EPIC® Educating Physicians in their Communities INSIDER

Volume 3, Issue 4 **April 2013**

Mark Your Calendars:

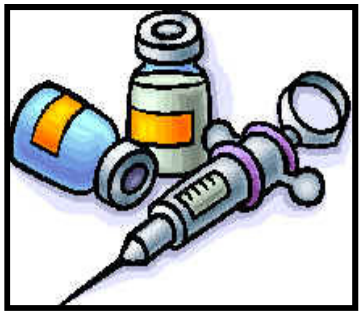
National Infant Immunization Week
April 20-27, 2013

World Meningitis Day
April 24, 2013

Vaccine Storage and Handling Webinar
April 30, 2013

GPPMA/GPNA Spring Meeting
May 10, 2013
Atlanta, GA

Building Bridges: Current Topics In Immunization Conference
May 21, 2013
Creekside Center at Chehaw Park
Albany, GA



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National Infant Immunization Week

IMMUNIZATION. POWER TO PROTECT.

National Infant Immunization Week:

National Infant Immunization Week (NIIW) is set for April 20–27, 2013. NIIW is an annual observance to promote the benefits of immunizations and to improve the health of children younger than two years old. Since 1994, local and state health departments, national immunization partners, health care professionals, community leaders from across the United States, and CDC have worked together through NIIW to highlight the positive impact of vaccination on the lives of infants and children, and to call attention to immunization achievements. NIIW will be celebrated as part of World Immunization Week (WIW), an initiative of the World Health Organization (WHO) scheduled for April 24–30, 2013. During WIW, all six WHO regions, including more than 180 Member States, territories, and areas, will simultaneously promote immunization, advance equity in the use of vaccines and universal access to vaccination services, and enable cooperation on cross-border immunization activities.

With NIIW right around the corner, you can access CDC's newest materials to help you promote infant immunizations in your communities. While these pieces are designed to be "evergreen" so that you can use them throughout the year, consider utilizing them during NIIW by asking your local newspapers to publish the print ads and drop-in articles, or your partners to use the materials in their newsletters. You can view and download the new video PSAs, print ads, web buttons, and more from the NIIW website: http://www.cdc.gov/vaccines/events/niiw/promotional.html

Also, see what others are planning for NIIW, and share your activities through the NIIW activity registry: http://www.cdc.gov/vaccines/events/niiw/activities.html

Vaccine Storage and Handling Webinar

Is Your Vaccine Safe?

Tuesday, April 30, 2013
12:00pm – 1:00pm

Join your colleagues for this live presentation and discussion with:

Sherri Grady, MS
Vaccine Storage and Handling Representative
Vaccines for Children Program,
Georgia Immunization Program, Atlanta

Barbara Turner, RN, BSN
Vaccine Manager,
North Fulton Pediatrics, Roswell

Intended Audience: Pediatricians, Nurse Practitioners, Physician Assistants, Nursing Staff, Practice Managers, Medical Assistants and other health care professionals.

Learn about:

The Vaccine Cold Chain
Storage and Handling Plans
Vaccine Storage Equipment
Vaccine Storage Practices
Temperature Monitoring
Vaccine Inventory Management
Vaccine Transport

Space is limited.
Reserve your Webinar seat now at:
https://www4.gotomeeting.com/register/595202519

Ask the Experts: CDC Experts Answer Your Questions

IAC Express Issue 1042: February 28, 2013

Q: I keep hearing about changes to vaccine storage and handling recommendations. Why is CDC making these changes? And how can I make sure I am up to date with all the newest information?

A: Good questions! The why behind these changes has two parts. First, it had become increasingly apparent to CDC and state health departments that improper vaccine storage and handling is a big problem, leading to a huge waste of product, time, and money, and more importantly, to unprotected people. Second, improved technology (e.g., digital data loggers) provides tools that uncover and measure problems and also prevent them.

As far as how to keep up, on November 27, 2012, CDC released its updated Vaccine Storage and Handling Toolkit and posted it on CDC's Vaccine Storage and Handling Toolkit web section. The Vaccine Storage and Handling Toolkit is based on the recommendations of ACIP, equipment manufacturers' product information, and studies from the National Institute for Scientific Technology. The toolkit outlines best practice strategies and recommendations on the following topics:

- Equipment considerations for storage units and thermometers
- Maintenance of the cold chain
- Routine storage and handling practices
- Inventory management

Emergency procedures for protecting vaccine inventories

Every vaccine provider should print out this document and read and reread it carefully. CDC has provided an overview of the new information as a separate item, as well as a set of FAQs about the new recommendations.

Q: Is it still acceptable to use combination household units for storing vaccines?

A: CDC strongly recommends using stand-alone refrigerators and freezers for the following reasons:

- Most combination household refrigerator/freezers have a combined temperature control unit that can create cold spots and temperature fluctuations in the refrigerator portion of the unit.
- The risk of freeze damage to refrigerated vaccines is increased in combination units because air from the freezer is vented into the refrigerator to cool it. This can freeze temperature-sensitive vaccines.

The freezer portions of many combination units are not capable of maintaining the correct storage temperature for frozen vaccines.

Purchasing new vaccine storage equipment requires planning, and you may need to use existing equipment for a while until you can purchase new equipment. In this situation, CDC recommends using a combination refrigerator/freezer unit for refrigerated vaccine only and using a separate stand-alone freezer to store frozen vaccines.

It is important to note that most combination refrigerator/freezers share a single condenser, and the very cold air from the freezer compartment is vented into the refrigerator compartment to cool the refrigerator. You should not turn off the freezer portion of the combination unit because it will not maintain the proper temperature for the refrigerated vaccines stored in the refrigerator portion of the unit. If you are using the refrigerator portion of the combination unit, it is important that you not store vaccines directly under the vent coming from the freezer and that you add water bottles to the refrigerator to absorb cold air blown in from the freezer. This will reduce the risk of vaccines becoming too cold.

infection.

Vaccine That May Help Protect Newborn Babies

06 Mar 2013

The underdeveloped immune systems of newborns don't respond to most vaccines, leaving them at high risk for infections like rotavirus, pertussis (whooping cough) and pneumococcus. Researchers at Boston Children's Hospital have identified a potent compound that activates immune responses in newborns' white blood cells substantially better than anything previously tested, and that could potentially make vaccines effective right at birth.

The ability to immunize babies at birth - rather than two months of age, when most current vaccination series begin - would be a triumph for global health. Worldwide, each year, infections kill more than 2 million infants under 6 months old. In resource-poor countries, birth may be the only time a child has contact with a health care provider.

While newborns lack most aspects of the immune response, researchers led by Ofer Levy, MD, PhD, of the Division of Infectious Disease at Boston Children's have shown that their white blood cells do have one receptor that responds strongly to stimulation, known as Toll-like receptor 8 (TLR 8). In their new work, published March 4 by the online open-access journal PLoS ONE, they tested a panel of synthetic small-molecule compounds that specifically target TLR8, known chemically as benzazepines.

The compounds, provided by VentiRx Pharmaceuticals (Seattle, WA), potently stimulate the human immune system and are in clinical trials in patients with certain cancers. Tested in Levy's lab, one benzazepine, VTX-294, produced a strong immune response in white blood cells from newborns (taken from cord blood samples) as well as whole blood from adults. It induced robust production of cytokines - chemicals that rally the immune response - and proved at least 10 times more potent than the best activator of TLR8 known previously.

"The response was not only equal to that in adults, but VTX 294 was sometimes actually more effective in newborns than adults," notes Levy, the study's senior investigator.

The compound also triggered production of so-called co-stimulatory molecules that enhance immune responses. Moreover, even very low concentrations of VTX-294 strongly activated antigen-presenting cells, a type of white blood cell whose activation induces immune memory - key to effective responses to vaccines.

Toll-like receptors (TLRs), first identified in humans about two decades ago, are part of the innate (rapid) immune response that provides our first defense against infections. Ten types of TLRs are known, and TLR stimulators have begun to be added to vaccines as adjuvants. The main one, monophosphoryl lipid A (MPLA), stimulates TLR4 and is used in the human papillomavirus vaccine Cervarix. However, in a recent clinical trial published in The New England Journal of Medicine, a malaria vaccine with MPLA failed to elicit a sufficient immune response in infants.

With encouraging results in cells from human newborns, Levy and colleagues now hope to formulate VTX 294 or a similar TLR8 stimulator for testing as a vaccine adjuvant in newborn primates, a model in which the lab has expertise, and whose responses to TLR8 closely resemble humans'.

"This one receptor seems to lead to more adult-like responses - immediate, short-term responses that are more appropriate for fighting infections," says David Dowling, PhD, co-first author on the study. "We're excited about the benzazepines because they are already in the clinical pipeline. That advances the potential for using them in a clinical study in human newborns, once they have been proven safe in animal studies."

Chickenpox vaccine effectiveness at ninety percent among US children

(dailyRx News) One of the most recent vaccines added to the childhood schedule is the chickenpox vaccine. Enough time has passed to learn more about how effective the vaccine is. A recent study looked at the rates of chickenpox in vaccinated children over a 14-year period. The researchers found that the vaccine was very effective – offering 90 percent protection to children who received the shot. It protected children against both varicella (chickenpox) and herpes zoster (shingles). Even those children who did get chickenpox after being vaccinated had milder cases than were commonly seen in the US before the vaccine was available.

The study, led by Roger Baxter, MD, of the Kaiser Permanente Vaccine Study Center in Oakland, California, aimed to see how effective the chickenpox vaccine was over a 14-year period. The chickenpox vaccine was first licensed for children aged 1 and older in the US in 1995. The CDC began recommending a booster dose in June 2006. The researchers followed 7,585 children from 1995, when they got their first chickenpox vaccine shot at age 2, through 2009. About a third of them (2,826 children) received a booster dose between 2006 and 2009. The researchers compared the rates of chickenpox and shingles among these children with the rates among US children before the chickenpox vaccine was available. The researchers found that in one year, approximately 16 children out of 1,000 in this group got the chickenpox. This rate is about nine to ten times lower than the rate before the vaccine was introduced in the US. Even the children who got chickenpox despite being vaccinated had mild cases. None of the children who received two doses of the vaccine developed chickenpox after the second shot during the study.

The researchers estimated that the chickenpox vaccine is 90 percent effective and does not appear to lose its effectiveness over time.

"This study confirmed that varicella vaccine is effective at preventing chicken pox, with no waning noted over a 14-year period," the researchers wrote. "One dose provided excellent protection against moderate to severe disease, and most cases occurred shortly after the cohort was vaccinated."

The researchers noted that rates of shingles were about 40 percent lower among children who were vaccinated as well, and that this data "also suggest that varicella vaccination may reduce the risks of herpes zoster (shingles) in vaccinated children."

The study was published April 1 in the journal *Pediatrics*. The research was funded by Merck Sharp and Dohme Corp. Three authors were Merck employees at the time of the study, and three have received research grants or consultancy fees from Novartis, GlaxoSmithKline, Sanofi Pasteur and the World Health Organization. Two authors declared no conflicts of interest.

Georgia Chapter
American Academy of Pediatrics
1330 West Peachtree Street, NW, Ste 500
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Save the Date!
2013 Building Bridges Conference

Current Topics in Immunization:
From Hesitation to Vaccination

May 21, 2013 Chehaw Park - Albany GA

Registration Information Coming Soon!

- Immunization Update
- Vaccine Communication
- Roots of Vaccine Hesitancy
- Vaccine Storage & Handling

Sponsored by the Georgia Chapter of the American Academy of Pediatrics, Phoebe Putney Memorial Hospital Network of Trust and the Georgia Department of Public Health

For additional information call Amanda Paul at:
229.889.7630 or Email: alpaul@ppmh.org

Novel vaccine patch in development for use against ear infections

Published on March 13, 2013 by Jeffrey Bigongiari
Vaccine News Daily

Haemophilus influenzae
A new type of vaccine that will be absorbed through the skin via a dime-sized patch is being developed for use against the bacteria responsible for half of all ear infections.
Experts have said the vaccine, which is being researched by scientists from the Nationwide Children's Hospital in central Ohio, could make some types of ear infections as rare as once prevalent illnesses like smallpox and polio, NewsWise.com reports.

"For a child, a non-needle vaccine has obvious benefits, but our research also shows that delivering the therapy through the skin sets off beneficial immune responses we might not see otherwise," Laura Novotny, chief research associate at The Research Institute at Nationwide Children's, said, according to NewsWise.com.

The vaccine's latest animal study, which was recently published in the journal Vaccine, shows that the experimental drug attacks key parts of the defenses of the bacteria Haemophilus influenzae. It also boosts the effectiveness of the body's immune system, which helps to clear the infection rapidly.
Earlier testing has shown the vaccine to be effective as either a preventative or treatment for several types of infections that are commonly treated with antibiotics, NewsWise.com reports.
"There are kids that have seven or eight ear infections before their first birthday, and these chronic infections can cause language and developmental delays," Novotny said, according to NewsWise.com . "To have an option that could help break the reinfection cycle and reduce antibiotic use is significant."

Reasons for Not Vaccinating Adolescents: National Immunization Survey of Teens, 2008–2010

Pediatrics (03/13) Darden, Paul M.; Thompson, David M.; Roberts, James R.; et al.

Although more doctors are recommending vaccines for adolescents, a new study indicates that a growing number of parents do not intend to have their female teenagers vaccinated against human papillomavirus (HPV). Researchers write that healthcare providers should address the concerns that parents have about the HPV vaccine specifically, taking different considerations than for other vaccines. The investigators recently sought reasons why adolescents are not vaccinated for specific vaccines. Their study analyzed the 2008–2010 National Immunization Survey of Teens, asking parents why their teens were not vaccinated. The most frequent reasons for not vaccinating with Tdap/Td and MCV4 included "Not recommended" and "Not needed or not necessary." The most frequent reasons for not vaccinating against HPV included those reasons as well as "Not sexually active" and "Safety concerns/Side effects." Concerns about vaccine safety and side effects increased from 4.5 percent of parents in 2008 to 16.4 percent in 2010. Parents generally reported that healthcare professionals increasingly recommend all vaccines, including HPV.

ACIP: Four Vaccines Added for the Next Flu Season

MedPage Today (02/21/13) Neale, Todd

The Advisory Committee on Immunization Practices (ACIP) added four newly approved influenza vaccines to its guidance for the 2013-2014 season. The new vaccines include: Flucelvax by Novartis, approved for individuals 18 and older; Flublok by Protein Sciences Corp., approved for adults ages 18 to 49; FluMist Quadrivalent by MedImmune, approved for healthy, nonpregnant individuals ages two to 49 years; and Fluarix Quadrivalent by GlaxoSmithKline, for individuals ages three and older. ACIP recommends that all individuals six months and older receive the seasonal flu vaccine. The ACIP influenza working group believes that data are too preliminary to recommend when influenza vaccination should start each year; current advice is that healthcare professionals offer the vaccine as soon as it is available. Data show that the peak in influenza-like illness activity occurred in the last week of 2012. Analysis of flu vaccine effectiveness for the current season indicated moderate efficacy at 56 overall. However, effectiveness against influenza A viruses for individuals 65 and older was only 9 percent.

Pediatric influenza deaths in 2012–13 stand at 105; about 90 percent of those who died were not vaccinated

On March 22, CDC posted a Seasonal Influenza Spotlight article titled CDC reports about 90 percent of children who died from flu this season not vaccinated. Portions of the article are reprinted below.

The number of influenza-associated pediatric deaths reported to CDC during the current season surpassed 100 this week as an additional 6 deaths were reported in FluView. This brings the total number of influenza-associated pediatric deaths reported to CDC, to date, to 105 for the 2012–2013 season.

Pediatric deaths are defined as flu-associated deaths that occur in people younger than 18 years. An early look at this season's reports indicates that about 90 percent occurred in children who had not received a flu vaccination this season.

This review also indicated that 60 percent of deaths occurred in children who were at high risk of developing serious flu-related complications, but 40 percent of these children had no recognized chronic health problems. The proportions of pediatric deaths occurring in children who were unvaccinated and those who had high-risk conditions are consistent with what has been seen in previous seasons.

Resources:

IAC updates its guides to contraindications and precautions
IAC's Guide to Contraindications and Precautions to Commonly Used Vaccines (covers adults and children) and Guide to Contraindications and Precautions to Commonly Used Vaccines in Adults have been updated based on information included in ACIP's *General Recommendations on Immunization* and the 2013 U.S. immunization schedule for adults.

CDC publishes ACIP recommendations for prevention and control of meningococcal disease
On March 22, CDC published Prevention and Control of Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP).

The History of Vaccines

A new book for teens, traces the development of vaccines from the late 1700s to today
Published in January 2013, *The History of Vaccines* covers the birth of vaccination in the late 1700s and traces the influences of the bacteriological revolution of the late 1800s into the rapidly expanding field of vaccinology.

Written by Karie Youngdahl, Babi Hammond, and Michelle Sipics, the 52-page book is intended for a teen audience and high school science, health, and history classes. The publisher is HistoryofVaccines.org, an informational, educational website created by the College of Physicians of Philadelphia.

The book, which includes correlations to national education standards, has more than 40 colorful and visually engaging illustrations, photographs, and charts. The titles of the book's seven chapters are listed below:

What Is a Vaccine?
Early Methods of Vaccination
The Bacteriological Revolution
The Fight Against Polio
Aiming at Childhood Illnesses
Anti-Vaccination Movements
The Future of Vaccines

Over the next several months, the History of Vaccines team at the College of Physicians of Philadelphia will be sending out complimentary copies of the book to targeted high school science and health departments.