captured under the header “Scientific Dictatorship”. The relationship between the WHO and the Rockefeller Foundation is intense. In the [1986 bulletin of the World Health Organization](#), this relationship is being described in some detail. While researching the effectiveness of “gossypol” as an “antifertility agent”, the bulletin states:

“The Rockefeller Foundation has supported limited clinical trials in China and smallscale clinical studies in Brazil and Austria. The dose administered in the current Chinese trial has been reduced from 20 mg to 10-15 mg/day during the loading phase in order to see if severe oligospermia rather than consistent azoospermia would be adequate for an acceptable, non-toxic and reversible effect. Meanwhile, both the WHO human reproduction programme and the Rockefeller Foundation are supporting animal studies to better define the mechanism of action of gossypol.”

In August of 1992, [a series of meetings was held](#) in Geneva, Switzerland, regarding “fertility regulating vaccines”. According to the document Fertility Regulating Vaccines (classified by the WHO with a limited distribution) present at those meetings were scientists and clinicians from all over the globe, including then biomedical researcher of the American Agency for International development, and current research-chief of USAID, Mr. Jeff Spieler.

In 1986 Mr. Spieler [declared](#):

“A new approach to fertility regulation is the development of vaccines directed against human substances required for reproduction. Potential candidates for immunological interference include reproductive hormones, ovum and sperm antigens, and antigens derived from embryonic or fetal tissue(...). An antifertility vaccine must be capable of safely and

***Continued on page 100***

effectively inhibiting a human substance, which would need somehow to be rendered antigenic. A fertility-regulating vaccine, moreover, would have to produce and sustain effective immunity in at least 95% of the vaccinated population, a level of protection rarely achieved even with the most successful viral and bacterial vaccines. But while these challenges looked insuperable just a few years ago, recent advances in biotechnology- particularly in the fields of molecular biology, genetic engineering and monoclonal antibody production- are bringing antifertility vaccines into the realm of the feasible.”

“Vaccines interfering with sperm function and fertilization could be available for human testing by the early 1990s”, Spieler wrote.

In order for widespread use of these vaccines, Spieler writes, the vaccine must conquer “variations in individual responses to immunization with fertility-regulating vaccines”. “Research”, he goes on to say, “is also needed in the field of “basic vaccinology”, to find the best carrier proteins, adjuvants, vehicles and delivery systems.”

In the 1992 document, the problem of “variations in individual responses” is also discussed:

“Because of the genetic diversity of human populations”, states the document, “immune responses to vaccines often show marked differences from one individual to another in terms of magnitude and duration. These differences may be partly or even completely overcome with appropriately engineered FRVs (Fertility Regulating Vaccines) and by improvements in our understanding of what is required to develop and control the immune response elicited by different vaccines.”

The picture emerging from these facts is clear. The WHO, as a global coordinating body, has since the early 1970s continued the development of the Rockefeller-funded “anti-fertility vaccine”. What also is becoming clear, is that extensive research has been done to the delivery systems in which these anti-fertility components can be buried, such as regular anti-viral vaccines. It’s a mass-scale anti-fertilization programme with the aim of reducing the world’s population: a dream long cherished by the global elite.

### **3- On Top of Vaccines, Rockefeller Foundation Presents Anti-Fertility Substance Gossypol for “Widespread Use”**

It seems there is no limit to the Rockefeller Foundation’s

ambitions to introduce anti-fertility compounds into either existing “health-services”, such as vaccines, or- as appears to be the case now- average consumer-products.

The [1985 Rockefeller Foundation’s annual report](#) underlined its ongoing dedication towards finding good use for the anti-fertility substance “gossypol”, or C30H30O8 – as the description reads.

Indeed, gossypol, a toxic polyphenol derived from the cotton plant, was identified early on in the Foundation’s research as an effective sterilant. The question was how to implement or integrate the toxic substance into crops.

“Another long-term interest of the Foundation has been gossypol, a compound that has been shown to have an antifertility effect in men. By the end of 1985, the Foundation had made grants totaling approximately \$1.6 million in an effort to support and stimulate scientific investigations on the safety and efficacy of gossypol.”

In the [1986 Rockefeller Foundation annual report](#), the organization admits funding research into the use of fertility-reducing compounds in relation to food for “widespread use”:

“Male contraceptive studies are focused on gossypol, a natural substance extracted from the cotton plant, and identified by Chinese researchers as having an anti-fertility effect on men. Before widespread use can be recommended, further investigation is needed to see if lowering the dosage can eliminate undesirable side-effects without reducing its effectiveness as a contraceptive. The Foundation supported research on gossypol’s safety, reversibility and efficacy in seven different 1986 grants.”

In the [RF’s 1988 annual report](#), gossypol as a contraceptive was also elaborated upon (page 22):

“Gossypol, a natural substance found in the cotton plant, continues to show promise as an oral contraceptive for men. Because it suppresses sperm production without affecting sex hormone levels, it is unique among the experimental approaches to fertility control in men. Foundation-funded scientists worldwide have assembled an array of information about how gossypol works, and studies continue on a wide variety of its clinical applications. Dose reduction is being investigated to reduce health risks associated with the use of gossypol.”

The following year, [according to the annual report](#), funds were allocated to several research institutions to see how this “dose reduction” could best be accomplished without interfering with the anti-fertility effects of gossypol.

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(1988- \$ 400,000, in addition to remaining funds from prior year appropriations) To support research on gossypol, its safety, reversibility, and efficacy as a contraceptive for use by men (...).” Mention is made on money allocated to the University of Texas, “for a study of gossypol’s effects on DNA replication (...).”

The last mention of gossypol in the Foundation’s annals we find in [the 1994 annual report](#), where funds were appropriated to the University of Innsbruck of Austria “for a study at the Institute of Physiology on the molecular action of gossypol at the cellular level.”

It seems that the funded scientists have indeed found a way of “lowering the dosage” of gossypol, circumventing the toxicity of the substance, so as to suppress or even eliminate these “undesirable side-effects”, which include: low blood potassium levels, fatigue, muscle weakness and even paralysis. If these effects could be eliminated without reducing the anti-fertility effects, the Foundation figured, it would be a highly effective and almost undetectable sterilant.

Although overtly, research into and development of gossypol as an anti-fertility compound was abandoned in the late 1990s, the cottonseed containing the substance was especially selected for mass distribution in the beginning of the current decade. Around 2006 a media-campaign was launched, saying the cottonseed could help defeat hunger and poverty.

In 2006, [NatureNews reported](#) that RNA interference (or RNAi) was the way to go. On the one hand it would “cut the gossypol content in cottonseeds by 98%, while leaving the chemical defenses of the rest of the plant intact.” Furthermore, the article quoted Dr. Deborah P. Delmer, the Rockefeller Foundation’s associate director of food security, who was quick to bury any concern:

“Deborah Delmer, associate director of the Rockefeller Foundation in New York City and an expert in agricultural food safety, points out that a benefit of using RNAi technology is that it turns off a gene process rather than switching on a novel function. “So instead of introducing a new foreign protein, you’re just shutting down one process,” Delmer says. “In that sense, I think that the safety concerns should be far less than other GM technologies.”

A 2006, National Geographic article [Toxin-Free Cottonseed Engineered; Could Feed Millions Study Says](#), quotes the director of the Laboratory for Crop Transformation (Texas A&M University), Keerti

Singh Rathore as saying:

“A gossypol-free cottonseed would significantly contribute to human nutrition and health, particularly in developing countries, and help meet the requirements of the predicted 50 percent increase in the world population in the next 50 years.”

“Rathore’s study”, states the article, “represents the first substantiated case where gossypol was reduced via genetic engineering that targets the genes that make the toxin.”

I bring into recollection the statement made by the Rockefeller Foundation in its 1986 annual report, which reads:

“Before widespread use can be recommended, further investigation is needed to see if lowering the dosage can eliminate undesirable side-effects without reducing its effectiveness as a contraceptive.”

In the [1997 Foundational report](#), Rathore is mentioned (page 68). A postdoctoral fellowship-grant was given to a certain E. Chandrakanth “for advanced study in plant molecular biology under the direction of [Keerti S. Rathore](#), Laboratory for Crop Transformation, Texas A&M University, College Station, Texas.”

Compromising connections, in other words, for someone who claimed academic objectivity in regards to gossypol and its sterilizing effects. Rathore explained the workings of RNAi in a [2006 issue of the Proceedings of the National Academy of Sciences](#).

“Cottonseed toxicity due to gossypol is a long-standing problem”, Rathore said, “and people have tried to fix it but haven’t been able to through traditional plant breeding. My area of research is plant transgenics, so I thought about using some molecular approaches to address this problem.”

Rathore also mentioned the desired main funder of his work without actually saying the name:

“we are trying to find some partners and will probably be looking at charitable foundations to help us out in terms of doing all kinds of testing that is required before a genetically engineered plant is approved for food or feed. We are in the very early stages and have a lot of ideas in mind, but we need to pursue those. Hopefully, we can find some sort of partnership that will allow us to do them.”

He also expressed the final adaptation of the cottonseed for widespread use is something of the long term:

“(…) right now there are many hurdles when you are dealing with a genetically modified plant. But I think in the next 15 or 20 years a lot of these regulations that we

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have to satisfy will be eliminated or reduced substantially.”

The Foundation, as is evident from the statements of Rockefeller’s own Deborah Delmer, is more than interested. Even worse, through the process of readying gossypol for mass-distribution in food, the fulfillment of their longstanding goal of sterilizing the populous into The Foundation, as is evident from the statements of Rockefeller’s own Deborah Delmer, is more than interested. Even worse, through the process of readying gossypol for mass-distribution in food, the fulfillment of their longstanding goal of sterilizing the populous into oblivion comes into view.

#### **4- Rockefeller Foundation Conceptualized “Anti-Hormone” Vaccine in the 1920s and 30s, Reports Reveal**

Rockefeller Foundation minion Max Mason, who acted as president in the mid-1930s, on multiple occasions expressed his master’s desire for an “anti-hormone” that would reduce fertility worldwide. Now keep in mind, this is more than 35 years before the Foundation actually mentioned funding “anti-fertility vaccines” in subsequent annual reports from 1969 onward.

Having traveled far beyond the realm of rumor and speculation, research into the admitted funding of anti-fertility vaccines has uncovered more and more sinister revelations along the way.

By the mid-1930s, Mason of the Rockefeller Foundation thought that “the ultimate solution of the problem [of birth control] may well lie in the studies of endocrinology, particularly antihormones.” The [Foundation’s 1934 annual report](#) states:

“The Rockefeller Foundation has decided to concentrate its present effort in the natural sciences on the field of modern experimental biology, with special interest in such topics as endocrinology, nutrition, genetics, embryology, problems centering about the reproductive process, psychobiology, general and cellular physiology, biophysics, and biochemistry.”

“(…) research work is being conducted on the physiology of reproduction in the monkey. This work was begun at the Johns Hopkins University in 1921, and since 1923 has been continued at the University of Rochester. It involves observational and experimental studies of the reproductive cycle in certain species of the higher primates, in which this cycle closely resembles that of the human species. The effect of the various interrelated reproductive hormones is being studied.”

In the [annual report of the previous year](#) (1933), the Foundation stresses the fact that work on the reproductive hormones of primates serves to experiment on man in the future: “(…) much work has been done in the formulation and solution of basic problems in the general biology and physiology of sex in organisms other than man. It was essential that this fundamental work on infra-man pave the way for that on man.”

In the book [Disciplining Reproduction](#) by Adele E. Clarke, the roots of Rockefeller-funded “anti-hormones” is being described in some detail, pointing out that the family’s ambitions to control man’s fertility date back even further than the 1930s. Clarke writes:

“On a cold morning in 1921, George Washington Corner, a physician and fledgling reproductive scientist, awoke in Baltimore to discover that it was snowing.”

“By 1929”, Clarke writes a bit further on, “Corner had mapped out the hormonal action of progesterone, an essential actor in the menstrual cycle and subsequently an actor in birth control pills.”

The [1935 Rockefeller Foundation annual report](#) acknowledges funding Dr. Corner’s research:

“To the University of Rochester, for research on the physiology of reproduction under the direction of Dr. G. W. Corner during the threeyear period beginning July 1, 1935, and ending June 30, 1938, there has been appropriated the sum of \$9,900. Dr. Corner’s activities are concentrated on a study of the oestrus cycle, using monkeys as the experimental animals. A colony of about thirty monkeys has been maintained, and experiments have furnished information on the normal histology of the reproductive cycle, the time of ovulation, the relation of ovulation to menstruation and other anatomically detectable correlations of the oestrus cycle. Work is continuing on two main lines: normal sex reproduction in the monkey, including the histology of ovary and uterus, and, secondly, the effects of the ovarian hormone.”

Again, never forget that the Foundation in 1933 stated outright that “It was essential that this fundamental work on infra-man pave the way for that on man.”

Another essential problem which arises, of course, is how exactly the funding-mechanism worked by which Corner’s research could be made ready for mass-consumption. Clarke mentions that officially the National Research Council, an arm of the National Academy of Sciences (NAS), was the institute responsible for the task of doing so. More specific: the Committee for Research in Problems of Sex (CRPS):

*Continued on page 103*

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***Continued from page 102- Rockefeller Anti-Fertility  
Vaccines Exposed***

“The NRC itself was founded in 1916 as an agency to inventory research toward enhanced military preparedness.”

“The NRC”, states the author, “was a prestigious organization from its inception, thanks to its early association with the NAS, the Carnegie Corporation, and the Rockefeller Foundation. Kohler (1991:109) has argued that the NRC essentially served as an intermediary between the foundations and scientists in the interwar years(...). The NRC/CRPS itself was funded almost exclusively by Rockefeller monies, initially through the Bureau of Social Hygiene and, after 1931, through the Rockefeller Foundation.”

On the subject of so-called “current immunological contraceptive research”, Clarke channels Rockefeller-president Max Mason:

“Other lines of current immunological contraceptive research continue to seek what, during the 1930s, Max Mason of the Rockefeller Foundation called “anti-hormones”: vaccines to block hormones needed for very early pregnancy and a vaccine to block the hormone needed for the surface of the egg to function properly.”

In a February 1934 “progress report” written by Warren Weaver (director of the Natural Sciences Division of the Rockefeller Foundation) once again underlined the endgame:

“Can man gain an intelligent control of his own power? Can we develop so sound and extensive a genetics that we can hope to breed, in the future, superior men? Can we obtain enough knowledge of physiology and psychobiology of sex so that man can bring this pervasive, highly important, and dangerous aspect of life under rational control?”

The same Warren Weaver wrote a “[biographical Memoir](#)” in honor of his friend Max Mason, revealing some more interesting facts. Weaver, who describes himself as a great personal friend of Mason, gives a general description of him as Rockefeller-minion:

“He had by that time developed a consuming interest in behavioral research, and particularly in the possibility that the physical sciences, working with and through the biological sciences, could shed new and revealing light on the normal and abnormal behavior of individuals, and ultimately on the social behavior of groups of men.”

Here we have it. The blueprint for sterilizing vaccines has been first conceptualized way back in the 1920s and 1930s by social scientists of the Rockefeller Foundation.

Although later the eugenic language (“anti-fertility vaccine”) was polished up with the help of some linguistic plastic surgery producing the term “immunological contraceptive”, the ultimate goal remains the same.

<http://explosivereports.com/2012/06/09/rockefeller-anti-fertility-vaccines-exposed/>



***Continued from page 96 - Ebola Confirmed in  
Nigerian Capital City of Lagos***

it here than they had in more remote rural areas. "The fear of spread within a dense population would be offset by better healthcare and a willingness to use it, easier contact tracing and, I assume for an urban population, less risky funerary and family rites," explained Ian Jones, a professor of virology at the University of Reading in Britain. One factor that could seriously compromise Nigeria's ability to combat an outbreak is its poor healthcare system. Although the country makes annual revenues well in the billion from their dense oil supply, the healthcare system still mirrors that of less developed nations.

The Ebola outbreak currently afflicting the West coast of Africa is the largest Ebola outbreak in recorded history. As of yet Reuters reported that there have been 1,093 cases of Ebola, with 660 of those cases resulting in death. In the last outbreak during 2012 only 50 lives were lost.

Ebola is a serious virus that was first appeared in 1976. In this year 2 separate outbreaks in Sudan and the Democratic Republic of Congo claimed a total of 431 lives before the outbreak could be quelled, the [World Health Organization](#) reported. The virus is likely to have entered the human population after humans first came into contact with blood, secretions, organs, or other bodily fluid of infected animals. Its initial symptoms are sudden fever and headache which are soon followed by more severe conditions such as vomiting, impaired kidney and liver function, and in the most extreme cases both internal and external bleeding. There is currently no cure or vaccination against the virus and although it usually has a mortality rate of 90 percent, the rate of this current outbreak is estimated to be closer to 60 percent.

<http://www.medicaldaily.com/ebola-confirmed-nigerian-capital-city-lagos-21-million-city-residents-now-risk-exposure-295036>



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# Why is Ebola Deadlier than other Viruses?

By Esther Inglis-Arkell

August 29, 2013

Ebola is the nightmare virus. It kills ninety percent of people infected, and was for some time feared as the second coming of the plagues of the 1400s. Why is this one virus so much more deadly than other viruses?

Ask people to pick a virus that might, under the right circumstances, end the world, and they'll generally say "ebola." This is a virus that's known for its deadliness, and it earned its reputation. There are five different strains of ebola, and each is named after the zone in which it first turned up. Ebola's least deadly strain is Reston, which was first discovered in monkeys in a quarantine facility in Reston, Virginia. It was traced to the Philippines, where it seems to reside in both wild and domesticated pigs. This discovery caused a panic in the US, a bestselling book, and a blockbuster movie, but this version of the virus is completely asymptomatic in humans. It has never killed anyone.

Ebola's deadliest strain is Zaire. It was the first strain discovered in 1976, when it killed nearly 300 people. It's a hemorrhagic fever, which means it attacks the vascular system, wearing down blood vessel walls and preventing blood from clotting. All hemorrhagic fevers are dangerous, and none have any real course of treatment to attack the virus, as opposed to drugs meant to minimize complications and techniques prevent dehydration. A relative of ebola, [Marburg fever, kills forty-to-eighty percent of those infected](#), but the Zaire strain of ebola has a ninety percent fatality rate. Of the hemorrhagic fevers, why does ebola stand out?

Researchers have found that people have died from ebola without ever having an immune response to the virus. The first lines of the defense of the immune system are dendritic cells. Dendritic cells are long, branched cells that line nearly every part of the body that has contact with the outside world. They cover the skin so completely that they were mistaken for nerves by early anatomists. They also crowd the mucosal linings of the lungs, nasal passages, and digestive system. When they come into contact with something that shouldn't be in the body, they grab it, break it apart, and take it to the immune system and display it - and get ripped apart themselves for their trouble. Then the body, properly alerted, starts working on a counterattack.

Ebola, particularly the Zaire strain, has the ability to

prevent the dendritic cells from manufacturing proteins that cause the immune system to destroy the dendritic cells when they're infected. The ebola virus doesn't set off an alarm, and can keep infecting the body at will.

Researchers have shown that mutating the virus in any of four areas destroys its stealth capabilities. Scientists have also figured out [how ebola gets into cells](#), and have developed an antibody that can [prevent infection](#). Perhaps it won't always be the terror it is now.

<http://io9.com/why-is-ebola-deadlier-than-other-viruses-1205840780>



## Melanin: Dietary Mucosal Immune Modulator from Echinacea and Other Botanical Supplements - EXCERPTS

By Nirmal D. Pugh and Premalatha Balachandran, et al

International Immunopharmacology 5 (2005) 637–647

### Abstract

The agents responsible for the therapeutic effects of many botanical supplements have not been established in spite of their popularity. Here we show that melanin is a previously unrecognized immunostimulatory compound that is a major component of botanicals traditionally used to enhance immune function. While melanin is present in commonly consumed vegetables, its specific activity is several orders of magnitude less than melanin extracted from these botanicals. The major reason that this agent has eluded detection is its solvent-specific requirement for extraction/solubility. Melanin activates NF-kappa B in monocytes in vitro through a toll-like receptor 2-dependent process. Ingestion of melanin by mice for four days increases production ex vivo of interferon-g by spleen cells and IgA and interleukin-6 by Peyer's patch cells. The identification of this new class of mucosal immune stimulants will allow further characterization of botanical products and advances our understanding of the basis for their traditional use.

### 1. Introduction

A complex network of cells and cellular structures known as the mucosa-associated lymphoreticular tissues (MALT) has evolved within higher organisms to protect mucosal surfaces from invasion by pathogens.

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This interconnected system of inductive and effector sites include systems within the gastro-intestinal, respiratory and nasal systems [1]. The recognition of pathogens by cells within inductive sites is mediated at least partly by a family of pattern recognition receptors called toll-like receptors (TLR).

These receptors recognize specific pathogen-associated molecular patterns and allow cells within the innate immune system to distinguish self-molecules from pathogen-associated non-self structures [2].

Ligands for these receptors include bacterial components such as lipopolysaccharides (LPS), flagellin, lipoproteins and DNA, as well as fungal components and double stranded viral RNA.

One of the major factors influencing mucosal immunity is alteration of gut micro-flora. This is most dramatically seen in the germ-free mouse.

Compared to conventional animals, germ-free mice exhibit suppressed immunological characteristics such as decreased lymph node, spleen and Peyer's patch size, reduced mucosal IgA production, decreased blood clearance of microorganisms and delayed immune response after antigenic challenge [3].

Experimental evidence suggests that dietary components can also influence mucosal immunity. Increasing the amount of fermentable fiber in the diets of laboratory animals has been shown to alter the type and function of various immune cells in different regions of the intestinal MALT. Animals fed this diet exhibited more CD8<sup>+</sup> cells in their Peyer's patches and CD4<sup>+</sup> cells in their mesenteric lymph nodes [4], decreased CD4<sup>+</sup>:CD8<sup>+</sup> ratios in spleen [5], increased IgA positive cells and IgA secretion in cecum [6], and increased IgA in spleen and mesenteric lymph nodes [7]. It has been suggested that fermentable fiber acts indirectly to enhance these immune parameters through mechanisms such as the alteration of gut micro-flora, by enhancing short chain fatty acid production from fiber fermentation, or by modulation of mucin production [8]. It also appears that some dietary components may act directly on various immune cells populating the gut. For example oat  $\beta$  glucan stimulates macrophage interleukin-1 (IL-1  $\beta$ ) production and spleen cell production of interleukin-2, interferon- $\gamma$  (IFN- $\gamma$ ), and interleukin-4 in vitro [9].

Components of several botanical herbal supplements purported to enhance immune function also appear to

act directly on immune cells. For example polysaccharides extracted from *Platycodon grandiflorum* [10] and safflower petals [11] activate macrophages in vitro via a TLR4-dependent pathway. The interaction of these dietary constituents with TLR on cells within intestinal inductive sites may 'mimic' the interaction of bacteria and fungal components with these receptors and could influence mucosal immunity in a similar fashion.

In this communication, we report that the polymeric material melanin, isolated from various botanical supplements, activates monocytes through a TLR2-dependent process and enhances several immune parameters when ingested by mice. Evidence that led to the discovery of this previously unrecognized immune enhancing compound was initially obtained in studies with the popular botanical *Echinacea*. In these experiments, substantial activation of monocytes was observed when finely ground *Echinacea* plant material (but not plant material from seven other botanicals) was added in suspension to these cells. The only solvent that was found to quantitatively extract this activity from this material was aqueous phenol. The inability to extract melanin using solvents normally used in natural product chemistry laboratories is one of the main reasons this highly active material has eluded detection.

### **3. Results**

#### **3.1. Melanin isolated from Echinacea activates monocytes**

To detect and guide the isolation of immunomodulatory compounds within botanicals, we utilized a sensitive in vitro monocyte activation assay, where activation of the proinflammatory transcription factor NF-kappa B drives the expression of the luciferase reporter gene in the widely studied human monocyte cell line THP-1. This assay was used to optimize the extraction and purification of a potent monocyte activating material from the roots of *E. purpurea*.

Aqueous phenol quantitatively extracted this activity since the previously active plant material remaining following extraction (marc material) was essentially inactive when tested in suspension in the monocyte assay. Attempts to extract this activity with all other solvents ranging from polar (methanol) to more nonpolar (hexane) were ineffective. In commercially relevant *Echinacea* species, the isolated material constitutes 5–10% of the plant dry weight. Based on its physical properties and structural analysis, the active compound was identified to be a melanin. It is an amorphous, dark-colored pigment (reddish brown and similar to pheomelanin), insoluble in most solvents, bleached by oxidizing agents (H<sub>2</sub>O<sub>2</sub>), and soluble in alkali and phenol [16]. Elemental analysis indicated 50% carbon,

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**Continued from page 105- Melanin: Dietary Mucosal Immune Modulator from Echinacea and Other Botanical Supplements-EXCERPTS**

13% nitrogen, 7% hydrogen, 0.8% sulfur and 0.08% phosphorus. The material contained less than 1% carbohydrate and no detectable fatty acids (including the LPS component 3 $\beta$ hydroxymyristate).

<b>Herbs</b>	<b>EC<sub>50</sub> (<math>\mu</math>g/ml)</b>
<i>Alfalfa sprouts (Medicago sativa)</i>	0.1
<i>Black walnut hulls (Juglans nigra)</i>	0.1
<i>Green tea leaves (Camellia sinensis)</i>	0.2
<i>Parthenium integrifolium root</i>	0.3
<i>Korean ginseng root (Panax ginseng)</i>	0.4
<i>American ginseng (Panax quinquefolius)</i>	0.4
<i>Ginger root (Zingiber officinalis)</i>	0.5
<i>Echinacea angustifolia leaf</i>	1.0
<i>Echinacea purpurea root</i>	1.0
<i>Goldenseal root (Hydrastis canadensis)</i>	2.7
<i>Red clover blossoms (Trifolium pretense)</i>	3.0
<i>Parthenium integrifolium leaf</i>	3.2
<i>Dandelion shoot (Taraxacum officinale)</i>	3.2
<i>Actea racemosa</i>	3.2
<i>Black cohosh root (Licorice root (Glycyrrhiza glabra))</i>	3.5
<i>Chamomile flower (Matricaria recuita)</i>	4.0
<i>Milk thistle seeds (Silybum marianum)</i>	4.4
<i>Echinacea pallid root</i>	5.0
<i>Alfalfa herb (Medicago sativa)</i>	5.0
<i>Horsetail stems (Equisetum arvense)</i>	8.5
<i>Astragalus membranaceus root</i>	9.0

<i>Gotu kola herb (Centella asiatica)</i>	15.0
<i>Feverfew herb (Tanacetum parthenium)</i>	25.0
<i>Valerian root (Valeriana officinalis)</i>	82.0
<i>Hawthorn fruits (Crataegus monogyna)</i>	100.0
<i>Black tea leaves (Camellia sinensis)</i>	500.0
<i>Rosemary leaves (Rosmarinus officinalis)</i>	1000.0
<i>Saw palmetto berries (Serenoa repens)</i>	1000.0
<i>St. John's wort leaves (Hypericum perforatum) N</i>	>1000.0
<i>Garlic cloves (Allium sativum) N</i>	>1000.0
<i>Ginkgo biloba leaves N</i>	>1000.0
<i>Mahuang herb (Ephedra sinica) N</i>	>1000.0
<i>Pau D'arco inner bark (Tabebuia spp.) N</i>	>1000.0
<b>Vegetables</b>	
<i>Swiss chard stem N</i>	>1000.0
<i>Red leaf lettuce N</i>	>1000.0
<i>Carrot N</i>	>1000.0
<i>Iceberg lettuce N</i>	>1000.0
<i>Green bean N</i>	>1000.0
<i>Spinach leaf N</i>	>1000.0
<i>Celery stem N</i>	>1000.0
<i>Swiss chard leaf N</i>	>1000.0
<i>Broccoli floret</i>	NA
<i>Cabbage leaf</i>	NA
<i>Green bell pepper</i>	NA
<i>Green pea</i>	NA
<i>White jasmine rice</i>	NM
<i>Red potato</i>	NM

*Continued on page 107*

<i>Asparagus</i>	NA
<i>Butternut squash</i>	NA
<i>Yellow corn kernel</i>	NA

**Notes to Table 1:** Melanin was tested in the monocyte test system at concentrations ranging from 0.1 to 100 µg/ml. Melanin preparations that exhibited less than 20% activation when run at 100 µg/ml are assigned an EC50 value of N 1000 µg/ml since a doubling of percent activation requires an order of magnitude increase in melanin concentration in this assay system. NA indicates not active at 100 µg/ml. NM indicates no melanin could be extracted. All botanical specimens were identified by a trained plant taxonomist (V. Joshi) and authenticated vouchers deposited in the NCNPR, University of Mississippi.

Therefore, this substance is not a lipopolysaccharide or polysaccharide. In addition, monocyte activation by this material was not altered by the lipid A-binding agent polymyxin B, indicating that small amounts of LPS possibly contaminating this extract did not contribute to this activity. Extensive treatment of the material with DNase I, RNase A, proteinase K, trypsin, a-chymotrypsin, pronase E, or nagarse or by heating at 98 8C for 2 h did not reduce its activity in the monocyte assay, indicating that the biological activity was not due to contaminating proteins or nucleic acids.

Pyrolysis-GC-MS has been successfully used in melanin identification and structural analysis [17] and together with other approaches has determined that melanin polymers are based on the indole structural unit [18]. Fig. 1 shows the thermal degradation products resulting from filament pyrolysis-GC-MS of melanin extracted from in vitro propagated *E. angustifolia* plants. High amounts of indole as well as indole derivatives (e.g. 7-methylindole, 3-methylpyrrole) were identified. These results are consistent with melanin pyrolysis products described by others [19,20].

### **3.2. Melanin activity varies substantially within botanicals and vegetables**

Our first experiment to analyze melanin within the different plant parts of several *Echinacea* species revealed differences in melanin content of two- to three-fold, but these differences were minor in comparison to the dramatic variations in the activity of the extracted

melanin. For example, we found differences in activity of up to 100-fold between melanin extracted from the roots and leaves of individual plants. Similar differences were observed between the same plant part within the same species and also between the three major *Echinacea* species.

Since numerous environmental influences could have accounted for these substantial variations, we examined plants propagated in vitro. Among twenty *E. angustifolia*, *E. purpurea* and *E. pallida* clones, some contained half as much melanin than the average but, again, greater differences existed in the activity of this material (EC50=1.6 to N1000 Ag/ml). We also examined melanin content/activity in other popular botanicals, as well as in commonly used vegetables to determine if melanin within these plants also exhibited this activity. Since only one to two samples of each botanical were analyzed in this survey, the data indicate only general trends with respect to the types of plants that contain melanin with high activity. The data in Table 1 show that melanin with a high specific activity for monocyte NF-kappa B activation is not found within all plants, and that botanicals traditionally used to enhance immune function contain melanin with the highest activity. None of the melanin extracted from vegetables exhibited significant activity. Percent recovery of melanin preparations from common herbs ranged from 0.5% to 20% and for vegetables 0% to 5% of plant dry weight. As a side note, synthetic melanin was inactive in the monocyte assay and *Sepia* melanin exhibited moderate activity.

### **4. Discussion**

Melanin is commonly thought of as the agent that protects numerous life forms from solar UV radiation, but recent studies suggest that this polymer can have diverse functions in various organisms. For example in invertebrates, a major aspect of the innate immune defense system against invading pathogens involves melanin. Within minutes after infection, the microbe is encapsulated within melanin (melanization), and the generation of free radical byproducts during the formation of this capsule is thought to aid in their killing. The production of melanin by pathogenic fungi such as *Cryptococcus neoformans* enhances virulence, protects against antifungal drugs and promotes survival in toxic environments. A recent study indicates that fungal melanin is immunologically active, with evidence for eliciting both humoral and cellular responses. Plant melanin may have structural similarities to fungal melanin and, when ingested, may activate pathways similar to that elicited by pathogenic fungi within the gut. Our research also suggests that plant melanin represents a

*Continued on page 108*



new class of polymers recognized by the toll-like family of receptors that is structurally distinct from other known ligands (i.e. bacterial DNA, double stranded RNA, lipopolysaccharides, polysaccharides, lipoproteins, etc.).

We have found only one report of an immune-enhancing material extracted from black tea that was said to be “melanin-like” However, no structural evidence was given to support melanin identity, and since black tea is a fermented product, whether the immune enhancing material was derived from the plant material or was of microbial origin is unclear. In addition, we show that melanin from green tea leaves was at least 100 times more active than black tea melanin (Table 1).

Although melanin has been identified previously within plants the functional role of this polymer is not known. The dramatic increase in the immunostimulatory activity of alfalfa sprout melanin following exposure to an elicitor of plant defensive mechanisms suggests that some structural feature of this molecule has been altered. Whether this structural change is important for conferring resistance to infectious agents remains to be determined.

The structural characterization of melanin polymers has been notoriously difficult, due to their general insolubility in most solvents and because the subunits are linked by non-hydrolyzable bonds. Although pyrolysis-GC-MS has been used to some success for melanin identification and structural analysis, most melanin preparations are contaminated with proteins. We have found that purified proteins, due to their content of aromatic amino acids, give thermal degradation product signatures similar to that of plant melanin but degradation product yield is less than 10% of that seen with melanin (data not shown). The melanin purification procedure described in Materials and Methods will separate a protein-free melanin fraction (as determined by amino acid analysis of acid hydrolyzed material) from the bulk of the melanin. Our protein-free melanin preparations give pyrolysis thermal degradation profiles identical to protein containing preparations (data not shown) and further support the identity of this material.

The ability of plant-derived melanin to activate human monocytes through a TLR-dependent pathway suggests that it may be detected by cells of the innate immune system within the gut. Both macrophages and dendritic cells express TLR and are crucial cellular components

for the detection of pathogens within the main inductive sites of the intestinal MALT known as Peyer’s patches.

Both particulate and soluble immunogenic material is transported into these structures from the intestinal lumen by M cells, a single layer of epithelium separating the intestinal lumen from the cells within the Peyer’s patches. Antigen presenting cells (macrophages and dendritic cells) within the Peyer’s patches are thus exposed to this intestinal material for potential recognition of pathogens, pathogen components, or herbal components by the TLR. Activation of the dendritic cells or macrophages by ligands of the TLRs results in the production of cytokines that can influence the course of the immune response. In mice, dendritic cells from Peyer’s patches are able to induce high levels of IgA secretion from naive B cells. A specific subset of CD11b(+) dendritic cells was responsible for this effect, in that they secreted higher levels of the IgA-inducing cytokine IL-6 than other subsets of dendritic cells. The enhanced secretion of IgA and IL-6 ex vivo by cells isolated from the Peyer’s patches of mice that had ingested botanical melanin may have resulted from either increased numbers of CD11b+ dendritic cells or higher IL-6 production by these cells as a result of melanin ingestion. The greater production of IFN-g by spleen cells from mice treated with these melanins suggests that dietary consumption of this polymer would skew Th1/Th2 balance in favor of Th1. This is consistent with a similar study in which mice ingesting the TLR4 agonist lambda carrageenan exhibited reduced antibody production to allergens (suppressed Th2), while spleen cell production of the Th1 cytokine IFN-g was increased.

Due to the growing popularity of herbal supplements, it has become increasingly recognized worldwide that their characterization is an integral part of advancing the quality of botanicals. In spite of this popularity, the lack of definitive understanding of active constituents, the inherent variability in botanical sources, species variability, plant part used, and the processing/formulation make the design and interpretation of botanical efficacy studies problematic.

Our discovery of high activity melanin within botanical supplements and its influence on mucosal immune function could help explain the traditional use of these plants and may aid in the design of more relevant clinical studies.

<http://naldc.nal.usda.gov/naldc/download.xhtml?id=39499&content=PDF>

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# Ebola Outbreak not Right for Testing Experimental Vaccines, Drugs

*Deploying untested tools in bid to stop deadly Ebola outbreak in West Africa could be disastrous*

**By Helen Branswell**

July 09, 2014

The largest Ebola outbreak in history is defying the containment efforts of affected countries and international response teams, leading to calls from some quarters to use experimental drugs or vaccines to try to stop the deadly virus.

But a number of experts — including the scientist who led the work on a Canadian-made Ebola vaccine — say deploying untested tools in the current West African outbreak could be disastrous.

They say taking such a risky gamble could further erode local trust in the response teams, undermine their efforts and even endanger them. And if anyone were to have a bad reaction to one of the [experimental therapies](#), it could jeopardize years of expensive and painstaking work spent developing tools with which to fight Ebola and its cousin, the Marburg virus.

While most of these discussions are happening within scientific circles, the director of Britain's Wellcome Trust recently aired the issue publicly.

Dr. Jeremy Farrar, an infectious diseases expert, has questioned why the therapies that are furthest along in the developmental pipeline aren't being used. He suggests if this outbreak were occurring in the developed world, there would be no debate. "Imagine if you take a region of Canada, America, Europe and you had 450 people dying of a viral hemorrhagic fever. It would just be unacceptable — and it's unacceptable in West Africa," Farrar says.

He notes the Canadian-made Ebola vaccine — a project Feldmann led a decade ago when he worked at the [National Microbiology Laboratory](#) in Winnipeg — was released under emergency-use provisions in 2009 when a German researcher pricked herself with a needle containing Ebola virus. She survived, but it was never clear if it was because of the vaccine or because she was not infected.

A small community of researchers, mostly based in Canada and the United States, has been working for years on vaccines and drugs to protect against or treat

these. A small community of researchers, mostly based in Canada and the United States, has been working for years on vaccines and drugs to protect against or treat these viruses, which are among the deadliest known to humankind. The viruses are transmitted through contact with bodily fluids. People caring for the dying — or preparing their bodies for burial — are often infected. With little to offer medically, the main job of response teams is to break the chains of transmission by figuring out who is infected and isolating them. But these efforts are often met with distrust. Rumours emerge that the Western doctors are harvesting organs; people hide cases or flee — extending the range of the epidemic.

The World Health Organization says the current outbreak — the first in West Africa — has seen 844 cases in three countries, and 518 deaths. That's already virtually double the size of the next largest outbreak, in Uganda in 2000. And this outbreak isn't anywhere near over.

A number of vaccines are in various stages of development. Studies done in non-human primates suggest they could both prevent illness and improve survival chances if given after infection. There are also a number of therapies in the works, including antibody combinations that look promising in animal testing.

But the researchers have always been stymied by the challenges of getting regulatory approval for these interventions, which cannot follow the traditional pathways to licensure. Most drugs or vaccines can only make it to market once large-scale studies show they are both safe and effective. But the only way the world will learn if Ebola and Marburg vaccines and drugs work is by using them in an outbreak — a reality rife with ethical concerns and logistical problems.

[http://www.thestar.com/news/world/2014/07/09/ebola\\_outbreak\\_not\\_right\\_for\\_testing\\_experimental\\_vaccines\\_drugs\\_experts.html](http://www.thestar.com/news/world/2014/07/09/ebola_outbreak_not_right_for_testing_experimental_vaccines_drugs_experts.html)



## Transmission of Ebola Virus from Pigs to Non-Human Primates - EXCERPTS

**By H. M. Weingartl, C. Embury-Hyatt et al**

15 November 2012

Ebola viruses (EBOV) cause often fatal hemorrhagic fever in several species of simian primates including human. While fruit bats are considered natural reservoir, involvement of other species in EBOV transmission is unclear. In 2009, Reston-EBOV was the first EBOV

*Continued on page 110*

detected in swine with indicated transmission to humans. In-contact transmission of Zaire-EBOV (ZEBOV) between pigs was demonstrated experimentally. Here we show ZEBOV transmission from pigs to cynomolgus macaques without direct contact. Interestingly, transmission between macaques in similar housing conditions was never observed.

Piglets inoculated oro-nasally with ZEBOV were transferred to the room housing macaques in an open inaccessible cage system. All macaques became infected. Infectious virus was detected in oro-nasal swabs of piglets, and in blood, swabs, and tissues of macaques. This is the first report of experimental interspecies virus transmission, with the macaques also used as a human surrogate. Our finding may influence prevention and control measures during EBOV outbreaks.

Ebola viruses belong to the family Filoviridae, genus Ebolavirus. Those endemic to Africa cause severe hemorrhagic fever with frequent fatal outcome in humans, great apes and several species of non-human primates (NHPs). Fruit bats are considered to be the natural reservoir for EBOV in Africa<sup>1</sup>. In 2009, the only non-African known species of EBOV, Reston Ebola virus (REBOV), was isolated from swine in Philippines, with antibodies against the virus detected in pig farmers<sup>2,3</sup>. However REBOV did not cause clinical signs in experimentally inoculated pigs<sup>4</sup>. In contrast to African species of EBOV, REBOV does not cause clinical symptoms in humans, although the infection may be fatal in cynomolgus macaques<sup>5</sup>. We have previously demonstrated that Zaire-EBOV (ZEBOV) can infect pigs, cause disease, and transmit to in-contact pigs<sup>6</sup>. While primates develop systemic infection associated with immune dysregulation resulting in severe hemorrhagic fever, the EBOV infection in swine affects mainly respiratory tract, implicating a potential for airborne transmission of ZEBOV<sup>2,6</sup>. Contact exposure is considered to be the most important route of infection with EBOV in primates<sup>7</sup>, although there are reports suggesting or suspecting aerosol transmission of EBOV from NHP to NHP<sup>8-10</sup>, or in humans based on epidemiological observations<sup>11</sup>. The present study was design to evaluate EBOV transmission from experimentally infected piglets to NHPs without direct contact.

<http://www.nature.com/srep/2012/121115/srep00811/pdf/srep00811.pdf>



## **Liberian dies in Morocco of Ebola - Internal Affairs Minister discloses**

**MONROVIA** - The Minister of Internal Affairs, Mr. Morris Dukuly, has disclosed that a Liberian has died of the deadly Ebola virus in Morocco.

The Ebola virus, which has no cure, has killed at least 129 people here, and claimed more than 670 lives across the region. A top Liberian doctor working at Liberia's largest hospital died recently, and two American aid workers have fallen ill, underscoring the dangers facing those charged with bringing the outbreak under control. Also recently, an official of the Ministry of Finance identified as Patrick Sawyer died of the disease at a Lagos hospital.

As a means of containing further spread of the disease, President Johnson-Sirleaf set up a taskforce to help in the fight of the disease and ordered the closure of the country's three land borders. The Liberian leader also ordered that public gatherings be restricted and communities heavily affected by the Ebola outbreak be quarantined.

Making the disclosure at a news conference held at the Ministry on Wednesday, July 30, 2014, Minister Dukuly, who is also the Vice Chairman on the National Ebola Taskforce, further disclosed that the deceased left the country two days before his death. Although Minister Dukuly did not disclose the name of the Liberian, who he said died of Ebola in Morocco, he averred that this means that there are many more people who are carrying the disease unknowingly.

Against this backdrop, the Internal Affairs Ministry boss called on traditional chiefs to help inform their local people on the threat of the deadly disease. "You, traditional chiefs, are the owners of the land, and the land is under threat that I have not seen in my life before," said Minister Dukuly.

"Tell your people to stop running behind health workers. This may cause them to leave. For instance, Samaritan Purse, one of the partners, wanted to leave Lofa County due to threats they received from local people," he warned.

While urging the chiefs to adequately inform their people, he reminded them that Ebola is real and does not have to claim more lives before people get to believe it.

"We have a common challenge, which seems to be growing. This challenge is Ebola, and we need to fight it. Since the disease was discovered in March of this year," he noted.

*Continued on page 111*



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***Continued from page 110 – Liberian dies in Morocco of Ebola - Internal Affairs Minister discloses***

He then lauded the Country Director of the World Health Organization (WHO) Dr. Nestor Ndayimirije for his care shown since the outbreak of the disease in March.

According to him, WHO through Dr. Ndayimirije has provided technical and other supports towards the fight of the disease in the country. Speaking briefly, WHO Country boss, Dr. Ndayimirije said the disease can be prevented if people observe the necessary precautionary measures. He disclosed that Ebola has killed 166 people since its outbreak. Of this number, he said, over 20 health workers have died, while over 45 more are being affected by the disease. Dr. Ndayimirije also disclosed that a total of 329 cases have been reported since the outbreak of the disease.

“You are the local leaders, tell your people to please support health workers and not to chase them. Samaritan Purse on yesterday said it will not continue because its workers were attacked and chased in Lofa with one of their staff wounded in the process in Foya. Please tell them to stop playing with dead bodies,” he warned.

For his part, the Chairman of the National Traditional Council of Liberia (NTCL), Chief Zanzar Karwor, accepted the request from government and its partners to help in the campaign.

However, he urged that the government shows videos of patients and people who have died from the virus.

<http://www.news.heritageliberia.net/index.php/inside-heritage/health/3583-liberian-dies-in-morocco-of-ebola-internal-affairs-minister-discloses>



***Continued from page 114– Top 5 Herbs and Spices to Boost Your Immune System***

this list, ginger has been shown able to fight against even drug-resistant bacteria. Research shows that ginger can help inhibit cancer growth, helps kill cancer cells and can help stop tumors from spreading. Ginger also acts as an anti-inflammatory. As a bonus, if you already have a cold ginger can make you feel better.

**3. Garlic**

Garlic is used all over the world to make food taste better, but along with being flavor boosting it is also extremely health boosting. Throughout history garlic has been used to ward off all sorts of evil, from vampires and werewolves to demons. Perhaps that is because it really does ward off evil, in the form of bacteria, high blood pressure, high cholesterol and even cancer. Garlic is often referred to as the "poor man's penicillin," with good

reason. Combined with ginger, garlic is even more potent.

**4. Thyme**

This common and easily grown herb not only helps fight off bad bacteria, yeast, mold, fungus and viruses, it helps to restore the beneficial bacteria in your digestive system. Thyme helps combat stress, tension, sleep disorders and anxiety, all of which cause immune-system depletion. It also stimulates our immune system, and helps clear up both bacterial infections and inflammatory conditions. Thyme is traditionally used as an antiseptic, as a cough medicine and as a respiratory aid when boiled in water and carefully inhaled in the steam.

**5. Chili Pepper**

With the exception of bell peppers, every type of chili pepper contains capsaicin. Capsaicin has a huge number and amount of antioxidants. It is anti-inflammatory, anticancer and antifungal. In fact, there is evidence that capsaicin developed specifically as an antifungal agent. The heat from chili peppers can help combat mucus, clearing your passages and making you feel better if you have a cold.

Fruits, vegetables and edible herbs and spices all offer health benefits, including cancer-fighting antioxidants and immune-boosting bioflavonoids. But you can strengthen your immune system even more by using the herbs and spices listed here. As a bonus, you get loads of delicious flavor. *Wendy Morley*

<http://womenshealth.answers.com/diet-nutrition/top-5-herbs-and-spices-to-boost-your-immune-system>



## **Nodding Disease: Crystals found in Victims' Brains**

**By Tabu Butagira**

31 July 2014

**In Summary** - Unprecedented sightings baffle American scientists, but Uganda not changing disease management until conclusive findings.

**Kampala**- Scientists investigating the cause of a disease that makes victims get sporadic seizures, drip saliva and nod uncontrollably; have found crystal-like substances in portions of their brains.

The discovery during tests at the US Centres for Disease Control (CDC) laboratory in Atlanta, although unprecedented and still unexplained, has scientists encouraged they may be closer to fully understand the mystery illness and its origin.

*Continued on page 112*



*A mother sits with her nodding child at a treatment centre in northern Uganda (L). The crystal-like substances which scientists found in the brains of children said to have been killed by nodding disease (R) and . Monitor & courtesy photo*

The substances that glittered under polarising lights were observed in the pon, a part of the brainstem where the spinal cord connects.

Dr Wun-Ju Shieh, the medical officer who led the CDC team that examined samples from the brain of five dead Ugandan children, reported these as “interesting preliminary histopathologic (microscopic examination) findings, although their significance is currently unknown. Such preliminary findings warrant a series of subsequent studies, including special histochemical staining (chemical analysis), immunohistochemical assay (response to antigens), molecular testing, ultra-structural study, electron-microscopy, biochemical investigations, and toxicological analysis,” Dr Shieh noted in a correspondence to Uganda’s Director General of Health Services Ruth Aceng.

In April this year, Ugandan scientists took for examination in the US brain samples and frozen tissues from four nodding syndrome victims and one epileptic case from Kitgum and Gulu districts.

The children were all aged between 12 and 15 years when they died, and one had reportedly developed an aggressive behaviour.

When sectioned, examinations showed the three nodding syndrome victims’ brains had varied abnormalities, with highest concentration of crystal-like material or lesion sighted in the samples of the child who passed on with worst clinical presentation. Nothing related was observed in the epileptic case.

By yesterday, the Centres for Disease Control in Atlanta was reported to be preparing for fresh toxicological tests on the Ugandan samples, but in another laboratory not its own.

Ugandan officials last evening declined to discuss CDC’s startling discovery of crystal-like substances in the brain of nodding victims, something Health minister Ruhakana Rugunda did not also highlight in his comprehensive May 13, 2014 update on the disease.

“We don’t want to rush into publicising things that are inconclusive, said Dr Bernard Opar, national coordinator of the nodding disease response. “We are depending on them (US scientists) to give us results of their further analysis and (for now) we are not changing the management of the cases.

The government says it has registered no new cases of nodding syndrome since it in 2012 established seven treatment centres in the same northern Ugandan districts battered by the infection.

Authorities carried out aerial sprays along Pager, Aswa and Agago rivers to kill black flies whose bites are associated with some cases.

Scientists are also evaluating whether nodding syndrome, observed in Tanzania in 1962 and lately more widespread in South Sudan, might be caused by tetramine poison associated with some toxic plants, vaccines and chemical weapons.

Both northern Uganda, which is afflicted by the disease, and its neighbouring South Sudan are post-conflict communities; raising suspicion the weapons used in the protracted wars may have something to do with the disease.

In May, minister Rugunda said “the affected people believe that nodding syndrome is due to evil spirits of the dead who were not buried, chemical effects of the prolonged LRA war, and LRA crimes committed against the neighbouring communities.”

Still, there are no answers to why the illness attacks only children, and in most cases, some and not all in a family and whether there is a genetic predisposition.

Dr Avindra Nath, a neurologist and clinical director at National Institute of Neurological Disorders and Stroke, who studied nodding syndrome in Uganda in 2012, together with American peers spent two weeks examining children from 10 Ugandan families for neurological and genetic disorders at the Bethesda bio-medical research facility in Maryland.

Dr Nath is looking into the possibility that “antibodies the body generates to fight the onchocerca volvulus (river blindness) worm also recognise a protein in the brain of vulnerable children and trigger the seizures,” according to NIH blog.

*Continued on page 113*

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*Continued from page 112– Nodding Disease: Crystals found in Victims’ Brains*

Dr Opar accompanied the airlifted children, but their separate investigations sponsored by the US government too proved inconclusive.

Meanwhile eleven experts, who studied nodding syndrome in South Sudan’s Mundri County, linked the disease to infections transmitted through black fly bites as well as consumption of a sorghum variety called serena, which was introduced as part of emergency relief.

“There was no evidence to suggest exposure to man-made neurotoxic pollutant or chemical agent, other than chemically dressed seed intended for planting but used for food,” the scientists from CDC, WHO, and American/European academic and research institutions reported in June 2013.

There are no reliable numbers or particulars of people killed by nodding syndrome before 2012, but some estimate put the toll at 500.

In May, court ordered government to settle out of a court a case brought against it by two MPs from Acholi sub-region over perceived neglect of the nodding syndrome victims.

[www.monitor.co.ug/News/National/Nodding-disease--Crystals-found-in-victims--brains/-/688334/2403276/-/q18qt0/-/index.html](http://www.monitor.co.ug/News/National/Nodding-disease--Crystals-found-in-victims--brains/-/688334/2403276/-/q18qt0/-/index.html)



## STATE OF IMMUNITY

By Nakato Lewis

As melanated people, we have several barriers of defense against viruses, bacteria and any other kind of microbial infections. One being melanin itself, the second is our immune system and the last is our relationship with herbal plants. In this issue, part 1 of 2, we wanted to emphasize our fragile immunity and the diseases we are currently up against. The second issue will review the various ways we can boost our immune system.

The immune system is the body’s defenders and keepers of the body’s integrity. As such, their biggest role is distinguishing between intruders (pathogens) and self and defending against all harm. We are born with an immune system. This is called the innate system that our mothers’ helped to mature. The second is called adaptive, because this type of immunity comes from living in contact with polluted world and its toxins. Part of that immunity now rests on immunizations, vaccinations and antibiotics.

Maybe I’m wrong but I like to think that most of our diseases are man-made. Why? Well I think when the

Creator created this world and us, disease and pestilence was not in the picture especially these random diseases. Let’s define the word ‘random’. It means: made, done, happening or chosen without method or conscious decision, synonymous with unsystematic, unmethodical, or unplanned. Our bodies were not created randomly. But we are led to think so. We are made to believe that we are so imperfect, we need all of these man-made fixes to combat diseases. Our bodies have become the new gold mine. Well maybe these diseases are not so random after all. Maybe ‘designed’ is a better term.

There is such a thing as ‘herd immunity’. In other words, we all have to be vaccinated to protect each other from the effects of virus shedding obtained from vaccinations. In other words, if you don’t vaccinate against the disease, you can get the disease from people who did. Big on the list of immune system diseases are autoimmune diseases where the body is now fighting itself, because we have become so polluted that the body can no longer recognizes itself. Then there are immunosuppressive diseases like HIV/AIDS that sets you up for more opportunistic infections.

When we look at the propaganda of HPV vaccines, we wonder how can these vaccinations help melanated women if the very organism the vaccine is ‘created to fight’ does not exist predominately in Black women? Or in polio immunizations that will never end, because it’s the polio vaccinations that are causing polio. Let’s not forget the depopulation agenda, the anti-fertility vaccines and what it means. Even GMO’s are affecting our immune system, causing all manner of diseases not just to us, but to the animal and plant species as well.

Recently, we find that our food and herbs contain melanin, which helps to booster our immunity. Melanin is present throughout the immune system, in the various organs that play a part. Our melanated skin is also a barrier and new research is suggesting that black skin may enhance the body’s natural immune system and provide better protection against disease than white skin. The melanin in dark skin is believed to help enhance to our body’s natural ability to combat pathogens. So why are we so susceptible to these new diseases? It is a known fact that many of our pharmaceuticals are made to be compatible with melanin so the body does not reject them. Are these new diseases being made compatible at random or by design? They can create a disease in the laboratory but they cannot create a herbal plant. Thank you, God. You already beat them to it.

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## Mission Statement

Our aim at The African Traditional Herbal Research Clinic is to propagate and promote the awareness in Afrikan peoples at home and abroad of their health, biodiversity, history and cultural richness. We gather pertinent information on these issues and disseminate these freely to our people in Uganda, the rest of the continent, and anywhere in the Diaspora where Afrikans are located.... One of the main ingredients for increasing poverty, sickness, exploitation and domination is ignorance of one's self, and the environment in which we live. Knowledge is power and the forces that control our lives don't want to lose control, so they won't stop at anything to keep certain knowledge from the people. Therefore, we are expecting a fight and opposition to our mission. However, we will endeavor to carry forward this work in *grace and perfect ways*.

***"Where there is no God, there is no culture.  
Where there is no culture, there is no  
indigenous knowledge. Where there is no  
indigenous knowledge, there is no history.  
Where there is no history, there is no science  
or technology. The existing nature is made  
by our past. Let us protect and conserve our  
indigenous knowledge."***



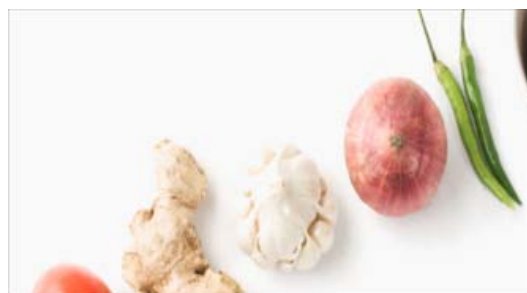
## COME BACK TO YOUR ROOTS

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## Herbs of the Month

### Top 5 Herbs and Spices to Boost Your Immune System



It goes without saying that it's beneficial to have a strong immune system. Your immune system protects you from common illnesses such as a cold or flu, it helps prevent bacterial infections, it fights off serious illnesses, and it runs your inflammatory response. So a strong immune system helps you with everything from healing a cut to preventing cancer.

At its worst, a weak immune system will allow you to get all sorts of opportunistic diseases. At its best, it will help you live a long, healthy life. But how can you make your immune system stronger? First you look after yourself. Eat healthy foods with lots of fruits and vegetables, exercise regularly, avoid unhealthy practices and get enough sleep. But you can tweak your diet in order to strengthen your immunity even more. Adding immune-boosting supplements is one way. You can also strengthen your immune system just by choosing certain herbs and spices over others. Here are the top immune-boosting herbs and spices to add flavor to your meals and strength to your system.

#### 1. Turmeric

Its brilliant yellow-orange color is what makes this spice popular in India; it has little flavor. But what it lacks in flavor it more than makes up for in health benefits. Turmeric is loaded with curcumin, which helps improve your immune system on many levels: It improves your mood, which lowers stress (stress depletes the immune system). It helps you sleep better, which reduces stress and strengthens your immune system. Curcumin also has strong antiviral, antibacterial and anticancer properties.

#### 2. Ginger

Ginger adds a zing to savory dishes, cookies and even hot drinks, but more than just flavor, it also adds a host of health benefits. It is a powerful antibacterial and antiviral agent. Together with garlic, the next food on

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