

Debunking Vaccine Myths

Why do we need vaccines? When you are exposed to a pathogen for the first time, your immune system mounts the PRIMARY immune response. One of 2 things will happen: either your immune system will be successful at fighting the pathogen OR you will die. If you survive, you now have memory B and T cells in your system (for a couple decades). When you come into contact with the pathogen again, the SECONDARY immune response will happen - it's a much quicker response, either you won't get sick or you may get sick but hopefully not as bad as the first time. Vaccines provide your body that PRIMARY immune response without having the actual disease. If enough of the population is vaccinated, it causes HERD immunity (therefore protecting the vulnerable and elderly).

Impact of Vaccines During the 20th Century and Into the 21st Century

Disease	Reported Cases (Year)	Reported Cases (2009)	% Decrease in Reported Cases
Diphtheria	5796 (1950)	0	100%
Tetanus	486 (1950)	18	96%
Pertussis	120,718 (1950)	16,858	86%
Measles	319,124 (1950)	71	≥99%
Mumps	152,209 (1968)	1991	99%
Rubella	46,975 (1966)	3	99%
Hepatitis A*	32,859 (1966)	1987	94%
Hepatitis B*	26,611 (1985)	3405	87%

PAVE
PROPHET FOR ALL VACCINATION EDUCATION

*Underreporting estimated at a factor of 4.3 for hepatitis A and 2.8 for hepatitis B thus actual number of cases likely substantially higher than reported numbers of cases.
CDC. Epidemiology and Prevention of Vaccine-Preventable Diseases. The Pink Book. 2011.
Available at: <http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm>. Accessed June 15, 2011

HERD IMMUNITY

THE RED DOT IS SOMEONE WITHOUT IMMUNITY – E.G., A NEWBORN OR SOMEONE WITH CANCER.

They are protected by people surrounding them who have immunity to diseases (Grey Dots).

This means those who are infected with a disease (Blue Dots) can't infect Red Dot.

Numbers of people without immunity (e.g., vaccine denials) tend to congregate together, eroding the edge of this protective cocoon.

Immunity is immunity. It is the same whether it's from vaccines or the wild pathogen. This is why it's called herd IMMUNITY, not herd VACCINATION.

It only takes ONE Blue Dot to infect Red Dot.

This is why YOUR unvaccinated child is a concern to others.

You or your child could be that **ONE** person who passes the disease to Red Dot. Red Dot may not be strong enough to survive the disease.

You could be the person who kills them.

VACCINATION IS THE SAFEST WAY TO GAIN IMMUNITY. GET SOME TODAY!

THESE ARE ALL MYTHS - NO PARTICULAR ORDER

Myth # 1 - You are pumping toxins into your child.

- There is no pumping, only small shots
- There is no elemental mercury in vaccines, never has been
- Ethylmercury (which is safely metabolized by the body) was removed from vaccines in 2001
- Other adjuvants like aluminum and polysorbate
 - Adjuvants increase the immune response, helping that vaccine work
 - Aluminum adjuvants are safe
 - Polysorbate - HPV vaccine contains 50 micrograms of polysorbate, while a small scoop of ice cream contains 170,000 micrograms.....so if you don't believe in vaccines, you shouldn't eat ice cream either
- Formaldehyde
 - Sounds scary, and yes in concentrated amounts can be deadly
 - But it's also normal part of metabolism
 - Your body in a short time period produces more formaldehyde than is in the vaccines, your body can metabolize formaldehyde in micro amounts

Myth #2 - There are aborted fetus parts in the vaccines and injected into you.

- Fetuses are not ground up and put in vaccines. Babies are not aborted to produce vaccines.
- Here's the truth:
 - Viruses can only grow in cells in which they infect. Therefore, to study viruses and make vaccines against them, you must have a cell line in which the virus will infect.
 - Some stem cell lines were derived from an aborted fetus (not the reason the fetus was aborted) to start growing to use. That was decades ago

Myth #3 - The cancer virus, SV40, is in vaccines.

- Some people in the 50s were exposed to SV40 virus that was in the polio vaccine. SV40 (which can cause tumors in some animals) was not discovered until 1960 so it was unknown. After it was discovered, it was removed. It has not been in any vaccine since 1963. Also, the people exposed to it should no increase of cancer.


Myth #4 - Vaccines cause autism.

- No, false, absolutely false
- Can't say "CDC is corrupt" because studies done in other countries also prove that there is no link between vaccines and autism
 - Danish study of MMR and 537,000 children
 - Finnish study of MMR and 535,000 children
 - UK study of thimerosal and DPT/DT and 109,000 children
- Another myth: Dr. Wakefield was exonerated! First, it's Mr. Wakefield (he lost his license). He was actually trying to tarnish the MMR to patent his own measles vaccine. He also paid kids at his kid's birthday party to give him blood samples to study, without permission. He is a danger to society.

Myth #5 - My unvaccinated kid is not a threat to your vaccinated kid.

- Vaccines are not 100% effective (you may not be able to make the antibody, etc)
- Not all children can be vaccinated (those with allergies, chronic infections, etc)
- Some children are too young
- So yes, your unvaccinated kid is a threat to my vaccinated kid

Why would my un-vaccinated kids be a threat to your vaccinated kids, if you're so sure that vaccines work?

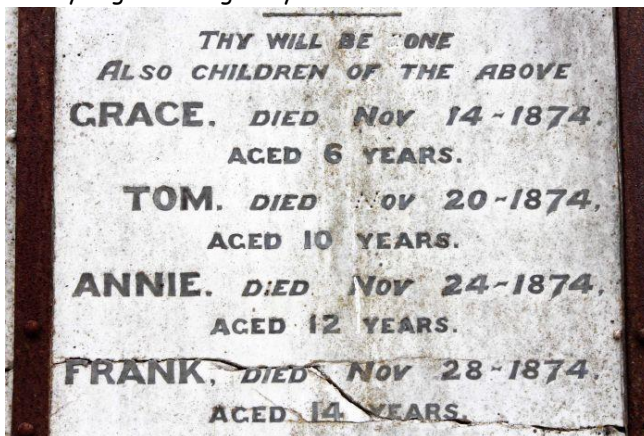


I'm so glad you asked.
Let me answer that in words you might understand:

1. **The diseases haven't gone away.** They are just held in check because sensible people vax their kids.
2. **Some people aren't sensible; they don't vax their kids.** Yes, I'm looking at you, sunshine - you with the Ph.D from Google U and the post-doc from Whale.to.
3. **Because your little cherubs are un-vaxed they are far more likely to catch the diseases.** 23 times more likely for whooping cough, 35 times more likely for measles, for example.
4. **Your kidlets are much more likely to be exposed to the diseases,** because anti-vaxers like yourself hang around with other anti-vaxers.
5. **Your little darlings then spread their vile viruses and bacteria to innocent children who are too young to be vaxed.**
6. **Those innocent children get sick with killer diseases** spread by people silly enough not to vax - like yourself.
7. **No vaccine is 100% effective; some vaxed kids will also catch your revolting diseases.** We need high vax rates for herd immunity.
8. **Infect enough children and some of them will die,** more of them will suffer permanent disability, and all of them will have experienced an unnecessary and unpleasant disease.
9. **All of that suffering will be YOUR fault for not vaxing your rugrats.**

Myth #6 - These are just harmless childhood diseases.

- What harmless diseases kills over 100,000 of kids per year???
- Between 2000 and 2017, global measles vaccination increased from 72 to 85% while the measles rates decreased 83% and death rate fell 80%
- Chicken pox used to kill 100 kids in US alone
 - After vaccine introduced, number dropped to below 10 per year
- "I've never known anyone to have any of those diseases" - well, that's nice but that's due to vaccination and there are people in 3rd world countries still fighting some of these diseases.
- Have you gone to a graveyard and looked at tombstones from the late 1800s and early 1900s?



Myth # 7 - There are too many vaccines on the schedule.

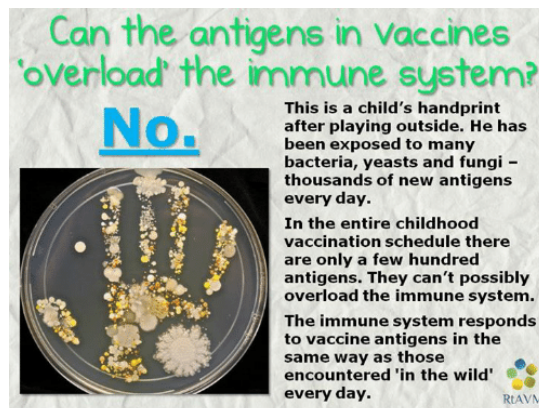
- Anti-vaxers make argument that the amount of shots/vaccines is "unacceptable".....what is unacceptable? - the fact that modern science/medicine has discovered new vaccines to further prevent disease/death in our children?

Myth # 8 - There are too many vaccines too soon.

- So? Why is this a problem? Babies are exposed to thousands of antigens everytime they take that binky that just fell on the floor and put it in their mouth.
- A vaccine has something like 64 antigenic subunits, sticking your fingers in your mouth can expose your immune system to thousands (we are surrounded by foreign microbes! And our immune systems are capable of handling it....however, if your child gets very sick with one of these diseases, the immune system can become overloaded making them vulnerable to even more pathogens.....)



Got Polio?



The "too many, too soon" anti-vaxxer trope is complete BS. Our immune systems can recognise and respond to thousands of antigens at the same time.

Which vaccines are most important?



- When your baby is dying of pertussis (whooping cough), or the agonising muscle spasms of tetanus are breaking their bones, you will think that DTaP is the most important.
- When your child's hearing and limbs are taken by meningococcal disease, you'd give your own life to have chosen the vaccine.
- When your child's brain is attacked by measles, you are wracked with guilt and regret for deciding against the MMR.
- When you see your child suffering, you beg to trade places, and would do anything to help. But by then, it is too late.

Vaccines are not made for trivial diseases that are easy to treat. Hindsight is no consolation when your child is fighting for their life.

Love•Protect•Vaccinate

Myth #9 - But the vaccine schedule has never been tested.

- Yes, it has

Myth #10 - The vaccine court has paid out millions, that must mean there is vaccine injury!

- Vaccines are not 100% safe, but neither is anything else. ANYTHING can hurt you depending - people who claim this should also refuse anesthesia, antibiotics, Tylenol, etc.

- Between 2006 and 2016, 3,153,876,236 vaccines were given, 3727 claims in the court
 - That's only 0.000118%
 - The decision of the court is not always scientific
 - Correlation does not mean causation
 - Anyone can report anything to VAERS.

What is VAERS and what is it used for?

<p>What is VAERS?</p> <ul style="list-style-type: none"> • VAERS stands for Vaccine Adverse Event Reporting System • It was created in 1990 • It is a postmarket surveillance system for vaccines <p>Who can submit a report to VAERS?</p> <ul style="list-style-type: none"> • Anyone can submit a report • This has led to some people submitting obvious fake reports to VAERS • There is at least one report of someone becoming the Incredible Hulk as a result of a vaccination and at least one report of someone developing powers similar to Wonder Woman's after vaccination (http://goo.gl/XCxVub) • This was to make a point on the reliability of VAERS 	<p>VAERS has limitations</p> <ul style="list-style-type: none"> • Since anyone can submit a report, the adverse events need verification (remember the hulk guy?) for any study • All adverse events get reported if they happen after vaccination regardless of a causal effect being observed • This has led to reports of murders, car accidents, and suicides after vaccination • Without verification, the adverse events reported are not useful for assessing safety <p><i>The Mad Virologist:</i> https://www.facebook.com/chemadvirologist</p> <p>Sources: http://goo.gl/XCxVub https://goo.gl/R6H3mJ https://goo.gl/KzUc6j</p>
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Just because it's listed in VAERS doesn't make it so, verification is needed.

Myth #11 – The flu shot causes the flu.

- No, it doesn't – sometimes you can feel crummy for a bit after getting a vaccine, that means your immune system is actually paying attention to the vaccine (when the immune system thinks there is a pathogen, the body will increase temp, etc). Some people just happen to get sick with the flu (sometimes you go get the shot because you know someone who got the flu and say "oh, I better go get the shot", well you might have already been infected, remember correlation does not mean causation)
- Flu mist does shed the virus but there has been no confirmed cases of people getting the flu from this. However, as a precaution, someone on chemo is advised to stay away from people who just recently got vaccinated.

Myth #11 – The vaccine insert shows all sorts of adverse reactions and these will happen to your child.

- The vaccine insert is a legal document, not a scientific one.
- If someone claimed a reaction, it has to be put in the insert (doesn't necessarily mean it was caused by the vaccine). Have you read the inserts to any other medication you've taken? – they're all scary sounding....

DO YOUR RESEARCH!!!!!!

Did you know the package inserts for **VACCINES** list these **ADVERSE REACTIONS?!!!!!!**

<ul style="list-style-type: none"> • stillbirths • seizures • cerebral edema • intracranial hemorrhage • intravascular coagulation • rhabdomyolysis • metabolic acidosis 	<ul style="list-style-type: none"> • renal failure • acute anaphylaxis • hepatitis • gastrointestinal perforation • pancreatitis • asthma • and more ...
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OH, WAIT... MY BAD.

That's the package insert for ASPIRIN.

Myth #12 – Vaccine immunity wanes, natural immunity is better.

- This shows a misunderstanding of how our immune system actually works. Most of the myths on vaccines show people's lack of understanding.
- When you gain immunity (whether through vaccination or natural exposure), your body produces memory B and T cells, that's how you have protection. However, those cells only last for a couple decades (which is still a long time). That's why elderly people get sicker easier and might need boosters. Also, that herd immunity we've talked about protect those whose memory cells are dying (if there are no kids spreading the illness throughout school, they won't infect grandma and grandpa, either).

Myth #13 – The number of cases of the disease were falling before vaccines.

- Yes, sanitation and good medical practices were helping with some of these diseases in the early 1900s....but the number of cases were still significant.
 - Polio rates didn't decline until after vaccine was introduced in 1955
 - Measles rates didn't decline until after vaccine was introduced in 1963
 - Chicken pox rates didn't decline until after vaccine was introduced in 1995

Myth #14 – No one has died from measles in the US since 2003.

- False

Myth #15 – Doctors even admit vaccines are dangerous.

- If you are referring to "doctors" on websites such as Physicians for Informed Consent then I would think twice about who you are listening to. A little research into some of these anti-vax movement "doctors" show they are not supported by an institution, some of them aren't real doctors, and honestly, some of them are pure crazy!
- Every single major medical association in the entire world supports vaccination.....every.single.one.....

Myth #16 – Vaccines cause seizures.


- True, but not the ones you are thinking about. Febrile seizures are caused by a fever. And if you're immune system is checking something out, sometimes you can have a fever. However, they happen very rarely and are not the equivalent to a grand mal seizure

Myth #17 – Vaccines cause allergies, asthma and eczema.

- Multiple studies have been done and there is nothing to support this.


Myth #18 – Vaccines are a conspiracy for Big Pharma to make money.


The Anti-Vaccine Movement Supports Big Pharma.



A 2005 study of 2,266 infants hospitalized with pertussis found the average stay was 6 days and cost \$9,586. 25% of cases were hospitalized.

Cost of complete vaccine series against diphtheria, tetanus, and pertussis. \$105





Sources:
Hospitalization for pertussis: profiles and case costs by age. BMC Infect Dis. 2005 Jul 11;5:57. O'Brien JA, Caro JJ
CDC

Myth #19 – Vaccination causes homosexuality.

- I won't even go there.....don't know whether to laugh or cry

Myth #20 – Vaccines are injected directly into the bloodstream.

- So what if they were? Lots of things are – pain medicine, antibiotics, saline, sedatives
- But they aren't – they are given as orally, subcutaneously, or intramuscularly

Myth #21 – You will expose yourself to foreign DNA.

- DNA is literally everywhere, in every cell of every living thing. Did you eat food? Did you breath air full of microbes? All that DNA is going into your body. Oh, and have you ever had a viral infection? – cause viruses inject their DNA directly into your cells.....

Myth #22 – This one scientific paper does show possible adverse reaction.....

- It is important to be scientifically literate.
- One paper (or even a couple of papers) is not enough evidence
 - was the research just a preliminary study? Has more information come to light?
 - How old is the paper? Has there been other research since that has shown differently? When scientists get more data, a bigger picture emerges.....

I took this idea for writing a document on these myths from Stories from the Trauma Bay (<http://www.docbastard.net/>) written on March 29, 2019. The document was very informative, thorough and entertaining due to some colorful language. Due to that colorful language, I couldn't directly share the document with students and family. But it inspired me to write my own document to share with people when they had questions on vaccine safety.