Addressing Parental Concerns About Vaccines

BY KERRI WACHTER

WASHINGTON — Refuting inaccurate information about vaccines and providing additional education are key to addressing parental concerns about childhood immunizations, according to Dr. Gary S. Marshall.

Many parents have concerns about the safety and necessity of childhood immunizations or simply refuse to vaccinate their child. It comes down to what the parents believe. "We have to fight the belief with the science," he said at the annual meeting of the American Academy of Pediatrics.

Dr. Marshall recommended beginning the discussion before the baby is born, if possible. He also recommended having materials and resources that parents can take home. Be persistent and keep repeating your message. "Ultimately, though, you will have to make the decision about how long you're going to fight the fight."

"It is legal and ethical to discontinue with that family. Whether it does any good is the question," he pointed out. The American Medical Association Code of Ethics (E-8.115 and E-10.05) notes that while physicians are obligated to support continuity of care, it is ethically permissible for physicians to decline a potential patient when "the treatment request is known to be scientifically invalid." Likewise, the AAP's All Star Pediatrics' Vaccine Policy Statement provides language for asking parents who refuse to vaccinate their children to find another physician for their child (www.aap.org/securemoc/immunizations/allstarpediatrics.doc).

During his talk, Dr. Marshall offered several vaccine truths to keep in mind when dealing with concerned parents.

Vaccines Save Lives

"We've made tremendous progress in controlling disease," said Dr. Marshall, who is chief of the pediatric infectious diseases division at the University of Louisville (Ky.). For example, the childhood immunization schedule saves more

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quality-adjusted life years than any other public health intervention. In addition, for every dollar spent, vaccine programs saved $5 in direct medical costs and an additional $11 in societal costs, based on estimates for the 2001 birth cohort (Arch. Pediatr. Adolesc. Med. 2005;159:1136-44).

Vaccine Refusal Can Cause Harm

"Being afraid of vaccines is not a benign thing. It does result directly in public harm," warned Dr. Marshall. For example, a 1974 case series of children allegedly injured by the pertussis vaccine resulted in a precipitous drop in vaccinations in the United Kingdom. "What do you think happened after that? There were outbreaks of pertussis and about 600 infants who coughed themselves to death unnecessarily."

Many states allow personal belief exemptions from vaccines. "If you live in a state that allows for personal belief exemptions, then you are at higher risk to get pertussis—even if you're immunized," said Dr. Marshall. Interestingly, it's possible to correlate the risk with how easy it is to get the exemption (JAMA 2006;296:1757-63).

In recent years, parents have been concerned about purported links between the measles-mumps-rubella (MMR) vaccine and autism, but the evidence is overwhelmingly against such a link. Although autism rates have been steadily rising in the United States, the United Kingdom, and Canada, MMR vaccination rates have held steady over the same period, findings that call into question an autism-vaccine link. In addition, retrospective epidemiologic studies, such as the Danish Cohort study (N. Engl. J. Med. 2002;347;1477-82), have found no increased risk of autism with vaccine exposure. The rise in autism cases may be explained in part by both better detection

and a broadened definition of autism spectrum disorders.

Back in 1994, measles had been eliminated in the United Kingdom. However, because of concerns about a possible autism link to the MMR vaccine, some parents chose not to have their children vaccinated. The result is that measles are now endemic again in the United Kingdom. "We now have had a resurgence of measles in the United States. This is directly related to people who have intentionally not been vaccinated," said Dr. Marshall.

Fear of Adverse Events Is Pervasive

Dangerous infectious diseases have been effectively controlled through vaccination programs, and as a result, these diseases are no longer in the public mind. There has been a shift from fear of diseases to fear of adverse events from vaccines, said Dr. Marshall.

"Fear of vaccines is not new … but what people didn't have back then, that we have now, is the Internet." A Google search using the word "vaccine" turns up hundreds of hits, many of which are for organizations dedicated to convincing parents that vaccines are dangerous.

Celebrities like actress Jenny McCarthy—herself the mother of an autistic son, though she claims to have cured him—and actor/comedian Jim Carrey keep fears of vaccine safety in parents' minds. They also promote misinformation about vaccines, claiming for instance that mercury (thimerosal) is still a vaccine component and that antifungal medicines can cure autism.

Nothing Is 100% Safe

"Vaccines are not 100% safe. Nothing is," said Dr. Marshall. However, the risk of death due to vaccines is very small. In fact, no deaths due to vaccine adverse events occurred last year. You're more likely to die in an elevator accident or be struck by lightening.

"We need to be able to convince the public that the safety net that we have in this country is robust and it works." The process starts with the well-regulated development of candidate vaccines and continues through clinical trials and Food and Drug Administration licensure. In addition, "we have committees of experts that review the data and decide who should get the vaccine and who shouldn't." After that, vaccines are subject to adverse event scrutiny through the Vaccine Adverse Events Reporting System, the Vaccine Safety DataLink, and other organizations.

Heuristic Thinking Can Occur

Many people concerned about vaccines focus only on those with an exposure to vaccines who had a certain outcome (Guillain-Barré syndrome or febrile seizures, for example). They ignore the larger picture—those with an exposure who did not have a certain outcome, those with no exposure who did have a certain outcome, or those with no exposure and no outcome.

In addition, some parents demonstrate heuristic thinking when it comes to vaccines. In heuristic thinking, a known risk (the flu) is more acceptable than an unknown risk (an allergic reaction); a bad outcome is more tolerable if it occurs because of inaction than action; the probability that something will occur correlates with the ease with which we remember it or with the similarity of circumstances; rare risks are overestimated and common risks are underestimated. "Part of our challenge is to undo that kind of thinking," said Dr. Marshall.

Many parents who are against childhood vaccinations think they can rely on herd immunity to protect their child. That is unfair to other parents and not necessarily a safeguard, he said. Unvaccinated children tend to live in clusters and spawn outbreaks, as in the case of a measles outbreak in March 2009 in California.

Vaccinology Isn't Understood

"People are confused about antigens. They see us, over the years, giving more and more vaccines, but what they don't understand is that the number of antigens that we're actually giving is much less," Dr. Marshall said.

It's true that most pediatricians are not experts on vaccinology. "I don't think that all of us read all of the primary literature, but we do elect and appoint very smart people to our committees, who do look at every single piece of data and come up with recommendations," he said. It is also true that natural immunity is better. "Natural chicken pox gives you more robust and longer-lasting immunity than the vaccine … but the cost of natural immunity is getting the disease. The cost of the vaccine is the very rare side effect."

He reported that he has been a speaker and consultant for several pharmaceutical companies that make vaccines. Dr. Marshall has also received research grants from several pharmaceutical companies that make vaccines. ■