

Unprotected People #42

The Importance of Vaccinations

Are vaccinations worth it?

To start off the New Year, we present the following essay by David Keller, a physician, former Chief of the Infectious Disease Epidemiology Program with the New Mexico Department of Health, and parent. In just nine clearly written paragraphs, Dr. Keller affirms the protection that vaccines afford children and explains why he made sure his own son was vaccinated even while wishing, like most parents, that it were not necessary. "Are Vaccinations Worth It?" is republished here by permission of the author. It has appeared in shorter form in The Santa Fe New Mexican, The Albuquerque Journal, and The Chicago Reader.

Should I vaccinate my child or not? That's a question that many parents agonize over. When they look for guidance on the issue, they are likely to find a wide range of opinions: the medical/public health establishment says one thing, many practitioners of alternative medicine say another. Where does the truth sit? How does one go about deciding what to do?

The truth, in fact, sits on both sides of the vaccine debate. It is true, for example, that vaccine-preventable diseases can—and do—kill children, and that vaccines protect most children from contracting those diseases. On the other hand, it is also true that vaccines aren't always 100 percent effective and that children can have reactions—ranging from the trivial to the severe—to vaccines. How, then, to make a decision?

Scientists make decisions based on observations—i.e., data—and careful analysis of data. Data from many studies lead the overwhelming majority of public health experts to the conclusion that the use of vaccines has prevented—and will continue to prevent—tens of thousands of deaths and millions of episodes of diseases in children in the U.S. alone. The principal human cost of that decrease in death and disease has been a comparatively small number of cases of serious vaccine-related adverse events.

While those adverse events are clearly tragic, the final accounting is simple: in a data-based decision about vaccine use, the benefits overwhelmingly outweigh the costs and thereby support routine vaccination of children.

But, while scientists and public health personnel make decisions based on data, many persons are more likely to use their intuition and their feelings in making choices. I understand that approach all too well; I have a toddler, and when I have to hold him down for the vaccinating needle the data become—at that moment—less real to me than my feelings as a parent. So, while my knowledge of the data about vaccination influences me greatly, I have also listened to my intuition and my feelings when making decisions about vaccinating my child.

My intuition suggests that it is reckless to deliberately inject a potentially harmful, foreign substance into my son's body. In reality, though, nature places foreign substances—foodstuffs, pollen, and infectious agents, for example—in his body all the time. Some of those are harmless, but others can be deadly. By using vaccines, I can carefully introduce into his body substances that mimic harmful foreign substances (i.e., bacteria and viruses) and, in so doing, teach his immune system to protect him from potentially deadly diseases (and avoid the use of antibiotics and other drugs). Intuitively, that sounds like a great idea; empirically, the data show that it is, indeed, a great idea. What is my intuition-based decision? Vaccinate.

Emotionally, it is hard for me to participate in causing my son pain, and it is particularly hard for me to think that the act of vaccinating him may result in an adverse reaction. But when I recall some of the pain and devastation that I have observed as a result of vaccine-preventable diseases, it's much easier for me to proceed with vaccination. I have seen, for example, children with brain injury resulting from not

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being able to breathe during spells of whooping cough (pertussis). I have seen children and adults unable to walk or even speak their names because of severe brain damage resulting from *Haemophilus influenzae* type b (Hib) meningitis (which was, before the availability of Hib vaccines, the most common cause of mental retardation acquired after birth). I have seen a person on a ventilator, convulsing grotesquely from the spasms of lockjaw (tetanus). I have seen scores of African children and adults crawling on their knees or hobbling with the help of a stick after having polio as youngsters. Finally, I have heard my grandmother's grief after losing her four-year-old daughter to diphtheria—she mourned the child the rest of her life, and for years she was afraid to let her other children out of her sight. These are heart-rending scenarios, now preventable. What is my emotion-based decision? Vaccinate.

When I drop my son off at his day-care site, I often think of how lucky I am that he is able to be protected from diseases that regularly wiped families out just a generation ago. I also think of the diseases he is still susceptible to—meningococcal meningitis, for example, and [until recently] drug-resistant pneumococcal disease—and I wish for new vaccines that will protect him from those terrifying infections. As a public-health physician, I know that the diseases he has been vaccinated against—ones that some persons think are too rare to worry about (such as measles, polio, and whooping cough)—are kept in check only because most parents agree to vaccinate their children, thereby keeping the rates of those diseases low. When vaccination rates are allowed to decline, those diseases can come back in devastating outbreaks (this has happened over and over in the

U.S. and elsewhere, such as with the measles outbreaks in the U.S. in the late 1980s, pertussis in the United Kingdom, and others).

Accordingly, in addition to its role in protecting them from serious diseases that are still lurking about, I consider vaccinating our children as part of a social contract we have with the communities we live in. When we vaccinate the majority of children, we create what is known as “herd immunity” that limits the spread of a disease through a population. Parents who do not vaccinate their children would seem to be apart from this social contract; in reality, though, they can safely refuse vaccination for their children only because most parents have accepted the risk of vaccination for their own children and thereby have raised the overall level of protective immunity. If we all spurned this contract, a new generation of children—our children—would be devastated by diseases that could be avoided. That would violate what I consider to be one of the most fundamental tenets of public health: children should not be harmed by things that can be prevented.

If we all join in the effort and achieve high rates of vaccination, then some of these diseases can literally be wiped from the earth (in the same way that smallpox was completely eliminated through a worldwide vaccination campaign). Elimination of the diseases means elimination of the need for vaccinations as well; surely that's a goal no one can argue against.