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## A User-Friendly Vaccination Schedule

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*Vaccination is a controversial subject, and many parents worry about subjecting their children to them. Readers of my article "Mercury on the Mind," about vaccines and dental amalgams, have asked what vaccines I would recommend their children receive. This article addresses that question.*

In the Recommended Childhood Immunization Schedule put out by the CDC (Centers for Disease Control and Prevention), 12 vaccines are given to children before they reach the age of two. Providers inject them against hepatitis B, diphtheria, tetanus (lockjaw), pertussis (whooping cough), polio, pneumococcal infections, *Hemophilus influenzae* type b infections, measles, mumps, rubella (German measles), chickenpox, and influenza (the flu).

Infectious disease was the leading cause of death in children 100 years ago, with diphtheria, measles, scarlet fever, and pertussis accounting for most them. Today the leading causes of death in children less than five years of age are accidents, genetic abnormalities, developmental disorders, sudden infant death syndrome, and cancer. A basic tenet of modern medicine is that vaccines are the reason. There is growing evidence that this is so, but perhaps not quite in the way conventional medical wisdom would have it.

A 15-member Advisory Committee on Immunization Practices at the CDC decides which vaccines should be on the Childhood Immunization Schedule. It calls for one vaccine, against hepatitis B, to be given on the day of birth; 7 vaccines at two months; 6 more (including booster shots) at four months; and as many as 8 vaccines on the six month well-baby visit. Before a child reaches the age of two he or she will have received 32 vaccinations on this schedule, including four doses each of vaccines for *Hemophilus influenzae* type b infections, diphtheria, tetanus, and pertussis – all of them given during the first 12 months of life. Seven vaccines injected into a 13 lb. two-month old infant are equivalent to 70 doses in a 130 lb. adult.

The schedule states, "Your child can safely receive all vaccines recommended for a particular age during one visit." Public health officials, however, have not proven that it is indeed safe to inject this many vaccines into infants. What's more, they cannot explain why, concurrent with an increasing number of vaccinations, there has been an explosion of neurologic and immune system disorders in our nation's children.

Fifty years ago, when the immunization schedule contained only four vaccines (for diphtheria, tetanus, pertussis, and smallpox), autism was virtually unknown. First discovered in 1943, this most devastating malady in what is now a spectrum of pervasive developmental disorders afflicted less than 1 in 10,000 children. Today, one in every 68 American families has an autistic child. Other, less severe developmental disorders, rarely seen before the vaccine era, have also reached epidemic proportions. Four million American children have Attention Deficit Hyperactivity Disorder. One in six American children are now classified as "Learning Disabled."

Our children are also experiencing an epidemic of autoimmune disorders – Type I diabetes, rheumatoid arthritis, asthma, and bowel disorders. There has been a 17-fold increase in Type I diabetes, from 1 in 7,100 children in the 1950s to 1 in 400 now. Juvenile rheumatoid arthritis afflicts 300,000 American children. Twenty-five years ago this disease was so rare that public health officials did not keep any statistics on it. There has been a 4-fold increase in

asthma, and bowel disorders in children are much more common now than they were 50 years ago.

Health officials consider a vaccine to be safe if no bad reactions – like seizures, intestinal obstruction, or anaphylaxis – occur acutely. The CDC has not done any studies to assess the long-term effects of its immunization schedule. To do that one must conduct a randomized controlled trial, the lynchpin of evidenced-based medicine, where one group of children is vaccinated on the CDC's schedule and a control group is not vaccinated. Investigators then follow the two groups for a number of years (not just three to four weeks, as has been done in vaccine safety studies). Concerns that vaccinations in infants cause chronic neurologic and immune system disorders would be put to rest, and their safety certified, if the number of children who develop these diseases is the same in both groups. No such studies have been done, so vaccine proponents cannot say that vaccines are indeed as safe as they think they are. (One proponent, interviewed by Dan Rather on 60 Minutes, who has financial ties to the vaccine industry that he did not disclose, claims that vaccines "have a better safety record than vitamins." He neglected to mention that the U.S. government has paid out more than \$1.5 billion in its Vaccine Injury Compensation Program to families of children who have been injured or killed by vaccines.)

There is a growing body of evidence that implicates vaccines as a causative factor in the deteriorating health of children. The hypothesis that vaccines cause neurologic and immune system disorders is a legitimate one – vaccines given in multiple doses, close together, to very young children following the CDC's Immunization Schedule. This hypothesis should be tested by a large-scale, long-term randomized controlled trial.

Rather than obediently following the government's schedule, there is now sufficient evidence, grounded in good science, to justify adopting a more user-friendly vaccination schedule, one which is in the best interests of the individual as opposed to what planners judge best for society as a whole.

New knowledge in neuroimmunology (the study of how the brain's immune system works) raises serious questions about the wisdom of injecting vaccines in children less than two years of age.

The brain has its own specialized immune system, separate from that of the rest of the body. When a person is vaccinated, its specialized immune cells, the microglia, become activated (the blood-brain barrier notwithstanding). Multiple vaccinations spaced close together over-stimulate the microglia, causing them to release a variety of toxic elements – cytokines, chemokines, excitotoxins, proteases, complement, free radicals – that damage brain cells and their synaptic connections. Researchers call the damage caused by these toxic substances "bystander injury." (Pediatricians and other professional colleagues who question this should read these two reviews by the neurosurgeon Russell L. Blaylock: "Interaction of Cytokines, Excitotoxins, Reactive Nitrogen and Oxygen Species in Autism Spectrum Disorders," in the *Journal of the American Nutraceutical Association* [JANA 2003;6(4):21–35], with 167 references. And "Chronic Microglial Activation and Excitotoxicity Secondary to Excessive Immune Stimulation: Possible Factors in Gulf War Syndrome and Autism," in the *Journal of American Physicians and Surgeons* [JAPS 2004;9(2):46–52], posted online, with 54 references.)

In humans, the most rapid period of brain development begins in the third trimester and continues over the first two years of extra uterine life. (By then brain development is 80 percent complete.) Until randomized controlled trials demonstrate the safety of giving vaccines during this time of life, it would be prudent not to give any vaccinations to children until they are two years old. From a risk-benefit perspective, there is growing evidence that the risk of neurologic and autoimmune diseases from vaccinations outweigh the benefits of avoiding the childhood infections that they prevent. An exception is hepatitis B vaccine for infants whose mothers test positive for this disease.

A user-friendly vaccination schedule prohibits any vaccines that contain thimerosal, which is 50 percent mercury. Flu vaccines contain thimerosal, which is reason enough to avoid them. (See my article "Mercury on the Mind" for more on this subject.)

One should also avoid vaccines that contain live viruses. This includes the combined measles, mumps, and rubella (MMR) vaccine; chickenpox (varicella) vaccine, and the live-virus polio (Sabin) vaccine. This stricture would not apply to the smallpox vaccine (also a live-virus one), if a terrorist-instigated outbreak of smallpox should occur.

Finally, a user-friendly vaccination schedule requires that vaccinations, after the age of two, be given no more than once every six months, one at a time, in order to allow the immune system sufficient time to recover and stabilize between shots.

Which vaccines should be put on this schedule (among those that do not contain live viruses or thimerosal) is not entirely clear. The top four would be the pertussis (acellular – aP – *not* whole cell), diphtheria (D), and tetanus (T) vaccines – given separately (not together, as is usually the case); and the Salk polio vaccine, with an inactivated (dead) virus, one that is cultured in human cells, not monkey kidney cells. Perhaps it should only contain these four vaccines. A good case can be made (for example, see Gary Null's *Vaccines: A Second Opinion*) for avoiding the three other newer vaccines on the CDC's schedule – the hepatitis B, pneumococcal conjugate (PCV7), and *Hemophilus influenzae* type b (Hib) vaccines.

**Your pediatrician will not like this schedule.** They are taught in medical school and residency training that childhood immunizations are essential to public health. As one pediatrician puts it, "Achieving adequate and timely vaccination of young children is the single most valuable thing a doctor can do for a patient." They do not question what their professors teach them, nor are they inclined to critically examine studies in *Pediatrics* and the *New England Journal of Medicine* that tell them vaccines are safe.

There were 482,000 cases of measles in the U.S in 1962, the year before a vaccine for this disease became available. Now, with all fifty states requiring that children be vaccinated against measles in order to attend school, there were only 56 cases of measles in a population of 290 million people in 2003.

These facts are well known and proudly cited by vaccine proponents. What is less known, and doctors are not taught, is that the death rate for measles declined 97.7 percent during the first 60 years of the 20<sup>th</sup> century. The mortality rate was 133 deaths per million people in the U.S. in 1900, and had dropped to 0.3 deaths per million by 1960. Measles caused less than 100 deaths a year in the U.S. before there was a vaccine for this disease (in 1963). The same thing happened with diphtheria and pertussis. Mortality rates dropped more than 90 percent in the early 20<sup>th</sup> century before vaccines for these diseases were introduced. This was due to better nutrition (with rapid delivery of fresh fruit and vegetables to cities and refrigeration), cleaner water, and improved sanitation (removing trash from the streets and better sewage systems), not to vaccines. The World Health Organization promotes mass vaccination, but knowing these facts states, "The best vaccine against common infectious diseases is an adequate diet" – fortified, one might add, with vitamin A.

Since the measles vaccine came into widespread use in this country this disease has virtually disappeared, and it has prevented 100 deaths a year. But now, instead, several *thousand* normally developing children become autistic after receiving their MMR shot. Termed "regressive autism," it accounts for about 30 percent of the 10,000 to 20,000 children who are diagnosed with autism in this country each year.

To put to rest concerns that MMR vaccination might cause autism (in a small percentage of children), the *New England Journal of Medicine*, in 2002, published a population-based study from Denmark, where its authors concluded, "This study provides strong evidence against the hypothesis that MMR vaccination causes autism." The *NEJM* did not disclose that the "Statens

Serum Institut," where three of the authors work, is a for-profit vaccine manufacturer, Denmark's largest, or that four other authors have financial ties to this company. Only one of the eight authors is not associated with this institute, and the CDC employs him. The study compares the prevalence of autism in 440,000 MMR vaccinated and 97,000 unvaccinated children in Denmark born in the 1990s. A statistical slight-of-hand in age adjustment makes the study show no causal effect; but when unmasked and reformatted, the data actually shows a statistically significant association between MMR vaccine and autism (as Carol Stott and her coauthors make clear in "MMR and Autism in Perspective: the Denmark Story," in the Fall 2004 *Journal of American Physicians and Surgeons*, posted online).

*Pediatrics* and the *Journal of the American Medical Association* also have published studies like this supporting U.S. vaccine policy, written by authors with similar, undisclosed conflicts of interest. Looking elsewhere, however, one comes across a number of disquieting facts about vaccines. Investigators have found, for example, live measles virus in the cerebral spinal fluid in children who become autistic after MMR vaccination. Antibodies to measles virus are elevated in children with autism but not in normal kids, suggesting that virus-induced autoimmunity may play a causal role. A study published in *Neurology* this year implicates hepatitis B vaccine as a causative factor in multiple sclerosis.

A communitarian ethic increasingly governs health care in the U.S. It places a greater value on the health of the community, on society as a whole, than on the health of particular individuals. Public health officials have put together a vaccination schedule designed to eliminate infectious diseases to which the population is prey. These officials recognize that these vaccines will harm a small percentage of (genetically susceptible) individuals, but it is for the common good. The communitarian code posits that it is morally acceptable, if necessary, to sacrifice a few for the good of the many. Or as one observer more bluntly puts it, "Individual sheep can be sheared and slaughtered if it is for the welfare of their flock."

In this framework, health care providers become agents of the state charged with injecting vaccines into people that the central planners deem necessary. Physicians who remain true to their Hippocratic Oath and place the interests of their patient above that of the herd are considered to be out of step with the times, if not an anachronism.

Like central planners everywhere, the CDC's Advisory Committee on Immunization Practices (ACIP) promulgates a self-serving, one-size-fits-all vaccine policy. Members of this committee have ties to vaccine makers, such that the CDC must grant them waivers from statutory conflict of interest rules. Even so, and with little evidence to show that it is safe to subject young children to the ACIP's crowded immunization schedule, states nevertheless dutifully make its vaccine recommendations compulsory.

All 50 states require children to be immunized against measles, diphtheria, Hemophilus influenzae type b, polio, and rubella in order to enroll in day care and/or public school. Forty-nine states also require vaccination against tetanus; 47, against hepatitis B and mumps; and 43 states now require vaccination against chickenpox. In order to shield themselves from any liability for making vaccinations compulsory, all states **provide a medical exemption and 47, a religious exemption. Nineteen** states allow a philosophical exemption. Some require only a letter from a parent and others, from a physician or church leader. (To see the exemptions allowed in your state, their wording and requirements, click here.) **Parents, of course, can refuse vaccination; but if they want to enroll their child in public school they will need to obtain one of these exemptions.**

Doctors who conclude that the risks of the government's immunization schedule outweigh its benefits are placed in a difficult position. If they counsel parents not to have their children follow it, health care plans, which track vaccine compliance as a measure of "quality," will find them wanting. And if their patient should contract and develop complications from the disease the vaccine would have prevented they may find themselves confronting a lawsuit. If a child becomes autistic following a vaccination, however, the doctor is protected from any liability

because the government requires it and the child's parents, if they had chosen to do so, could have obtained an exemption. (Anti-vaccine advocates call developing autism, asthma, and Type I diabetes after vaccinations "vaccination roulette.")

Parents should have the freedom to select whatever vaccination schedule they want their children to follow, especially since health care providers and the government (except via its Vaccine Injury Compensation Program) cannot be held accountable for any adverse outcomes that might occur. But if parents elect to not follow the CDC's immunization schedule, delaying some vaccinations, refusing others, or avoiding them altogether, then they must accept the risk that their child might contract the disease that the vaccine against it most likely would have prevented.

One consideration, which vaccine proponents do not address, is this: Could contracting childhood diseases like measles, mumps, rubella, and chickenpox play a constructive role in the maturation of a person's immune system? Or, to put it another way, does removing natural infection from human experience have any adverse consequences?

Our species' immune system – a one-trillion-cell army that patrols our (100-trillion-cell) body – serves two main purposes. It destroys foreign invaders – viruses, bacteria, and other pathogens. And it destroys aberrant cells in the body that run amuck and cause cancer. Behind the barricades of skin and mucosa, our innate immune system (composed of phagocytes, natural killer cells, and the 20-protein complement system), which all animals have, is the body's first line of defense. It reacts to invaders lightening fast and indiscriminately, but it is not very good at eliminating viruses and cancerous cells. Vertebrates have evolved a second line of defense – the adaptive immune system. It targets specific viruses and bacteria and has better artillery for eliminating cancerous cells. This system matures during childhood, and it has a cellular (Th1) and humoral (Th2) component (Th = helper T cell).

The viruses that cause measles, mumps, and chickenpox have infected countless generations of humans, akin to a rite of passage for each member of our species. Contracting these diseases strengthens both parts of the adaptive immune system (Th1 and Th2 ). Mothers who have had measles, mumps, and chickenpox transfer antibodies against them to their babies in utero, which protect them during the first year of life from contracting these infections. Vaccinations do not have the same effect on the immune system as naturally acquired diseases do. They stimulate predominantly the Th2 part of this system and not Th1. (Over-stimulation of Th2 causes autoimmune diseases.) The cellular Th1 side thwarts cancer, and if it does not become fully developed in childhood a person can be more prone to have cancer as an adult. Women who had mumps during childhood, for example, are found to be less likely to have ovarian cancer than women who did not have this infection. (This study was published in *Cancer*.) Could the fact that cancer has become a leading cause of death in children be a result of vaccinations? Only a randomized controlled trial can conclusively answer this question

With rare exception, a well-nourished child who contracts measles will recover smoothly from the infection. Fifty years ago almost all children in the U.S. had measles. And after contracting this disease, one has life-long immunity to it. The protection provided by vaccination is temporary. Adults who contract measles (when the protective effects of the vaccine wears off) are much more likely to have neurological, testicular, and ovarian complications. Likewise, rubella is a benign disease in children, but if a woman acquires it during pregnancy fetal malformations may develop. One can argue, heretical as such an argument may be, that it would be better to let children have measles, at an age when the infection helps the adaptive immune system mature in a balanced Th1/Th2 fashion and complications from this disease are minimal, rather than vaccinate them against this disease (especially considering the risks of vaccination).

Pertussis and Diphtheria are a different matter. These diseases are more virulent. Children who contract whooping cough (pertussis) can be incapacitated for more than a month. Polio

can be devastating in susceptible individuals. And no one wants to get tetanus (lockjaw). A user-friendly vaccination schedule would include vaccines against these diseases.

Whatever vaccination schedule one chooses, mothers should breast-feed their child for as long as possible – a year or more. Failing that, add Omega-3 fatty acids, especially DHA (docosahexanoic acid), to the child's formula.

**In summary, this is a vaccination schedule that I would recommend:**

- 1. No vaccinations until a child is two years old.**
- 2. No vaccines that contain thimerosal (mercury).**
- 3. No live virus vaccines (except for smallpox, should it recur).**
- 4. These vaccines, to be given one at a time, every six months, beginning at age 2:**
  - a. Pertussis (acellular, not whole cell)**
  - b. Diphtheria**
  - c. Tetanus**
  - d. Polio (the Salk vaccine, cultured in human cells)**

American children are the most highly vaccinated kids in the world. This schedule is an alternative to the one that rules our "vaccine nation" (as the *Village Voice* terms it). In contrast to the CDC's immunization schedule, it is user-friendly.

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