



Unvaccinated Children Face Pertussis Risk: Some Parents Fear Vaccine More Than Infection

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ation of the guideline, explained that there are conflicting data about whether it may be safe for obese women to gain even less than the IOM recommends. For example, some recent studies have suggested that it may be safe for obese women to gain very little or no weight during pregnancy. However, other studies suggest that low-birth-weight infants are more common among women who gain little weight during pregnancy, even if the mother is obese. Stotland noted that some large randomized controlled trials are under way that will

compare birth outcomes in obese women who gain very limited amounts of weight with those who gain more.

“Until we have results of those studies, we haven’t answered the question about what is the optimal weight gain range for women in the obese category,” Stotland said. In the meantime, the IOM chose a conservative weight range for obese women, based on the available data, she noted.

While the guidelines are an important tool, Stotland said, physicians should pay attention not just to weight

gain but also to the quality of the patient’s diet and her exercise habits; some patients who eat well and exercise appropriately will gain much more or much less than the guidelines recommend, which may be healthy for them. In such cases, she explained, physicians should be cautious not to cause these individuals undue anxiety.

“We see best outcomes in the population when they gain within the guidelines, but we see lots of women who gain outside the guidelines and have very good outcomes,” Stotland said. □

Unvaccinated Children Face Pertussis Risk Some Parents Fear Vaccine More Than Infection

Mike Mitka

A NEW STUDY SHOWS THAT CHILDREN who are not vaccinated for pertussis because of parental refusal have a higher risk of contracting the disease, but whether this news will help convince parents ambivalent about immunization remains to be seen.

The case-control study (Glanz JM et al. *Pediatrics*. 2009;123[6]:1446-1451) of 156 laboratory-confirmed pertussis cases between 1996 and 2007 found that while unvaccinated children made up about 0.5% of the examined population, they accounted for about 12% of the pertussis cases. “Many of the parents who refuse have the common perception that their child is not at risk—that they are protected by proxy—and our study showed that they are at risk and highlights the need to immunize,” said Jason M. Glanz, PhD, lead author and an epidemiologist with Kaiser Permanente Colorado’s Institute for Health Research.

The researchers determined parental refusal of vaccination based on documentation in medical charts of children enrolled in the Kaiser Permanente Colorado’s health plan.

“If a child had not received the vaccine, we looked in the medical record

to see if the parent explicitly stated ‘no’ to the vaccine,” said Glanz.

The Colorado study is the first to show that refusing a specific vaccination greatly increases a child’s risk of infection from that vaccine-preventable disease. Previous studies have tended to focus on associations of disease outbreaks with regions in which nonspecific refusals of vaccination were documented. In one such study, researchers looking at non-medical exemptions for children enrolled in Michigan schools found an association between geographic clusters of exempt students and higher numbers of

pertussis cases (Omer SB et al. *Am J Epidemiol*. 2008;168[12]:1389-1396).

The vast majority of parents do immunize their children. The US Centers for Disease Control and Prevention estimated that almost 85% of children, ages 19 to 30 months, had received the full schedule of vaccines protecting against pertussis in 2008. But pockets of doubting parents, who reject vaccination for a variety of reasons, exist throughout the country; only about 69% of children, ages 19 to 35 months, in Wyoming are fully vaccinated for pertussis, while some counties in Washington state reported rates



Parents who refuse vaccination against pertussis put their children at greater risk of contracting the disease, a new study found.



approaching 20% for exemption from vaccinations for nonmedical reasons.

Because of the success of immunization, parents do not see the illness and death associated with these vaccine-preventable diseases and some are thus more likely to fear potential adverse effects of vaccination than the toll of the infections that the vaccines prevent, said Daniel A. Salmon, PhD, a coauthor of the Colorado study and vaccine safety specialist with the federal government's National Vaccine Program in the Office of Public Health and Science. The public hears, for example, that some children have bad reactions to vaccines, do not develop immunity, or contract disorders that manifest themselves coincidentally following vaccination. These scenarios lead some parents to question the efficacy and safety of vaccines and to draw connections between immunization and increased risk of developing nonvaccination conditions.

The changes in parents' perceptions of disease pose a challenge for today's

vaccine programs, Salmon explained. Some parents believe there is a link between vaccination and autism, despite the numerous epidemiological studies that have failed to demonstrate such an association (Gerber JS and Offit PA. *Clin Infect Dis*. 2009;48[4]:451-461 [http://www.journals.uchicago.edu/doi/pdf/10.1086/596476]). Whatever the reason, choosing not to vaccinate has consequences because most vaccine-preventable diseases "are still around and reemerge when children are not vaccinated," Salmon said.

Paul A. Offit, MD, director of the Vaccine Education Center at the Children's Hospital of Philadelphia, had hoped last year's outbreak of *Haemophilus influenzae* type b (Hib) in 5 Minnesota children—3 of whom had not received the Hib vaccine because of parental refusal or delay—would provide the anecdotal weapon needed to convince reluctant parents to agree to vaccination. "I thought the tipping point would be the Hib cluster in Minnesota, but children

are still dying," Offit said. "People still fear the vaccine more than the disease."

The resolution of that fear most likely will come from discussions between parents and their children's pediatricians, said Harry L. Keyserling, MD, a member of the Committee on Infectious Diseases of the American Academy of Pediatrics (AAP). To aid in the discussion, the AAP issued a clinical report offering guidance to practitioners responding to parents who refuse vaccination (Diekema DS et al. *Pediatrics*. 2005;115[5]:1428-1431).

Keyserling, who is also a professor of pediatrics at Emory University School of Medicine in Atlanta, said some pediatricians become so frustrated with reluctant parents that they want to drop these children as patients. That, he said, would be wrong. "Many physicians are uncomfortable taking care of parental refusers, but there is always the opportunity for the parents to change their minds," Keyserling said. "So at each visit, the issue needs to be brought up again." □

Group Offers Advice on Safe Extraction of Lead Wires in Implantable Heart Devices

Mike Mitka

WHILE RESEARCHERS AND device makers have focused on improving the safety and efficacy of pacemakers, implantable cardioverter-defibrillators, and other cardiovascular implantable electronic devices, issues surrounding the lead wires that connect these tools to the myocardium have received less attention. But that dynamic is changing.

The Heart Rhythm Society has issued recommendations for policies and guidelines on lead performance and a consensus statement on transvenous lead extraction. The documents were released during the society's May scientific sessions in Boston.

NEED FOR GUIDANCE

Millions of patients are now living with cardiovascular implantable electronic devices. Studies have shown lead failure rates of between 1% and 9% at 2 years and up to 28% at 8 years. Simply replacing leads is not always an option; the procedure is associated with risk of complications, and mortality rates of more than 1% have been reported.

"There are times when leads can develop problems," said Richard L. Page, MD, president of the Heart Rhythm Society and a professor and head of the Department of Medicine's cardiology division at the University of Washington School of Medicine in Seattle. "And more and more, we are recognizing the need to provide better guidance to pa-

tients, physicians, regulatory agencies, and manufacturers regarding how best to approach this issue, both in terms of detecting problems and [dealing] with them."

The recommendations for policies and guidelines (http://www.hrsonline.org/News/Media/press-releases/upload/lead_performance_recommendations.pdf) offer advice on premarketing evaluation of leads and postmarket monitoring of lead performance. This document also suggests thresholds for action and communication after abnormal lead performance is identified, to minimize overreaction by treating physicians and to lessen anxiety in patients. The document reiterates the society's request that the US Food and