

Sound Advice

This is an edited transcript of a telephone interview recorded in April 2009.

Ari Brown is a pediatrician in Austin, Texas, the author of “Baby 411” and “Toddler 411” and a spokesperson for the American Academy of Pediatrics. To sort through some of the misinformation about childhood immunization we asked Dr. Brown to debunk some of the most common vaccination myths. Welcome Dr. Brown.

Dr. Brown: Thanks for having me.

Q: Myth number one: It’s not necessary to vaccinate kids for diseases that have disappeared from the United States.

Dr. Brown: That’s definitely false. You know parents today don’t see these diseases that vaccines protect against -- measles and whooping cough and polio. And so we’re sort of jaded in a way, and it’s one of the greatest ironies of vaccines’ success that parents are unfamiliar with the diseases that they protect against. That’s because they’re doing their job so well. But what we know is that when vaccination rates go down to, say, less than 90 percent of the population being protected, the diseases reemerge. We see outbreaks. And so just looking in the past year, we’ve seen an outbreak of measles in San Diego, we’ve seen a child die from a bacterial meningitis, HIB, which we protect with vaccination, from parents who chose not to vaccinate. So unfortunately there are communities that that are kind of ground zero for outbreaks of vaccine-preventable diseases because the children in those communities are unvaccinated or under vaccinated. And so it’s very important for you to realize that your decision to vaccinate impacts all of our children. And so does your neighbors decision whether or not they’re going to vaccinate their child. We need to keep immunization rates high, over 90 percent, so that all of our children are protected.

Q: The second myth you often hear about is that vaccines contain harmful amounts of mercury. Is that true?

Dr. Brown: Well vaccines never contained harmful amounts of mercury, but there is a bit of a back story there. There was a preservative that was used in vaccines prior to 2001 called thimerosal, and it was a specific type of mercury. It was called ethyl mercury, which has not been proven to cause any harmful effects in children or adults. But because several vaccines did use that product as a preservative, the Food and Drug Administration advised for vaccine manufacturers to take it out of the vaccines as of 2001. So going forward, from 2001 to present day we do not use thimerosal as a preservative in any of the routine childhood vaccinations. Now there are some flu vaccines that still have that preservative, but there are certainly preservative-free options that do not contain thimerosal. What parents need to know is that thimerosal was never proven to cause a health problem and that the vaccines that parents are giving to their children today do not use thimerosal as a preservative.

Q: Myth number three: Vaccines contain dangerous toxins.

Dr. Brown: That's definitely false. Parents hear that vaccines contain ingredients like aluminum and formaldehyde and they think, well wouldn't it be better if vaccine makers just got rid of these additives? And the truth is that sounds reasonable. But the truth is also that the additives that are in these vaccines are used to make a vaccine more potent -- meaning your body will mount an adequate immune response -- or it's there to prevent the vaccine from containing other germs or contaminants. You certainly don't want to give a child a vaccine and then have them get a bacterial skin infection or something worse because there's something growing in that vaccine vial. So that's exactly why these products are in there, and they are not dangerous. They've been used for many, many years. To specifically talk about aluminum, what you really need to know is that aluminum is the most common metal in our Earth's crust and so it's naturally present in our water and our soil and even in the air that we breathe. And babies get more aluminum in their daily intake of breast milk or formula that they drink than they get in the vaccines. So there is actually very little aluminum and more in their daily exposures than what they will get in vaccines. There are no health concerns with aluminum in vaccines and that has actually been investigated by both the World Health Organization and the National Vaccine Program Office. With respect to formaldehyde, people always think of formaldehyde as that smell that's wafting from the anatomy lab in your high school. But the truth is that formaldehyde is also a naturally occurring substance in your body and there are some products out on the market, paper towels for instance, baby shampoos, even the carpeting in your home has a little bit of formaldehyde in it. So you do have daily exposures to formaldehyde and the very small amount that's used in vaccines is actually there to sterilize the vaccine fluid, again, so your child doesn't get something like a flesh-eating strep infection when he gets his shots.

Q: Is it a myth that giving too many vaccines can overwhelm a child's immune system?

Dr. Brown: That is definitely a myth. Parents may hear anti-vaccine crusaders shouting "Too many shots too soon." But what I wish I could shout is "Thank goodness we're giving so many shots so soon." Because what we're doing is that we're protecting our babies who are the most vulnerable to these diseases. Over the years we have had more vaccines that have come to the market, but these are [diseases] that you definitely want your child protected against. This is bacterial meningitis caused by strep, bacterial meningitis caused by Haemophilus Influenza B. Are these diseases you really want to have your child exposed to? Yes, the number of shots has gone up, but really the immune load is actually less. We're giving smarter, safer shots than the ones that we got were kids. You need to know that just two shots in 1980 contained more immunologic agents -- or antigens -- than the entire childhood vaccination series that we give today. Vaccines don't weaken the immune system. They actually boost the immune system.

Q: Some parents may believe there's no harm in spacing out their child's vaccines. Is that a myth?

Dr. Brown: That is also a myth. There are some advocates out there who will suggest that choosing an alternative vaccination series or waiting to immunize your child is somehow going to protect them from untold adverse health effects. The truth is, is that what you are actually doing is playing Russian Roulette because you never know when a disease will strike your community. Choosing to delay or stagger is actually choosing to leave your child unprotected. And so for me as a pediatrician, and also as a parent, too, what I tell my patients is that I would

never sleep at night knowing my children were unprotected. I would feel very uncomfortable leaving a child unprotected when these diseases may show up any day on their doorstep.

Q: Is it better to let your child get chicken pox naturally?

Dr. Brown: This was something that spurred a lot of interest when people were listing their child who had chicken pox on Craigslist so people could come to their house and get their child exposed. It's definitely safer to get a vaccine for chicken pox than to expose your child to the disease. Many of us remember the disease and we think, well, you know, it was bad, we were itchy, we were miserable for a week but we survived and we moved on. Well we're the ones who can live to tell those stories. The children who died from chicken pox disease aren't here to say that. And so what is really important to realize is though many people will go through chicken pox and be fine afterwards, there are children who get very sick. Prior to the vaccine in 1995, over 1,000 children were admitted every year in the United States for chicken pox and over 100 died every year. And I had the unfortunate experience of taking care of one of those patients who came into our emergency room with a full case of chicken pox who had gotten a secondary strep infection because of her open wounds, and she died two hours later. That experience has left an impact on me. And so when parents think that chicken pox is just a minor illness, I tell them that story. Going to a chicken pox party, to knowingly give your child an illness that could potentially be fatal is really not a sign of being an empowered parent or doing something good for your child. It's putting your child in harm's way.

Q: What about the flu? Is it a myth that the flu shot causes the flu?

Dr. Brown: Is it a myth. The flu vaccine does not cause the flu, although I hear that all the time. Many parents will say, "Well I got the flu shot and then I felt horrible." The truth is that any time you get a vaccine, your body is mounting an immune response, and so you may get some body aches and sometimes people will even run a fever. With the inactivated flu vaccine, which is the shot, most people maybe have body aches if they're going to have any side effects within a day or two, and then they feel fine. They don't get the full-blown flu. With the live attenuated vaccine, which is the nose spray, a few more people will report that they may have a cough or a runny nose. Again, it's for a day or two. It's nothing like having the real flu. It's definitely not the flu and I think that if I had to choose between a runny nose for a day and being sick and out of work for an entire week with the flu, I would definitely pick the flu vaccine.

Q: In closing, what advice do you give parents who have questions about vaccines?

Dr. Brown: My advice is to talk to your pediatrician. Most pediatricians are parents, too. I have two children of my own. I can also tell you professionally that my job is to help children and their parents. And if I ever thought that vaccines or anything that I did would harm my patients, I would be the first one to stop doing it. I've read everything that parents have about this subject, and then some, and I can tell you that the science and the evidence is overwhelmingly clear that vaccines are safe, and vaccines do their job, and it is definitely the right thing to do to protect your child. I help parents make good decisions for their child because, let's face it, your child's life is too precious to base your decisions on anything less than good science. So my advice is.

ask your doctor if she vaccinated her own kids, and I can tell you they will tell you the same thing that I do. I've vaccinated my kids and I would do it again in a heartbeat.