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# Change

## The Wonder & Concerns of Vaccines

### U.S. Children Receive 36 Vaccinations by the Age of Five

I know it sounds cliché, but the wonders and gifts of modern medicine are truly amazing. Think of it – we can look inside the body and discover its secrets without even breaking the skin by using the imaging marvels of CT scans and MRIs. We can save people on the brink of death with open heart surgeries and add years on people's lives by opening up clogged arteries with stent placements and arterial balloons. And we have saved thousands of children from death and disfigurement (ie: from Polio) with the widespread use of vaccines. With the use of vaccines we have even wiped out smallpox from the face of the planet.

It is both the wonder and the concern regarding vaccines that I would like to focus on in this month's newsletter. Vaccines have changed the course of history. Can you imagine that one of the most feared diseases of all time no longer even exists? That is not only remarkable, it is truly a blessing. Before widespread use of the smallpox vaccine twenty to sixty percent of adults who were infected with smallpox died, and eighty percent of infected children died from the disease. Throughout the 1800s smallpox was responsible for 400,000 deaths. Now it is but a mere memory.

With those kinds of statistics, how could vaccines possibly be bad? Why wouldn't we want our children to be protected from diseases? As a society we are so beholden to vaccines that the list of vaccinations expands every year. We have developed vaccines against so many childhood diseases it's a wonder that anyone gets sick. Or is it?

Currently, the Center for Disease Control has recommended forty-nine doses of fourteen different vaccines by the time a child turns six. These routine vaccines are required to attend school and, of course, attending school is mandatory, so essentially vaccination is mandatory. While parents currently have the right to exempt their children from vaccines for either religious or personal reasons, in some states legislators are on the brink of denying parents the right to choose. Perhaps our legislators believe

that no one in their right mind would not want their children to be protected against disease.

#### Problems with Vaccines

There are a few problems with this. First of all, as a society whose foundation is democracy, we need to be very careful about upholding the freedom of choice and the rights of parents to choose, especially if there is any question that we could be causing harm.

Secondly, and to the point of this article, we need to be clear that we are protecting our children from harm, not causing it. Studies show a correlation between countries



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with higher vaccination rates having higher rates of autism and higher rates of children dying before the age of five. As of 2009, for example, most European countries, along with Japan, are only giving their children eleven vaccines before the age of five, and the average death rate for children under five was around four and a half percent. In the United States, however, children received thirty-six vaccines before the age of five, and the death rate was almost eight percent. In 2009 the rate of autism in the US was one out of every ninety-one children, while rates in European countries and in Japan were significantly lower ranging from one in five-hundred to one in two thousand. In a 2011 survey of roughly eight thousand parents initiated by [Vaccineinjury.Info](#), children who are vaccinated have higher rates of sinus infections, asthma, allergies, hay fever, and attention deficit disorder. There is a high correlation between vaccines and the risk of auto-immune diseases such as Lupus. The Japanese government has banned the Gardasil shot from being given in Japan because of the increase in multiple sclerosis in young girls after being given the vaccine. Additionally, vaccines have been linked to Alzheimer's Disease.

So where is the disconnect? How is it that something that started out saving thousands of children from death and disfigurement is now causing death and disability? To fully understand the issue, we need to travel through time and take a look at how vaccines started out.

### The History of Vaccines

The first documented inoculation, which was the forerunner to the vaccine, occurred in China in 1000 AD when powder made from the crust of smallpox scabs was blown into the nostrils of the son of a Chinese emperor, thus protecting him from smallpox. A variation of this technique, in



*Painting above shows Edward Jenner (1749 - 1823), of him performing his first vaccination on James Phipps (age 8), on May 14, 1796.*

which the powder was introduced into several scratches made in the skin, became common in America after the smallpox epidemic in Boston in 1721. There was certainly controversy about this technique because 2-3% of people who were inoculated died. Additionally people who had been inoculated could infect other people for a short period of time so they needed to be quarantined. On the other hand, 20-30% of people who naturally contracted smallpox died. Benjamin Franklin was a strong advocate of inoculation, because one of his sons whom he had not had inoculated died of smallpox at the age of four. In 1759, a pamphlet was released by the English physician William Herberden with the encouragement of Benjamin Franklin which instructed and encouraged people to perform self-inoculation.

Since that time there has been an effort to increase the effectiveness of vaccines while reducing the number of adverse effects. One of the first improvements was made by Edward Jenner, a physician who proved that immunity

could be developed in individuals without having the actual disease introduced. He did this by inoculating his son with cowpox (a version of smallpox only found in cows) and then exposed him to smallpox to prove that he was immune. Another method used to increase effectiveness of a vaccine while trying to make it safer is to use live, attenuated agents in the vaccine. This means that the bacteria or virus has been altered to make it less able to infect and to replicate. Finally, another method used to increase the effectiveness of vaccines was by adding adjuvants to the vaccines. Adjuvants are substances that are specifically added to the vaccine to further stimulate a greater response from the immune system. The first of these substances was aluminum hydroxide in 1932.

Physicians have long held the belief that the body needs to be stimulated to

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achieve better results. An example of this is a documented treatment of smallpox which involved blood-letting, inducing vomiting, and the taking of twelve small bottles of beer every twenty-four hours that had been acidified with sulfuric acid to induce diarrhea. This absolute purging was believed to stimulate the immune system to fight off the illness better. It is interesting to note, however, that even in the 1700s, it was found that more people in higher socioeconomic classes (ie: who could afford the above treatments of doctors) died of infectious diseases than did the poor.

### Present Day Vaccines

Which brings us to the present day. In vaccines today there are adjuvants such as ammonia, antibiotics, formaldehyde, tissue from animals, phenoxethanol (anti-freeze), chick embryo, human diploid cells (derived from aborted fetuses), various oils (petroleum based), and even monosodium glutamate – just to name a few. Some of these are used as preservatives to improve the shelf life of vaccines, some of them are remnants from how the vaccine is derived, and some are used in an attempt to further stimulate the immune system. If you ask me, that seems like an inordinate amount of chemicals to put into a baby's body, or any body, for that matter. In fact, a study done in Shanghai, China, in 2009 showed that vaccines account for forty-two percent of all adverse drug reactions among children. These reactions were reported by physicians and pharmacists and ranged from very mild reaction such as rashes to the more severe reactions of anaphylaxis and death. And it is not just the sheer volume of chemicals being put into babies, but also the fact that many of these adjuvants haven't been tested for safety. Take aluminum, for example. Aluminum has been used as an adjuvant for ninety years, but it has never been tested for safety. Its

use was approved due to efficacy, not safety. Even the minimal dose allowable was based on efficacy. In a 2002 document discussing the safety of vaccines the FDA stated that "the routine toxicity studies in animals with vaccine ingredients have not been conducted because it was assumed that these ingredients are safe." Additionally, when pharmaceutical companies conduct trials on the safety of new vaccines they compare them to either another vaccine as the placebo or the aluminum adjuvant, and neither of these constitutes a proper placebo. It is very easy to claim that a new vaccine is safe if you are comparing it to something that inherently might be toxic.

In my newsletter on Alzheimer's disease, I discussed the role of inflammation of the brain on the development of the disease. When we have too much inflammation in the periphery due to stress, hormone imbalance, toxins, low vitamin D, or food allergens, inflammatory messengers actually pass through the single-

cell layer of the blood-brain barrier and cause inflammation in the brain as well. The brain and the body talk to each other, and there are many studies showing that if we overstimulate the immune system, we can cause permanent damage to the brain. This is especially true at the critical stages of brain development which occur in childhood.

Our understanding of the immune system has shifted tremendously in the past twenty years. When vaccines were coming into their own as the way to protect against disease, the scientific community was focused on the production of antibodies – immune proteins that the body develops against foreign invaders. For example, if we contract mono, the body



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will develop antibodies to the Epstein Barr Virus, which is the virus that causes mono. These antibodies stick around forever, and in this way the body develops permanent immunity to mono. The goal of vaccines is to stimulate antibody formation to the bacteria or virus that we are vaccinating against, thus conferring permanent immunity against that pathogen. This part of the immune system is called adaptive immunity.

### The Innate Immune System

What we now know about the immune system is that the most crucial part of the immune system is not the adaptive immune system, but the innate immune system. The innate immune system was looked down upon by the medical community for many years, because it was considered more primitive, whereas the adaptive immune system was felt to be more specialized and more unique for humans. The innate immune system is our first line of defense. It encompasses the cells of the immune system that await foreign invaders in the nose, mouth, upper respiratory track, gut, and even the skin. These specialized cells not only attack bacteria and viruses in an effort to prevent them from gaining a foothold, they also send signals to the rest of the body to sound the alarm. We can't really test the response of the innate immune system, but we can test antibody titers. In that sense having vaccines target the adaptive immune system is a great marketing tool to show a vaccine's effectiveness. However, studies show that increased stimulation of the adaptive immune system also increase the incidence of auto-immunity. When we over-stimulate the adaptive immune system, we decrease the ability of the immune system to tell the difference between "us" and "them." This is a concept known as tolerance. Isn't that interesting? We lose the ability to "tolerate" ourselves, and the immune system begins to develop antibodies against our own tissues.

The other fallacy of targeting the adaptive immune system is the belief that high levels of antibodies actually protect us from disease. When we test antibody titers, all that we are testing is a snapshot in time of that person's immune response. So many factors come into play for a healthy immune response to occur. Genetics, gender, nutritional status, stress levels, vitamin D levels, and the presence of other toxins are just some of the pieces that need to be in place in order to have a healthy immune response to anything. There has been a lot of media around the recent outbreaks of measles in the United States, and the media loves to blame parents who have chosen to not vaccinate their children. However, most of the outbreaks have been in adults who have been vaccinated. Despite adequate antibody titers, we are seeing an increase in the incidence of vaccine failures. This could be due to the fact that it is often the adjuvants in the vaccine that stimulates an antibody response, not necessarily the virus or bacteria in the vaccine. Another issue with the recent outbreak of measles is that now the majority of the population no longer has natural immunity to a disease. This is the immunity that develops when we are actually exposed to, and fight off, an infection, and it is

much stronger than the artificial immunity that is seen with vaccines.

### A Growing Body of Evidence

So while main stream medicine and many of our legislators believe that vaccines are harmless and essential to the well-being of our children, there is a growing body of evidence to the contrary. Of course we want to prevent diseases, especially when diseases can be so scary. Certainly vaccines have helped, but it is important that we don't cling to vaccines which are potentially harmful, as protection from scary diseases. Like other technologies our current thoughts and practices of vaccination may need to be updated. My goal in writing this newsletter is to keep the discussion open so that as a society and as individuals we can continue to make informed, intelligent decisions on how we achieve the best health possible for our children and ourselves. 

