Please note: A clarification has been published for an "Ask the Experts" answer for this issue. To view the clarification, please click here.

Volume 23 – Number 1

February 2013
(content current as of February 15)

NEEDLE TIPS

from the Immunization Action Coalition — www.immunize.org

What's In This Issue

Why Give Tdap during Each Pregnancy?

At its October 2012 meeting, the Advisory Committee on Immunization Practices (ACIP) voted to recommend that healthcare personnel administer a dose of Tdap vaccine to pregnant women during each pregnancy—ideally at between 27 and 36 weeks' gestation—regardless of the woman's prior history of receiving Tdap. According to information presented at the meeting, Tdap is recommended for every pregnancy for the following reasons:

Reported cases of pertussis have spiked. As of October 2012, 32,645 pertussis cases had been reported in the U.S. for the year. It is anticipated that more cases will have been reported by the end of 2012 than in any other year since 1959.

Youngest infants are the most vulnerable. Among infants, those younger than age 2 months have the highest reported incidence of pertussis cases and highest percentage of hospitalizations and deaths. Infants this age are too young to receive even the first dose in the DTaP series. Therefore, we must protect them *through other means*.

Vaccinating the mother during pregnancy can protect the youngest infants. Several studies provide evidence supporting the existence of efficient transplacental transfer of pertussis antibodies. This is likely to provide protection early in an infant's life, before he or she is old enough to begin the primary DTaP series.

Tdap given at one pregnancy provides insufficient protection for subsequent pregnancies. In healthy non-pregnant adults who received Tdap, antibody levels peaked during the first month after vaccination. This was followed by substantial antibody decay after one year. ACIP presenters concluded that "antibody response in pregnant women would not likely be much different."

Data support the safety of Tdap for pregnant women and their infants. In 2011, ACIP reviewed the Vaccine Adverse Event Reporting System's safety data reports on use of Tdap in pregnant women. The reports showed no unusual or unexpected patterns of adverse events. Additionally, Td and TT have been used extensively in pregnant women, and no evidence indicates that administering either vaccine during pregnancy causes harm to the fetus. The ACIP pertussis working group concluded, "the benefits of vaccination outweigh the theoretical risks of severe adverse events with multiple doses of Tdap."

Administering Tdap during each pregnancy allows a mother to build an immune response and transfer it to her infant. It is a strategy that can protect our youngest infants from a serious disease before they are old enough to be vaccinated against it.

Note: *For more information on administering Tdap during pregnancy, see "Ask the Experts" on page 5 of* Needle Tips *and refer to the materials on CDC's pertussis web page at www.cdc.gov/pertussis.*

Ask the Experts

IAC extends thanks to our experts, medical epidemiologist Andrew T. Kroger, MD, MPH; nurse educator Donna L. Weaver, RN, MN; and medical officer Iyabode Akinsanya-Beysolow, MD, MPH. All are with the National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention (CDC).

Immunization questions?

- Call the CDC-INFO Contact Center at (800) 232-4636 or (800) CDC-INFO
- Email nipinfo@cdc.gov
- Call your state health dept. (phone numbers at www.immunize.org/coordinators)

Vaccine storage and handling

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

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

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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.

What temperature is considered a temperature excursion on refrigerated vaccine? Frozen vaccine?

Any temperature readings outside the ranges noted below are considered temperature excursions.

- For refrigerated vaccines, the minimum temperature is 35° F (2° C), and the maximum is 46° F (8° C).
- For frozen vaccines, the minimum temperature is -58° F (-50° C), and the maximum is 5° F (-15° C).

If there is a question about whether a vaccine has been exposed to a temperature excursion, label the vaccines "DO NOT USE" and store them under appropriate conditions, separate from other vaccines. Then, contact the vaccine manufacturer for further guidance. If you are a VFC provider, contact either the vaccine manufacturer and/or your state or local immunization program as directed by the VFC Program in your area.

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?

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* at www.cdc.gov/vaccines/recs/storage/toolkit/storage-handling-toolkit.pdf and posted it on CDC's Vaccine Storage and Handling Toolkit web section at www.cdc.gov/vaccines/recs/storage/toolkit. 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 at www.cdc.gov/vaccines/recs/storage/interim-storage-handling.pdf, as well as a set of FAQs about the new recommendations at www.cdc.gov/vaccines/recs/storage/interim-faq-storage-handling.pdf.

New!
CDC's Vaccine Storage and Handling Toolkit
www.cdc.gov/vaccines/recs/storage/toolkit

DTaP/Tdap/Td vaccine

What are the new ACIP recommendations for vaccinating pregnant women with Tdap?

In October 2012, ACIP voted to recommend that a pregnant woman receive Tdap vaccine during each

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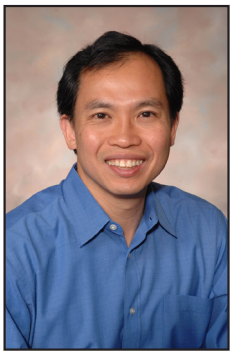
IAC Welcomes Dr. Litjen (L.J) Tan as Chief Strategy Officer



L.J Tan, MS, PhD

The Immunization Action Coalition (IAC) is pleased to announce that Litjen (L.J) Tan, MS, PhD, has come on board as its chief strategy officer. In this capacity, Dr. Tan will expand the already considerable range of projects that make IAC a national leader in immunization education and policy. He will also lead IAC's strategic planning, which is aimed at moving the nation's immunization rates to the next level, across the age span.

In speaking about Dr. Tan, Dr. Deborah L. Wexler, executive director of IAC, said, "L.J is a world-class leader in public health and an absolutely unique talent. His accomplishments are already tremendous; for example, he co-founded two marvelous national summits that have brought hundreds of immunization leaders together as partners in unprecedented ways. We are thrilled to be working with L.J in expanding and improving the nation's immunization services and policies."

Prior to joining IAC, Dr. Tan was the director of medicine and public heath at the American Medical Association (AMA), a position he held since 2008. From 1997 to 2008, he was the AMA's director of infectious disease, immunology, and molecular medicine.

Dr. Tan is a voting member of the Department of Health and Human Services' National Vaccine Advisory Committee, where he served on the adult immunization, vaccine safety, and healthcare worker immunization working groups, and is currently chair of the immunization infrastructure working group. He also served for more than ten years as the AMA's liaison to the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices, where he currently serves on the influenza, pneumococcal, zoster, and adult immunization working groups.

He co-founded and currently co-chairs the National Adult Immunization Summit and the National Influenza Vaccine Summit. He serves or has served on the steering committees of the 317 Coalition, the National Network for Immunization Information, and the National Viral Hepatitis Roundtable and on the IAC scientific advisory board. In 2007, he founded the National Immunization Congress and organized its 2007 and 2010 meetings.

A skilled and sought-after speaker, Dr. Tan has been invited to address international, national, and state immunization audiences on issues ranging from vaccine financing to risk management in vaccine safety to emerging infectious diseases. He serves or has served on a host of expert and technical advisory panels, including panels for the Centers for Medicare and Medicaid Services, The Joint Commission, and the Centers for Disease Control and Prevention. In addition, he is the author or coauthor of many peer-reviewed articles and abstracts. During his tenure at the AMA, he wrote numerous scientific reports to guide the association's policies on a diverse range of public health topics.

Dr. Tan has received several awards for his advocacy work and most recently was awarded the American Pharmacists Association's national Friend of Pharmacy Award. As a part-time faculty member at the Institute for Science Education and Science Communication, Columbia College, Chicago, he received the 2000 Excellence in Teaching Award.

Dr. Tan's photograph has been added to IAC's staff web page at www.immunize.org/aboutus/iacstaff.asp.

IAC's "Ask the Experts" team from CDC

Andrew T. Kroger, MD, MPH

Donna L. Weaver, RN, MN

Iyabode Akinsanya-Beysolow, MD, MPH

pregnancy, even if the woman had received Tdap previously. The optimal time to administer Tdap is between 27 and 36 weeks' gestation. Vaccination during this time maximizes maternal antibody response and passive antibody transfer to the infant. Women who have never received Tdap and who do not receive it during pregnancy should receive it immediately postpartum.

When a woman gets Tdap during pregnancy, maternal pertussis antibodies transfer to the newborn, likely protecting the baby against pertussis in early life, before the baby is old enough to have received at least 3 doses of DTaP. Tdap also protects the mother, making it less likely that she will get infected with pertussis during or after pregnancy and thus less likely that she will transmit it to her infant.

The related provisional recommendations for the use of Tdap in pregnancy were published on December 6, 2012. CDC anticipates releasing the final updated recommendations in the Feb. 22 issue of *MMWR*. To access the new recommendations, visit www.cdc.gov/vaccines/pubs/ACIP-list.htm.

If a woman did not receive Tdap during pregnancy, and it is uncertain whether she received a dose of Tdap prior to her pregnancy, should she receive a dose of Tdap postpartum?

Yes. If there is no written documentation that she received a dose of Tdap prior to or during pregnancy, a dose of Tdap should be administered to her immediately postpartum.

A 7-year-old who needed a tetanus shot for wound management came into our emergency department. My question is, if a child has received the complete 5-dose series of DTaP but has never had Tdap, should the child receive Tdap or Td for wound management?

Answer corrected on February 25, 2013. Neither. A child who has completed 5 doses of DTaP has by definition received the fifth dose on or after his/her 4th birthday. In this child's case, it has been less than four years since receipt of the complete series, so the child does not need either Tdap or Td. The child is fully vaccinated against tetanus according to CDC tetanus wound management guidelines.

I have an adult patient with controlled epilepsy who wishes to receive the Tdap vaccine. May I vaccinate him?

Controlled epilepsy is not a contraindication to receipt of Tdap. To access IAC's table of vaccine contraindications and precautions, go to www.immunize.org/catg.d/p3072a.pdf. CDC also makes this information available at www.cdc.gov/vaccines/recs/vac-admin/contraindications-vacc.htm.

Meningococcal vaccine

What are the new ACIP recommendations for use of MenHibrix, the new combination meningococcal Groups C and Y and* Haemophilus influenzae *type b vaccine?

Licensed in June 2012, MenHibrix (Hib-MenCY; GSK) is a vaccine indicated for active immunization to prevent invasive disease caused by *Neisseria meningitidis* serogroups C and Y and *Haemophilus influenzae* type b. This vaccine does not protect against meningococcal serogroups A, B, and W135.

In October 2012, ACIP voted to recommend that infants at increased risk for meningococcal disease be vaccinated with 4 doses of Hib-MenCY at age 2, 4, 6, and 12 through 15 months. This includes infants with recognized persistent complement pathway deficiencies and infants who have anatomic or functional asplenia, including sickle cell disease. Hib-MenCY can be used in infants age 2 through 18 months who live in communities with serogroup C and Y meningococcal disease outbreaks. On October 24, 2012, CDC published a media advisory on the use of Hib-MenCY vaccine. It's available at www.cdc.gov/media/releases/2012/a1024_HibMenCY.html.

IAC has developed a handy reference table that summarizes ACIP's recommendations for meningococcal vaccination of children and adults. It's available at www.immunize.org/catg.d/p2018.pdf.

HPV vaccine

Is fainting after the first or second dose of HPV vaccine a contraindication to administering subsequent doses?

No. Fainting is not a contraindication to administering a subsequent dose of any vaccine. Fainting after vaccination is fairly common in adolescence. Providers should prepare for the possibility by having patients sit or lie down when receiving the vaccine and observing patients for 15 minutes after vaccination. For more information on syncope and vaccination, visit the CDC website at www.cdc.gov/vaccinesafety/Concerns/syncope_faqs.html.

Influenza vaccine

How soon after taking prednisone for an asthma attack can a child receive a flu shot?

Steroid treatment is not a contraindication for vaccination with inactivated influenza vaccine. As this vaccine is not a live virus vaccine, you can (and should) give it to people who are immunosuppressed, although the patient's immune response may not be optimal. Immunosuppression (e.g., from certain steroid treatments) is a concern only when administering live virus vaccines.

We inadvertently administered an adult dose (0.5 mL) of influenza vaccine to an 8-month-old infant. Does this child need the second dose?

Yes. Giving a larger-than-recommended dose of any vaccine does not negate the need for indicated subsequent doses.

MMR vaccine

I understand that ACIP recently changed its definition of evidence of immunity to measles, rubella, and mumps. Please explain.

At its October 2012 meeting, ACIP voted to include "laboratory confirmation of disease" as evidence of immunity for measles, mumps, and rubella. ACIP voted to remove "physician diagnosis of disease" as evidence of immunity for measles and mumps. "Physician diagnosis of disease" had not previously been accepted as evidence of immunity for rubella. With the decrease in measles and mumps cases over the last 30 years, the validity of physician-diagnosed disease has become questionable. In addition, documenting history from physician records is not a practical option for most adults. The provisional MMR recommendations are currently available on the CDC website at www.cdc.gov/vaccines/recs/provisional/default.htm.

Please note that provisional ACIP recommendations become CDC recommendations once they are accepted by the director of CDC and the Secretary of Health and Human Services and are published in *MMWR*.

Needle Tips correction policy

If you find an error, please notify us immediately by sending an email message to admin@immunize.org. We publish notification of significant errors in our email announcement service, ***IAC Express.*** Be sure you're signed up for this service. To subscribe, visit www.immunize.org/subscribe.

What are the new provisional ACIP recommendations for use of immune globulin (IG) for measles post-exposure prophylaxis?

At its October 2012 meeting, ACIP voted to expand the use of post-exposure IG prophylaxis for measles.

- Infants younger than 12 months who have been exposed to measles should receive an IG dose of 0.5 mL/kg of body weight. Give IG intramuscularly (IGIM); the maximum dose is 15 mL. Alternatively, MMR vaccine can be given instead of IGIM, to infants age 6–11 months, if it can be given within 72 hours of exposure.
- Pregnant women without evidence of measles immunity who are exposed to measles should receive an IG dose of 400 mg/kg of body weight. Give IG intravenously (IGIV).
- Severely immunocompromised people, irrespective of evidence of measles immunity, who have been exposed to measles should receive an IG dose of 400 mg/kg of body weight. Give IG intravenously (IGIV).
- Other people who do not have evidence of measles immunity can receive an IG dose of 0.5 mL/kg of body weight. Give priority to people who were exposed to measles in settings where they have intense, prolonged close contact (e.g., household, child care, classroom, etc.). Give IG intramuscularly; the maximum dose is 15 mL.

Full details about these provisional recommendations, including the definition of severely immunocompromised people, are available at www.cdc.gov/vaccines/recs/provisional/downloads/mmr-Oct-2012.pdf.

Please describe the new provisional ACIP recommendations for the use of MMR vaccine in people who are HIV-infected.

Provisional ACIP recommendations for vaccinating people with HIV infection are as follows:

- Administer 2 doses of MMR vaccine to all HIV-infected people age 12 months and older who do not have evidence of current severe immunosuppression or current evidence of measles, rubella, and mumps immunity. To be regarded as not having evidence of current severe immunosuppression, a child age 5 years or younger must have CD4 percentages of 15% or more for 6 months or more; a person older than 5 years must have CD4 percentages of 15% or more and a CD4 lymphocyte count of 200 or more/mm^3 for 6 months or more.
- Administer the first dose to babies age 12 through 15 months and the second dose to children age 4 through 6 years, or as early as 28 days after the first dose.
- Unless they have acceptable current evidence of measles, rubella, and mumps immunity, people with perinatal HIV infection who were vaccinated prior to establishment of effective antiretroviral therapy (ART) should receive 2 appropriately spaced doses of MMR vaccine after effective ART has been established. Children age 5 years or younger must have CD4 percentages of 15% or more for 6 months or more; people older than 5 years must have CD4 percentages of 15% or more and a CD4 lymphocyte count of 200 or more/mm^3 for 6 months or more.

Vaccine administration

Some single-dose pre-loaded vaccines come with an air pocket in the syringe chamber. Do we need to expel the air pocket before vaccinating?

No. You do not need to get rid of the air pocket. The air will be absorbed. This is not true for syringes that you fill yourself; you should expel air bubbles from these syringes prior to vaccination to the extent that you can readily do so.*(See editor's clarification.)

Is it recommended to use a new alcohol swab to cleanse the skin before administering a vaccine, or can we swab the skin with the same alcohol swab that we used to wipe off the stopper on the vial?

You should use separate alcohol wipes to clean the vial top and the patient's skin.

To receive "Ask the Experts" Q&As by email, subscribe to the Immunization Action Coalition's news service, *IAC Express.* Special "Ask the Experts" issues are published five times per year.

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