

ID CONSULT

Universal Flu Immunization Now

A debate in the vaccine community currently revolves around the wisdom of recommending universal influenza vaccine administration, rather than continuing the current strategy of focusing on high-risk individuals. I come down solidly on the side of universal immunization.

The influenza-related death toll—36,000 annually in the United States—is greater than that from all other vaccine-preventable diseases combined. Influenza also results in an average of 150,000 hospitalizations and millions of physician visits each year. Among children aged less than 5 years, hospitalization rates are nearly 500/100,000 in children with high-risk medical conditions, but still are robust at 100/100,000 even in children without high-risk conditions (MMWR 2006;55[early release]:1-41).

Given those numbers, it seems to me that we're tying one hand behind our backs when trying to defend against influenza by not immunizing all our patients.

Even the current guidelines from the Centers for Disease Control and Prevention say that "physicians should administer in-

fluenza vaccine to any person who wishes to reduce the likelihood of becoming ill with influenza or transmitting influenza to others should they become infected." To me, that makes everyone a potential candidate. The real sticking points at present in implementing universal influenza immunization are the limitations of our infrastructure for producing, distributing, and administering the vaccine.

I practiced primary care for 8 years in the 1970s and '80s before specializing in infectious disease. Even then, I recommended influenza vaccine to everyone who came to the office in the time leading up to influenza season. It seemed illogical to protect only a select few of my patients.

The piecemeal approach we follow now is confusing and a headache for practitioners—things are never the same from year to year. For example, this year for the first time we'll need to order enough vaccine for 24- to 59-month-olds as well as 6- to 23-month-olds, plus our older patients with high-risk medical conditions and all of their household contacts. Wouldn't it be a lot simpler just to count how many children are in our practices and or-

der that number?

If vaccine manufacturers could be assured that we would order a certain number of doses each year, they would gear up and make them. So far, they haven't been willing to do this because it's too much of a gamble—during some seasons, as much as two-thirds of their doses have gone unused. If there were a universal recommendation with consistent year-to-year utilization, it should remove their reticence.

Manufacturers also would be aided a great deal if there were a way to make influenza vaccine without having to grow the virus in thousands of fertilized chicken eggs. In June of this year, a Canadian company called Hepalife Technologies Inc. licensed technology from researchers at Michigan State University in East Lansing for the development of new cell culture-based influenza vaccines, including one for the potential pandemic-causing strain H5N1. If the cell line is able to grow influenza virus reliably—preliminary data indicate that it is—it would greatly facilitate the manufacturing process by enabling influenza vaccine to be grown more efficiently and less expensively. It also would eliminate the egg allergy problem. I don't own stock in the company, but I am excited about this product's potential.

Of course, immunizing all of our patients within a 6-week pe-

riod during October and November would be a huge challenge. It wouldn't be practical for the primary care office to be the only avenue for distribution. Grocery and drugstore chains have become major influenza vaccine vendors for adults, but generally not for children because of liability concerns. I think the effort will need to utilize public health departments to extend the infrastructure, and perhaps coordinate with schools for the older children.

There has been precedent for this. During the influenza season 2 years ago that killed several children in Colorado and in this year's Midwest mumps outbreak, county health departments moved their mobile units to schools and managed to immunize large numbers of children. Documentation may be a bit of a problem, but this can be worked out. We just need the go-ahead of a universal recommendation to get the ball rolling.

A universal immunization recommendation for routine influenza seasons would also prepare us for a pandemic situation. We currently have incomplete logistical support for potential intervention involving the entire U.S. population. This would be excellent training for our health care system, and would provide templates upon which to build. If we had 2 or 3 years of practice in immunizing everyone prior to a

pandemic, we'd all be much more expert when a pandemic arrived.

Obviously, a universal recommendation doesn't mean that everyone will be immunized. But, we would be far more likely to achieve herd immunity than with what we do now. We should see fewer hospitalizations in the very old and the very young, the two groups that utilize the greatest amount of health care resources.

We know that the severe complications of influenza—invasive bacterial infections such as empyemas, bacteremias, and meningococcemia—tend to peak during and just after each influenza season because bacterial pathogens more readily invade the mucosa of influenza-damaged respiratory tracts, which are still healing for weeks after the patient's influenza infection has resolved. In a bad influenza season, emergency departments are bombarded with influenza cases and patients with sequelae during January-April. Reducing that enormous utilization of medical resources should be worth every bit of effort we'd put into getting everyone immunized in the fall. ■

DR. HARRISON is professor of pediatrics and pediatric infectious diseases at Children's Mercy Hospitals and Clinics, Kansas City, Mo.



BY CHRISTOPHER J. HARRISON, M.D.

Handy Tips Can Help Speed Things Up in Pediatric Visits

BY KATE JOHNSON
Montreal Bureau

CHICAGO — In these days of evidence-based medicine, the art of the medical profession may sometimes get lost in the science. But keeping a few simple tricks up one's sleeve can often save valuable time for children with acute problems, Dr. Robert A. Wiebe said at a meeting sponsored by the American College of Emergency Physicians.

Appendicitis

Dr. Wiebe, director of emergency services at Children's Medical Center in Dallas, gave an example of acute appendicitis: painful, potentially life threatening, and yet often vague in its presentation. "Looking at the current perforation rate, we are not doing a good job at identifying these kids early."

Despite the availability and the evidence supporting computed tomography and ultrasound for diagnosing this condition, he advocates a simpler approach.

Watching a patient's eyes during physical examination can reveal a great deal, said Dr. Wiebe, professor of pediatrics in

the division of pediatric emergency medicine at University of Texas Southwestern Medical Center at Dallas. He cited an 18-year-old journal article that changed his approach when he first read it (BMJ 1988;297:837). The authors noted that among patients found to have appendicitis, only 4% closed their eyes on physical examination, compared with 33% who did not have appendicitis. "Voluntary guarding occurs when the patient sees the doctor's hand near a tender area," Dr. Wiebe explained. In contrast, "a patient aware that there is no pain may consciously or unconsciously close [his or her] eyes during the exam."

Sudden movements also offer valuable insight in cases of suspected appendicitis, he added. "Pain with sudden movement has good specificity for this." Asking the patient and parents about pain on the car ride to the hospital is one way to assess this. In addition, asking the patient to reach up and do a "high five" or to hop off the examining table is another way. According to the American Pediatric Surgical Association, "holding a hand above the child's head and challenging him or her to jump and touch is irresistible to

most children except those in whom pain is produced," he noted.

Bacterial Meningitis

Pain on movement also is a telltale sign in infants with suspected bacterial meningitis, he said. "It's not unusual to go quite some time, maybe even through an entire residency program, before seeing a case of bacterial meningitis these days," he said. "When a case comes in, it's hard to recognize, and unfortunately it will likely be in a younger child who has not yet been immunized."

He advocates the "bounce test"—bouncing the infant fairly vigorously on one's knee—as a good screening tool. Children with bacterial meningitis will cry and arch their backs to protect the sensory nerve while you are bouncing them. "For viral meningitis, this is less reliable," he said. "This test has high sensitivity and very low specificity."

Retropharyngeal Abscess

"Bolte's sign" is another simple, fast screen—this time for retropharyngeal abscess, said Dr. Wiebe. First described in 2003, it is based on the simple fact that

"kids won't look up when their retropharyngeal space is filled with pus" (Pediatrics 2003;111:1394-8). The study of 64 patients, median age 36 months, found that 45% demonstrated limited neck extension on physical examination, 36.5% had torticollis, 12.5% had limited neck flexion, 1.5% had stridor, and 1.5% had wheezing. "Think [retropharyngeal abscess] when a child will not fully extend his neck to look up," he advised.

Hypertrophic Pyloric Stenosis

He recommends removing the baby's shirt and feeding between 2 and 4 ounces of Pedialyte while keeping one hand on the baby's abdomen. "The baby will usually stop feeding and look very calm for a short period before you see the reverse peristaltic wave and projectile vomiting," he said. Immediately after the vomiting, the abdominal wall relaxes and the pylorus remains in spasm, making it easy to palpate.

Most surgeons will usually require an ultrasound confirmation. However, starting with this approach usually saves some time. "We have been diagnosing infants earlier. It is usually a 4-week diagnosis rather than a 6-week one." ■