Volume 20 – Number 4

NEEDLE TIPS

June 2010
(content current as of June 16)

Visit www.immunize.org for up-to-date immunization information from the Immunization Action Coalition

What's Inside

Prepare Now to Vaccinate Healthcare Workers in the Fall

Take time now to plan your medical setting's healthcare personnel influenza vaccination campaign. For a succinct summary of why staff vaccination is necessary, an outline of CDC's recommendations, and a list of practical online resources, see the one-page handout "First do no harm" on page 10 of this issue of *Needle Tips*.

To get started, gather key staff members to plan, implement, and promote staff vaccination. Then, consult recommendations, toolkits, and educational materials. Here are some:

- Centers for Disease Control and Prevention recommendation: "Influenza Vaccination of Health-Care Personnel"
- Association for Professionals in Infection Control and Epidemiology: The toolkit "Protect your patients. Protect yourself" includes a month-by-month planning checklist
- National Influenza Vaccine Summit website: The one-page summaries of various institutions' best practices for increasing staff vaccination rates include contact information, and the toolkits from state and national organizations offer steps for conducting successful vaccination campaigns
- American Society of Health System Pharmacists: The web-based resource center "Stop the flu—it starts with you!" includes a toolkit, success stories, and resources for improving staff vaccination rates

Mandatory policies attain high vaccination rates

During 2009, many healthcare institutions achieved high influenza vaccination rates among staff by instituting mandatory influenza vaccination policies. The policies protect patients' health and safety by requiring employees who refuse vaccination to wear masks or by dismissing such employees. For a list of medical settings with stellar mandatory influenza vaccination policies, see page 11 of this issue.

Ask the Experts

IAC extends thanks to our experts, William L. Atkinson, MD, MPH, and Andrew T. Kroger, MD, MPH, medical epidemiologists at the National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention (CDC).

Vaccine questions

Please review the specifics of the new CDC recommendations for the use of the combination measles, mumps, rubella, and varicella (MMRV) vaccine.

On May 7, 2010, CDC issued new recommendations for the use of combination MMRV vaccine. Prior to issuing these recommendations, ACIP reviewed results of post-licensure studies that suggest that, during the 5–12 day post-vaccination period, approximately one additional febrile seizure occurred among every 2,600 children ages 12 through 23 months vaccinated with a first dose of MMRV vaccine, when compared with children in the same age group vaccinated with separate first doses of MMR vaccine and varicella vaccine administered during a single office visit.

The summary of the recommendations for use of MMRV vaccine are as follows:

- The routinely recommended ages for measles, mumps, rubella, and varicella vaccination continue to be age 12 through 15 months for the first dose and age 4 through 6 years for the second dose.
- For the first dose of measles, mumps, rubella, and varicella vaccines at age 12 through 47 months, providers may use either MMR vaccine and varicella vaccine or MMRV vaccine. Providers who are considering administering MMRV vaccine should discuss the benefits and risks of both vaccination options with the parents or caregivers. Unless the parent or caregiver expresses a preference for MMRV vaccine, CDC recommends that providers administer MMR vaccine and varicella vaccine for the first dose in this age group.
- For the second dose of measles, mumps, rubella, and varicella vaccines at any age (15 months through 12 years) and for the first dose at age 48 months and older, use of MMRV vaccine generally is preferred over separate injections of its equivalent component vaccines (i.e., MMR vaccine and varicella vaccine).
- A personal or family (i.e., sibling or parent) history of seizures of any etiology (i.e., cause) is a precaution for MMRV vaccination, and such children generally should be vaccinated with MMR vaccine and varicella vaccine.

The complete recommendations for the use of MMRV vaccine are available on CDC's website at www.cdc.gov/mmwr/pdf/rr/rr5903.pdf.

In addition, CDC has issued a new VIS for MMRV vaccine, dated 5/21/10, which is available at www.immunize.org/vis/mmrv.pdf and www.cdc.gov/vaccines/pubs/vis/downloads/vis-mmrv.pdf. As with all other VISs, it should be given to the parent or vaccine recipient prior to vaccination to facilitate discussion about the vaccine between the patient and provider.

What is the FDA's current recommendation about the use of rotavirus vaccine in infants?

In March 2010, FDA recommended temporary suspension of the use of Rotarix (GSK) after researchers found DNA from porcine circovirus

(continued on page 14)

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)

Needle Tips

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IAC publishes a free email news service *(IAC Express)* and two free periodicals *(Needle Tips* and *Vaccinate Adults)*. To subscribe to them, go to www.immunize.org/subscribe.

IAC, a 501(c)(3) charitable organization, publishes practical immunization information for health professionals to help increase immunization rates and prevent disease.

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IAC maintains strict editorial independence in its publications.

New! IAC's "Handouts" for Patients and Staff on www.immunize.org

If you are a healthcare professional who provides vaccination services, then you are likely aware that the Immunization Action Coalition (IAC) is the go-to spot for translations of Vaccine Information Statements (VISs). Did you also know that IAC has developed hundreds of vaccination-related handouts and fact sheets for patients and healthcare staff? You can find these IAC materials in the newly named section "Handouts" (formerly called "Print Materials") on our website—www.immunize.org. Along with the name change, the Handouts section has been restructured to improve access to the breadth and depth of IAC's ready-to-print resources for healthcare professionals and the public.

www.immunize.org/handouts

Free Handouts

www.immunize.org/handouts

IAC's Handouts web section gives users free access to more than 250 informational materials for healthcare professionals and the public. Many of IAC's most popular pieces are also available in several languages. All are in ready-to-print (PDF) format and have been reviewed for technical accuracy by immunization experts at the Centers for Disease Control and Prevention (CDC).

Designed to give users quick, easy access to IAC's ready-to-print materials, the Handouts section is organized in several ways. Access Handouts using one of these sections:

- Most Popular Handouts
  Top 25 downloaded materials
- Clinic Procedures
  Handouts for vaccinators
- Vaccine Index
  19 Vaccines and VPDs
- Topics Index
  Special considerations for immunization
- Language Index
  12 languages offered by IAC
- View All Handouts
  Sort handouts by title, language, date, and item number

For users who want a fast route to our most popular handouts, IAC provides links to the pieces visitors to immunize.org download most frequently—the "Top 25." You'll find links to some of these popular pieces in the right column of the main Handouts page, along with a link to the complete list of the "Top 25."

The Clinic Procedures Index provides links to handouts organized by categories such as Administering Vaccines, Documenting Vaccination, and Handling and Storage. The individual sections of the Vaccine Index include links to related Unprotected People Reports and VISs.

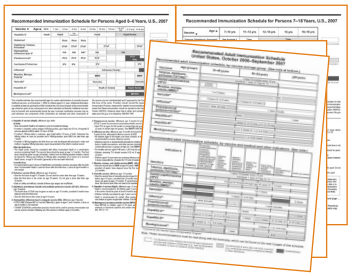
The View All Handouts table is a complete and sortable listing of our ready-to-print handouts. By clicking the up/down arrows in the column headings, the content of each column can be sorted either in alphabetical order (e.g., by title, language) or in numerical order (e.g., by publication date, item number).

Get a Preview of IAC's Handouts!

To get a preview of a handout, just place your cursor over the title of the handout, and watch for the preview to appear in the right column.

Visit the Immunization Action Coalition's website often! www.immunize.org

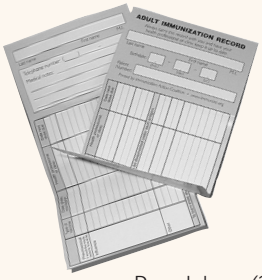
Laminated child and adult immunization schedules
Order one of each for every exam room



Here are the ACIP/AAP/AAFP-approved immunization schedule for people ages 0 through 18 years and the ACIP/AAFP/ACOG/ACP-approved schedule for adults. Both are laminated and washable for heavy-duty use, complete with essential footnotes, and printed in color for easy reading. The cost is $7.50 for each schedule and only $5.50 each for five or more copies.

To order, visit www.immunize.org/shop, or use the order form on page 13.
For 20 or more copies, contact us for discount pricing: admininfo@immunize.org

Immunization record cards available for all ages—
For children & teens, for adults, and for a lifetime!

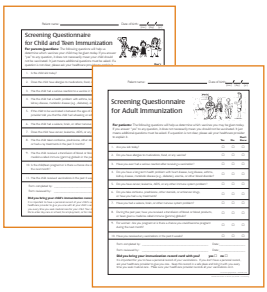


Now you can give any patient a permanent vaccination record card designed specifically for their age group: child & teen, adult, or lifetime. The three cards list all vaccines recommended for each age. The cards are printed on durable rip-, smudge-, and water-proof paper. Wallet-sized when folded, the cards are brightly colored to stand out. To view the cards or for more details, go to www.immunize.org/shop and click on the images.

Buy 1 box (250 cards) for $37.50 (first order of a 250-card box comes with a 30-day, money-back guarantee). Discounts for larger orders: 2 boxes $35 each; 3 boxes $32.50 each; 4 boxes $30 each

To order, visit www.immunize.org/shop, or use the order form on page 13.
To receive sample cards, contact us: admininfo@immunize.org

Immunization screening questionnaires for contraindications!
Now with English on front/Spanish on back; in pads of 100 sheets



Save valuable staff time and make sure your patients are fully screened by using these simple 1-page questionnaires (one for child/teen immunization, another for adults). Patients respond to questions by checking off "yes" and "no" boxes while waiting to be seen. Staff reviews answers during the visit. These pads are priced at $16 per 100-sheet pad. Prices drop to $12 each for 2 pads, $11 each for 3 pads, $10 each for 4–9 pads. Keep pads at the receptionist's desk, the nurses' station, and in every exam room. To view the pads or for more details, visit IAC's website at www.immunize.org/shop.

To order, visit www.immunize.org/shop or use the order form on page 13.
For 10 or more pads, contact us for discount pricing: admininfo@immunize.org

Vaccine Highlights

Recommendations, schedules, and more

Editor's note: The information in Vaccine Highlights is current as of June 16, 2010.

Influenza vaccine news

Important for the 2010-11 influenza season:

- ACIP recommends annual influenza vaccination for all people ages 6 months and older. To read the provisional influenza vaccination recommendations, go to www.cdc.gov/vaccines/recs/provisional/downloads/flu-vac-mar-2010-508.pdf.
- CDC encourages providers to begin offering influenza vaccine to people of all ages as soon as it becomes available (usually mid-to-late summer). Note: Early vaccination of children younger than age 9 years who are first-time vaccinees (or who failed to get their second dose in the preceding season) can be helpful in assuring there is adequate time to receive routine second doses before the influenza season begins.

On April 30, CDC published ACIP's guidance for use of a high-dose injectable inactivated trivalent influenza vaccine (Fluzone High-Dose; sanofi pasteur). The vaccine, which will be available for the 2010-11 influenza season, was licensed as a single dose for use in people age 65 years and older by FDA in Dec. 2009. ACIP has not expressed a preference for Fluzone High-Dose or any specific licensed inactivated trivalent influenza vaccine for use in people age 65 years and older. To access the ACIP guidance for use of Fluzone High-Dose, go to www.cdc.gov/mmwr/PDF/wk/mm5916.pdf and see pages 485-486.

Pneumococcal conjugate news

On March 12, CDC published ACIP's recommendations for use of PCV13 in children. To access the article, go to www.cdc.gov/mmwr/PDF/wk/mm5909.pdf and see pages 258–261.

On April 16, CDC published an interim VIS for the recently licensed 13-valent pneumococcal conjugate vaccine (PCV13), which is intended for use when vaccinating children with PCV13. The VIS for use when vaccinating children with 7-valent pneumococcal conjugate vaccine (PCV7) is available for use by providers still using stocks of PCV7 vaccine while making the transition to PCV13. Providers are advised to use the VIS appropriate to the product being administered. To access the VISs for PCV13 and PCV7, go to www.immunize.org/vis/vis_pcv.asp.

On May 24, the American Academy of Pediatrics (AAP) posted its new policy statement "Recommendations for the Prevention of Streptococcus pneumoniae Infections in Infants and Children: Use of 13-Valent Pneumococcal Conjugate Vaccine (PCV13) and Pneumococcal Polysaccharide Vaccine (PPSV23)." To access it, go to: http://aapredbook.aappublications.org/implementation/pedsPCV13052410.pdf.

Rotavirus vaccine news

On May 14, FDA issued updated recommendations for using rotavirus vaccine, announcing that clinicians can resume using Rotarix vaccine (RV1; GSK) and continue using RotaTeq vaccine (RV5; Merck).

Previously (on 3/22/10), FDA had recommended that U.S. clinicians and public health professionals temporarily suspend use of Rotarix while FDA and GSK investigated the finding of DNA from porcine circovirus type 1 (PCV1) in the vaccine. FDA and GSK have since confirmed the presence of PCV1 in the vaccine. On May 6, FDA indicated that Merck's preliminary studies of RotaTeq had identified fragments of DNA from PCV1 and from a related porcine circovirus type 2 (PCV2) in RotaTeq.

FDA has evaluated laboratory results from the manufacturers and its own laboratories. Based on a careful evaluation of this information, a thorough review of the scientific literature, and input from scientific and public health experts, FDA revised its 3/22/10 recommendation.

On May 14, FDA announced that clinicians can resume using Rotarix and continue using RotaTeq. FDA noted that it has no evidence that either PCV1 or PCV2 poses a safety risk in humans and that neither is known to cause infection or illness in humans. For additional materials on this topic, go to www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm205539.htm.

On May 14, CDC published a revised interim VIS for the use of rotavirus vaccine. It includes the following information: "A virus (or parts of the virus) called porcine circovirus is in both rotavirus vaccines. This virus is not known to infect people and there is no known safety risk. For more infor-

mation, see www.fda.gov." To access the VIS, go to www.immunize.org/vis.

MMRV vaccine news

On May 7, CDC published ACIP recommendations for the use of MMRV (measles, mumps, rubella, and varicella) vaccine. Highlights of the recommendations are presented on page 1 of this issue of *Needle Tips*. To read the complete recommendations, go to www.cdc.gov/mmwr/pdf/rr/rr5903.pdf.

On May 21, CDC published a new interim VIS specifically for MMRV vaccine. This VIS is the preferred VIS for children getting MMRV vaccine, as it contains more detailed information about the risk of febrile seizures. To access the VIS, go to www.immunize.org/vis.

On May 5, CDC updated information about the supply of MMRV vaccine (ProQuad; Merck): Merck began taking orders for ProQuad on May 10. Approximately 1.4 million doses will be available for distribution; how long this supply lasts will depend on market demand for the vaccine. Merck's supply of its MMR vaccine and varicella vaccine is adequate to meet current demand. For continuing vaccine supply information, go to www.cdc.gov/vaccines/vac-gen/shortages.

HPV vaccine news

On May 28, CDC published updated recommendations for human papillomavirus (HPV) vaccination of females with bivalent HPV vaccine (HPV2; Cervarix; GSK) and quadrivalent HPV vaccine (HPV4; Gardasil; Merck). Routine vaccination with 3 doses of either HPV2 or HPV4 is recommended for females ages 11 or 12 years and can be started in females age 9 years. Vaccination is recommended for females ages 13 through 26 years who have not been vaccinated previously or who have not completed the 3-dose series. If a female reaches age 26 years before the vaccination series is complete, remaining doses can be administered after age 26 years. Ideally, vaccine should be administered before potential exposure to HPV through sexual contact. To access the updated recommendations, go to: www.cdc.gov/mmwr/PDF/wk/mm5920.pdf and see pages 626-629.

On May 28, CDC published guidance for human papillomavirus (HPV) vaccination of males with quadrivalent HPV vaccine (HPV4; Gardasil; Merck). The 3-dose series of HPV4 may be given to males age 9 through 26 years to reduce their likelihood of acquiring genital warts. HPV4 would be most effective when given before exposure to HPV through sexual contact. To access CDC's guidance, go to www.cdc.gov/mmwr/PDF/wk/mm5920.pdf and see pages 630-631.

Shingles (zoster) vaccine news

On May 5, CDC updated information about the supply of shingles vaccine (Zostavax; Merck). Zostavax is currently available for order; however, providers will experience backorders, or periods where they are unable to place orders for Zostavax, throughout 2010 and possibly into 2011. For continuing supply information, go to www.cdc.gov/vaccines/vac-gen/shortages.

Looking for free educational materials you can copy for patients and staff? Visit the Immunization Action Coalition's website at

www.immunize.org/handouts

Current VISs and dates

The use of most Vaccine Information Statements (VISs) is mandated by federal law. Listed below are the dates of the most current VISs. Check your stock of VISs against this list. If you have outdated VISs, print current ones from IAC's website at www.immunize.org/vis. You'll find VISs in more than 30 languages.

DTaP/DT/DTP.... 5/17/07	Meningococcal... 1/28/08
Hepatitis A 3/21/06	MMR 3/13/08
Hepatitis B 7/18/07	MMRV 5/21/10
Hib 12/16/98	PCV 4/16/10
HPV (Cervarix)... 3/30/10	PPSV 10/6/09
HPV (Gardasil).... 3/30/10	Polio 1/1/00
H1N1 (inactivated)... 10/2/09	Rabies 10/6/09
H1N1 (LAIV)..... 10/2/09	Rotavirus..... 5/14/10
Influenza (LAIV)...8/11/09	Shingles 10/6/09
Influenza (TIV) 8/11/09	Td/Tdap 11/18/08
Japanese encephalitis	Typhoid 5/19/04
Ixiaro.....3/1/10	Varicella 3/13/08
JE VAX.....3/1/10	Yellow fever 11/9/04

Multi-vaccine VIS.....9/18/08
(for 6 vaccines given to infants/children: DTaP, IPV, Hib, HepB, PCV, RV)

Looking for just-published VISs or ACIP vaccine recommendations? Find official documents fast at

www.immunize.org/newreleases

What's New on IAC's Website

Handouts for Health Professionals

- First do no harm — protect patients by making sure all staff receive yearly influenza vaccine!
- It's federal law! You must give your patients current VISs
- Need help responding to vaccine-hesitant parents?
- Recommendations for pneumococcal vaccine use in children
- Standing orders for administering pneumococcal conjugate vaccine

Handouts for Patients

- Are you 11-19 years old? Then you need to be vaccinated
- Do I need any vaccinations today?
- Should you be vaccinated against hepatitis A?
- Vaccinations for adults — you're never too old to be immunized
- Vaccines work!

Updated Web Sections

- Ask the Experts: PCV
- Ask the Experts: Rotavirus
- Handouts (formerly "Print Materials")
- IAC Image Library
- Needle Tips
- Unprotected People Reports

Find all IAC's Quick Links at

www.immunize.org/quicklinks

These Quick Links are popular with IAC's web users:

www.immunize.org/vis
www.immunize.org/handouts
www.immunize.org/askexperts
www.immunize.org/standingorders
www.immunize.org/concerns
www.immunize.org/acip
www.immunize.org/newreleases
www.immunize.org/shop

Standing Orders for Administering Pneumococcal Conjugate Vaccine to Children

Purpose: To reduce morbidity and mortality from invasive pneumococcal disease by vaccinating all children who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Policy: Under these standing orders, eligible nurses and other healthcare professionals (e.g., pharmacists), where allowed by state law, may vaccinate children who meet any of the criteria below.

Procedure

1. Identify infants and children in need of vaccination against invasive pneumococcal disease based on the following criteria:
   a. age 2 through 59 months and generally healthy
   b. age 2 through 71 months with any of the conditions described below:
      i. chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure)
      ii. chronic lung disease (including asthma if treated with prolonged high-dose oral corticosteroids)
      iii. diabetes mellitus
      iv. cerebrospinal fluid leak
      v. candidate for or recipient of cochlear implant
      vi. functional or anatomic asplenia (i.e., sickle cell disease or other hemoglobinopathy, congenital or acquired asplenia, or splenic dysfunction)
      vii. immunocompromising condition, including HIV infection; chronic renal failure and nephrotic syndrome; disease associated with treatment with immunosuppressive drugs or radiation therapy (e.g., malignant neoplasms, leukemias, lymphomas, and Hodgkin's disease; or solid organ transplantation); congenital immunodeficiency (includes B-[humoral] or T-lymphocyte deficiency; complement deficiencies, particularly c1, c2, c3, and c4 deficiency; and phagocytic disorders [excluding chronic granulomatous disease])
   c. age 6 through 18 years with any of the conditions described in categories iv through vii above.
2. Screen all patients for contraindications and precautions to pneumococcal conjugate vaccine:
   a. **Contraindications:** a history of a serious reaction (e.g., anaphylaxis) after a previous dose of PCV, to a PCV component, or to any diphtheria toxoid-containing vaccine. For a list of vaccine components, go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.
   b. **Precautions:** moderate or severe acute illness with or without fever; a child who has received pneumococcal polysaccharide vaccine (PPSV) previously should wait at least 2 months before receiving PCV.
3. Provide all patients (parent/legal representative) with a copy of the most current federal Vaccine Information Statement (VIS). You must document, in the patient's medical record or office log, the publication date of the VIS and the date it was given to the patient (parent/legal representative). Provide non-English speaking patients with a copy of the VIS in their native language, if available; these can be found at www.immunize.org/vis.
4. Provide vaccination with PCV13 for all healthy children ages 2 through 59 months and for children with a medical condition ages 2 through 71 months according to Table 1 of the next page titled "Recommendations for Pneumococcal Vaccine Use in Children."
5. Consider administering one dose of PCV13, regardless of previous history of PCV7 or pneumococcal polysaccharide vaccine (PPSV), to children ages 6 through 18 years in categories 1.b.iv. through 1.b.vii. listed above.
6. Administer 0.5 mL PCV13 intramuscularly in the anterolateral thigh muscle for infants and toddlers (deltoid may be used for toddlers with adequate muscle mass) or in the deltoid muscle of the arm for children ages 3 yrs and older (anterolateral thigh muscle may be used if deltoid is inadequate). Use a 22–25 g needle. Choose needle length appropriate to the child's age and body mass: infants younger than age 12 mos: 1"; toddlers 1–2 yrs: 1–1¼" (anterolateral thigh) or ⅝–1" (deltoid muscle); children ages 3–4 yrs: ⅝–1" (deltoid) or 1–1¼" (anterolateral thigh). A ⅝" needle may be used in toddlers and children if inserted in the deltoid muscle at 90° angle to the skin, which is stretched flat between thumb and forefinger.
7. Document each patient's vaccine administration information and follow up in the following places:
   a. **Medical chart:** Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. If vaccine was not given, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).
   b. **Personal immunization record card:** Record the date of vaccination and the name/location of the administering clinic.
8. Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications.
9. Report all adverse reactions to PCV13 to the federal Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or by calling (800) 822-7967. VAERS report forms are available at www.vaers.hhs.gov.

This policy and procedure shall remain in effect for all patients of the _____ until rescinded or until_____ (date).
(name of practice or clinic)

Medical Director's signature: _____ Effective date: _____

Technical content reviewed by the Centers for Disease Control and Prevention, June 2010.

www.immunize.org/catg.d/p3086.pdf • Item #P3086 (6/10)

Recommendations for Pneumococcal Vaccine Use in Children

Table 1. Recommended Schedules for Administering Pneumococcal Conjugate Vaccine (PCV)

Child's age now	Vaccination history of PCV7 and/or PCV13	Recommended PCV13 Schedule (For minimum interval guidance for catch-up vaccination, see *)
2 through 6 months	0 doses	3 doses, 8 weeks* apart; 4th dose at age 12–15 months
	1 dose	2 doses, 8 weeks* apart; 4th dose at age 12–15 months
	2 doses	1 dose, at least 8 weeks* after the most recent dose; 4th dose at age 12–15 months
7 through 11 months	0 doses	2 doses, 8 weeks apart*; 3rd dose at age 12–15 months
	1 or 2 doses before age 7 months	1 dose at age 7–11 months; 2nd dose at age 12–15 months, at least 8 weeks after the most recent dose
12 through 23 months	0 doses	2 doses, at least 8 weeks apart
	1 dose before age 12 months	2 doses, at least 8 weeks apart
	1 dose at or after age 12 months	1 dose, at least 8 weeks after the most recent dose
	2 or 3 doses before age 12 months	1 dose, at least 8 weeks after the most recent dose
	4 doses of PCV7 or other age-appropriate complete PCV7 schedule	1 PCV13 dose, at least 8 weeks after the most recent PCV7 dose
24 through 59 months (healthy)	Unvaccinated or any incomplete schedule	1 dose, at least 8 weeks after the most recent dose
	4 doses of PCV7 or other age-appropriate complete PCV7 schedule	1 dose, at least 8 weeks after the most recent dose
24 through 71 months (with risk factor described in Table 3 below)	Unvaccinated or any incomplete schedule of less than 3 doses	2 doses, one at least 8 weeks after the most recent dose and another dose at least 8 weeks later
	Any incomplete schedule of 3 doses	1 PCV13 dose, at least 8 weeks after the most recent PCV7 dose
	4 doses of PCV7 or other age-appropriate complete PCV7 schedule	1 PCV13 dose, at least 8 weeks after the most recent PCV7 dose
6 through 18 years with immunocompromising condition, functional or anatomic asplenia (see specific conditions in Table 3 below), cerebrospinal fluid leak, or cochlear implant	Unvaccinated or any history of PCV7 or PPSV23	Consider 1 dose of PCV13

* Minimum interval between doses: For children younger than age 12 months: 4 weeks; for children age 12 months and older: 8 weeks.

Table 2. Recommended Schedule for Administering Pneumococcal Polysaccharide Vaccine (PPSV23) to Children

Risk Group	Schedule for PPSV23	Revaccination with PPSV23
Immunocompetent children with risk condition (see Table 3 below)	Give 1 dose of PPSV23 at age 2 years or older and at least 8 weeks after last dose of PCV	Not indicated
Children with immunocompromising condition, functional or anatomic asplenia (see specific conditions in Table 3 below)	Give 1 dose of PPSV23 at age 2 years or older and at least 8 weeks after last dose of PCV	Give 1 additional dose of PPSV23 at least 5 years following the first PPSV23; no more than 2 PPSV23 doses are recommended in a lifetime

Table 3. Underlying Medical Conditions that Are Indications for Pneumococcal Vaccination Among Children

Risk Group	Condition
Immunocompetent children	Chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma if treated with prolonged high-dose oral corticosteroids); diabetes mellitus; cerebrospinal fluid leak; cochlear implant
Children with functional or anatomic asplenia	• Sickle cell disease and other hemoglobinopathies • Congenital or acquired asplenia, or splenic dysfunction
Children with immunocompromising conditions	• HIV infection • Chronic renal failure and nephrotic syndrome • Diseases associated with treatment with immunosuppressive drugs or radiation therapy (e.g., malignant neoplasms, leukemias, lymphomas, and Hodgkin disease; or solid organ transplantation) • Congenital immunodeficiency (includes B- [humoral] or T-lymphocyte deficiency; complement deficiencies, particularly C1, C2, C3, or C4 deficiency; and phagocytic disorders [excluding chronic granulomatous disease])

Technical content reviewed by the Centers for Disease Control and Prevention, May 2010.

www.immunize.org/catg.d/p2016.pdf • Item #P2016 (5/10)

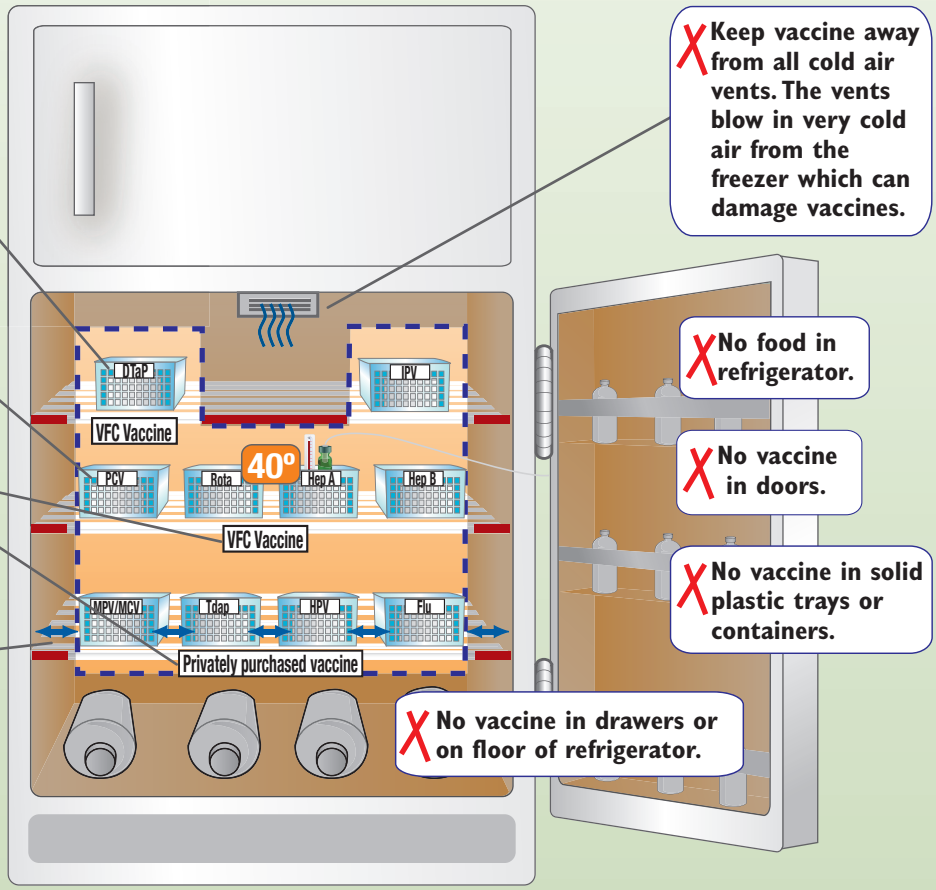
Vaccine Refrigerator Setup

Storing Vaccines

Carefully organizing vaccines in a refrigerator helps protect vaccine and facilitates vaccine inventory management. Refrigerate all vaccines <u>except</u> MMRV, Varicella, and Zoster (store these in the freezer).

Refrigerator in a Combination Unit

Usable space is limited (inside dashed lines).



✔ **Place vaccine in breathable plastic mesh baskets and clearly label baskets by type of vaccine.**

✔ **Group vaccines by pediatric, adolescent, and adult types.**

✔ **Separate the VFC vaccine supply from privately purchased vaccine.**

✔ **Keep baskets 2-3 inches from walls and other baskets.**

✔ **Keep vaccines in their original boxes until you are ready to use them.**

✔ **Store only vaccine and other medication in vaccine storage units.**

✗ **Keep vaccine away from all cold air vents. The vents blow in very cold air from the freezer which can damage vaccines.**

✗ **No food in refrigerator.**

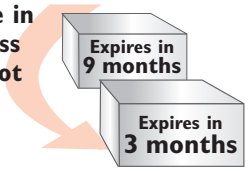
✗ **No vaccine in doors.**

✗ **No vaccine in solid plastic trays or containers.**

✗ **No vaccine in drawers or on floor of refrigerator.**

✔ **Keep vaccines with shorter expiration dates to front of shelf.**

If you have vaccine that will expire in 3 months or less that you will not be able to use, notify the VFC Program.



✔ **Keep temperatures between 35°F to 46°F.**

If you have any problems with your refrigerator, keep the refrigerator door shut and notify your state's VFC Program.

- **VFC Program Office** _____
- **VFC Field Representative** _____

Adapted with permission from the California Department of Public Health, Immunization Branch.
Distributed by Immunization Action Coalition • www.immunize.org
You'll find other practical vaccine storage and handling resources at www.eziz.org/resources/materials_storageandhand.html

Monthly Care of Vaccine Storage Units

A small amount of regular maintenance is necessary to help ensure that vaccine refrigerators and freezers work properly. Follow the three steps below to keep **household-style** refrigerators and freezers clean. If you have a commercial grade unit, follow the manufacturer's maintenance schedule and other recommendations.

1. Clean the inside of the storage units

Cleaning the inside of the refrigerator and freezer will help prevent the growth of bacteria and fungus.

You do not need to remove the vaccine from the unit to clean it. Just move the trays of vaccine as you clean.

Do not unplug the unit.

- Clean any spills.
- Wipe the inside of the compartment and the shelves with disinfectant or antibacterial wipes. Let it dry.
- Put the trays of vaccine back where they were.

2. Check the door seals

Refrigerators and freezers have flexible door seals that prevent cold air from escaping when doors are closed. If the seal does not seal completely, cold air escapes. This can cause temperatures to fluctuate in the unit.

Do not unplug the unit.

1. Locate the seals.
2. Examine the seals.
   - They should not be torn or brittle.
   - When the unit is closed, there should be no gaps between the seals and the body of the unit.
3. If you suspect a problem with the seals, tell your supervisor.

3. Clean the coils

If the coils are easy to reach, use a duster to remove any visible dust.

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Distributed by Immunization Action Coalition • www.immunize.org
You'll find other practical vaccine storage and handling resources at www.eziz.org/resources/materials_storageandhand.html

First do no harm

Protect patients by making sure all staff receive yearly influenza vaccine!

Healthcare employers are not only strongly encouraged to increase their employees' influenza immunization rates, in some instances, their organization's accreditation depends on it! In 2006, the Centers for Disease Control and Prevention (CDC) published vaccination influenza recommendations for healthcare settings, and in 2007, The Joint Commission established influenza infection control standards.

Big changes have taken place in influenza vaccination of healthcare personnel (HCP): The responsibility for increasing the rates of HCP influenza vaccination is rapidly shifting from the employee to the employer.

What's happened?

At CDC: In February 2006, CDC published "Influenza Vaccination of Health-Care Personnel." These recommendations "apply to HCP in acute care hospitals, nursing homes, skilled nursing facilities, physician offices, urgent care centers, and outpatient clinics, and to persons who provide home healthcare and emergency medical services." They were issued jointly by HICPAC (the Healthcare Infection Control Practices Advisory Committee) and ACIP (the Advisory Committee on Immunization Practices). The summary box in the right column presents an overview, including the recommendation that employers vaccinate employees at the work site at no cost. To obtain a copy of the complete recommendations, go to: www.cdc.gov/mmwr/PDF/rr/rr5502.pdf.

At The Joint Commission: In January 2007, a new infection control standard of The Joint Commission went into effect. It requires accredited organizations to offer influenza vaccinations to staff, volunteers, and licensed independent practitioners who have close patient contact. The standard is an accreditation requirement for the Critical Access Hospital, Hospital, and Long Term Care accreditation programs.

Why is it happening?

The short answer is because HCP influenza vaccination rates remain appallingly low, and unvaccinated HCP are infecting vulnerable patients with influenza. Only half of HCP were vaccinated against influenza in the 2008–09 season, even though ACIP has urged annual influenza vaccination for HCP since 1981. Further, influenza transmission has been documented among patients in a variety of clinical settings, and infections have been linked to unvaccinated HCP. Clearly, we are doing our patients harm.

What should your healthcare facility do to comply?

In the box below are practical online resources healthcare organizations will find valuable in creating influenza vaccination programs for employees.

Summary of CDC's HICPAC / ACIP Recommendations

The committees that developed and endorsed these recommendations included persons with expertise in infectious diseases, infection control, pediatrics, vaccinology, internal medicine, and public health. The recommendations are as follows:

- **Educate HCP regarding the benefits of influenza vaccination** and the potential health consequences of influenza illness for themselves and their patients, the epidemiology and modes of transmission, diagnosis, treatment, and nonvaccine infection control strategies, in accordance with their level of responsibility in preventing health-care–associated influenza.
- **Offer influenza vaccine annually to all eligible HCP** to protect staff, patients, and family members and to decrease HCP absenteeism. Use of either available vaccine (i.e., inactivated [TIV] or live attenuated influenza vaccine [LAIV]) is recommended for eligible persons.
- **Provide influenza vaccination to HCP at the work site and at no cost** as one component of employee health programs. Use strategies that have been demonstrated to increase influenza vaccine acceptance, including vaccination clinics, mobile carts, vaccination access during all work shifts, and modeling and support by institutional leaders.
- **Obtain a signed declination from HCP who decline vaccination** for reasons other than medical contraindications.
- **Monitor HCP vaccination coverage and declination** at regular intervals during influenza season and provide feedback of ward-, unit-, and specialty-specific rates to staff and administration.
- **Use the level of HCP influenza vaccination coverage as one measure of a patient-safety quality program.**

Practical resources for vaccinating HCP against influenza

Centers for Disease Control and Prevention
Read "Influenza Vaccination of Health-Care Personnel" at www.cdc.gov/mmwr/PDF/rr/rr5502.pdf.
Access CDC's Influenza web page: www.cdc.gov/flu

National Influenza Vaccine Summit (NIVS) (Co-sponsored by the American Medical Association and CDC). See the NIVS Healthcare Workers home page:
www.preventinfluenza.org/professionals.asp

The Joint Commission
Visit "Strategies for Implementing Successful Influenza Immunization Programs for Health Care Personnel Project": www.jointcommission.org/PatientSafety/InfectionControl/flu_monograph.htm

U.S. Dept. of Health & Human Services (HHS)
See the HHS "Health Care Personnel Initiative to Improve Influenza Vaccination Toolkit":
www.hhs.gov/ophs/initiatives/vacctoolkit

Immunization Action Coalition (IAC)
Get these IAC print materials online:

- "Standing Orders for Administering Influenza Vaccine to Adults"
  www.immunize.org/catg.d/p3074.pdf
- "Screening Questionnaire for Injectable Influenza Vaccination"
  www.immunize.org/catg.d/p4066.pdf
- "Screening Questionnaire for Intranasal Influenza Vaccination"
  www.immunize.org/catg.d/p4067.pdf
- "Declination of Influenza Vaccination" form
  www.immunize.org/catg.d/p4068.pdf

Visit IAC's "Honor Roll for Patient Safety" to view stellar examples of influenza vaccination mandates in healthcare settings at

www.immunize.org/honor-roll

Technical content reviewed by the Centers for Disease Control and Prevention, June 2010.

www.immunize.org/catg.d/p2014.pdf • Item #P2014 (6/10)

Honor Roll for Patient Safety

from the Immunization Action Coalition

Honoring healthcare institutions with stellar influenza vaccination policies

IAC instituted its Honor Roll for Patient Safety to recognize forward-looking hospitals, professional societies, and government entities that have taken a stand for patient safety by strengthening mandatory influenza vaccination policies for healthcare workers. To date, more than 50 organizations have qualified.

www.immunize.org/honor-roll

To qualify, an organization must require influenza vaccination for employees, and its mandate must include serious measures to prevent transmission of influenza from unvaccinated workers to patients. Such measures might include a mask requirement, reassignment to non-patient-care duties, or dismissal of the employee.

To read about the policies of the organizations that are included, or to apply for the Honor Roll for Patient Safety, go to **www.immunize.org/honor-roll.**

Honorees

Altru Health (ND) • Battle Creek Health System (MI) • BJC HealthCare • Bronson Methodist Hospital (MI)
Capital Region Medical Center (MO) • Children's Hospital of Orange County (CA) • Children's Hospital of Philadelphia
Children's Hospital of the King's Daughters Health System (VA) • Cook County Health & Hospitals System (IL)
Creighton University • Davidson HealthCare (NC) • Emory Healthcare (GA) • Genesis HealthCare System (OH) • Hoag Hospital (CA)
Hospital Corporation of America (HCA) • Hospital of the University of Pennsylvania • Infectious Diseases Society of America
Johns Hopkins Health System (MD) • Kewanee Hospital (IL) • Lakeview Medical Center (WI) • Long Beach Memorial Medical Center (CA)
Loyola University Health System (IL) • MedStar Health • Michigan State University/Kalamazoo Center for Medical Studies
Miller Children's Hospital (CA) • Moses Cone Health System (NC) • National Patient Safety Foundation • New York-Presbyterian Hospital
Orange Coast Memorial Medical Center (CA) • Pacific Hospital of Long Beach (CA) • Petaluma Valley Hospital (CA)
Saddleback Memorial Medical Center (CA) • Saint Alphonsus Regional Medical Center (ID) • Santa Rosa Memorial Hospital (CA)
Spectrum Health Hospitals (MI) • St. Joseph Health System (CA) • St. Jude Medical Center (CA) • Swedish Medical Center (CO)
TriHealth, Good Samaritan and Bethesda North Hospitals (OH) • U.S. Department of Defense • University of California-Davis Health System
University of California-Irvine Healthcare • Virginia Mason Medical Center (WA) • Waverly Health (IA)

To view the complete list of honorees, which includes medical practices, go to www.immunize.org/honor-roll.

Need help responding to vaccine-hesitant parents?

Science-based materials are available from these respected organizations

Vaccine Education Center (VEC) Children's Hospital of Philadelphia

- Tear sheets—Offered in tear-off pads of 50, these are intended for physicians to hand out to patients. Useful titles for hesitant parents include "Too Many Vaccines?" "Thimerosal," "Vaccines and Autism," "Aluminum in Vaccines," and "The Facts About Childhood Vaccines."
- Videos—"Vaccines: Separating Fact from Fear" and "Vaccines and Your Baby" come in DVD format.

Materials can be viewed or printed at http://vaccine.chop.edu/resources. Tear-off pads and DVDs, as well as other VEC materials, can be ordered at nominal cost from the VEC website.

Immunization Action Coalition (IAC)

IAC offers ready-to-print educational pieces that are appropriate for hesitant parents:

- "Clear Answers & Smart Advice About Your Baby's Shots," an excerpt from the popular book "Baby 411" by Dr. Ari Brown www.immunize.org/catg.d/p2068.pdf
- "MMR Vaccine Does Not Cause Autism: Examine the Evidence!" www.immunize.org/catg.d/p4026.pdf
- "Vaccines Work!" www.immunize.org/catg.d/p4037.pdf
- Many other online resources for addressing vaccine concerns are available at www.immunize.org/concerns.
- Consider establishing a vaccine policy for your practice. You can download and customize the sample policy located at www.immunize.org/catg.d/p2067.pdf.

American Academy of Pediatrics (AAP)

- This chart shows hesitant parents how great an impact vaccination has had on child health: www.aap.org/immunization/families/faq/whyimmunize.pdf.
- An aid to help parents evaluate information on the Internet: www.aap.org/immunization/families/faq/FAQ_Internet.pdf.
- "Facts for Parents About Vaccine Safety" In English: www.aap.org/immunization/families/VaccineSafety1pagerEnglish.pdf or Spanish: www.aap.org/immunization/families/VaccineSafety1pagerSpanish.pdf.
- General guidelines for talking to hesitant parents are outlined here: www.aap.org/immunization/pediatricians/pdf/Vaccine-Hesitant%20Parent_Final.pdf.
- When parents cannot be convinced, consider using AAP's Refusal to Vaccinate form at www.aap.org/immunization/pediatricians/pdf/RefusaltoVaccinate.pdf.

Every Child by Two (ECBT)

ECBT's website, www.ecbt.org, focuses on policy-oriented information, such as the economic benefits of immunization.

California Immunization Coalition

The California Immunization Coalition (CIC) has developed several excellent provider pieces that discuss common questions many parents may have regarding vaccines for their children. These include

- "Responding to Parents' Top 10 Concerns" http://immunizeca.org/documents/IMM-917_web.pdf
- "Talking with Parents About Vaccine Safety" http://immunizeca.org/documents/IMM-915_web.pdf
- "Alternate Vaccine Schedules: Helping Parents Separate Fact From Fear" http://immunizeca.org/documents/IMM-988.pdf

Centers for Disease Control and Prevention (CDC)

Among CDC's many online immunization resources is the "Parent's Guide to Childhood Immunization," a 68-page booklet that can be ordered or printed at www.cdc.gov/vaccines/pubs/parents-guide.

Other CDC web pages can be made print-ready by clicking "Printer-Friendly Format" in the top right-hand corner of the page. Here are examples that may help you work with hesitant parents:

- "Some Common Misconceptions" www.cdc.gov/vaccines/vac-gen/6mishome.htm
- "How Vaccines Prevent Disease" www.cdc.gov/vaccines/vac-gen/howvpd.htm
- "What Would Happen If We Stopped Vaccinations?" www.cdc.gov/vaccines/vac-gen/whatifstop.htm
- "Why It's Important to Monitor Vaccine Safety" www.cdc.gov/vaccinesafety/Vaccine_Monitoring/Index.html

Institute for Vaccine Safety, Johns Hopkins University

The Institute for Vaccine Safety collects vaccine-specific safety information. Of particular interest is its Components section, which contains tables specifying the contents of various vaccines: www.vaccinesafety.edu/components.htm.

For parents with concerns about vaccines and autism

AAP has issued a statement that can be printed at www.aap.org/advocacy/releases/autismparentfacts.htm. Parents may wish to investigate further at www.aap.org/healthtopics/Autism.cfm. IAC also recommends these books:

- *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure,* by Paul A. Offit, MD
- *Unstrange Minds: Remapping the World of Autism,* by Roy Richard Grinker, PhD

For parents who want to do further searching on their own

IAC has developed a one-page guide "Reliable Sources of Immunization Information: Where to go to find answers!" that can be downloaded at www.immunize.org/catg.d/p4012.pdf.

Technical content reviewed by the Centers for Disease Control and Prevention, June 2010.

www.immunize.org/catg.d/p2070.pdf • Item #P2070 (6/10)

Order Essential Immunization Resources from IAC

Laminated immunization schedules give you solid information for 2010—order today!

IAC has two laminated immunization schedules for 2010—one for children/teens and one for adults. Based on CDC's immunization schedules, these laminated schedules are covered with a tough, washable coating. This allows them to stand up to many months of use as at-your-fingertips guides to immunization and as teaching tools you can use to give patients and parents authoritative information. Plus, each schedule includes a guide to vaccine contraindications and precautions, an additional feature that will help you make on-the-spot determinations about the safety of vaccinating patients of any age.

To order laminated schedules or any of our other essential immunization resources, print out and mail or fax the form below or place your order online at **www.immunize.org/shop.**

It's convenient to shop IAC online at www.immunize.org/shop

Order Essential Immunization Resources

CD-ROM of IAC print materials

FREE with a contribution of $75 or more (see below). The CD contains all of IAC's ready-to-print materials in English and any translations available in Spanish. Includes VISs in English and Spanish.

Laminated U.S. Immunization Schedules (details p. 3; call for discounts on bulk orders)

Qty.			Amt.
____	R2008	Child/teen schedule: 1-4 copies–$7.50 each; 5-19 copies–$5.50 each ... $	_____
____	R2009	Adult schedule: 1-4 copies–$7.50 each; 5-19 copies–$5.50 each..... $	_____

Padded Questionnaires for Vaccine Contraindications English on one side/Spanish on the other (details p. 3; call for discounts on bulk orders)

100 sheets/pad; 1 pad–$16; 2 pads–$12 each; 3 pads–$11 each; 4 pads–$10 each

____	R4060	Child/teen screening questionnaire in English/Spanish ..... $	_____
____	R4065	Adult screening questionnaire in English/Spanish..... $	_____

Patient Immunization Record Cards – (wallet-sized) (details p. 3; call for discounts on bulk orders)

250 cards/box; 1 box–$37.50; 2 boxes–$35 each; 3 boxes–$32.50 each; 4 boxes–$30 each

____	R2003	Child/teen immunization record cards ..... $	_____
____	R2005	Adult immunization record cards ..... $	_____
____	R2004	Lifetime immunization record cards ..... $	_____

DVD (call for discounts on bulk orders)

____	D2020	DVD: Immunization Techniques: Safe, Effective, Caring–$10.50 ..... $	_____

Subtotal for Purchases $ _____

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I am a ❑ new ❑ renewing contributor.

Here is my contribution:

❑ $25 ❑ $50 ❑ $75 ❑ $100 ❑ $125
❑ $150 ❑ $200 ❑ $250 other: $_____

❒ As a thank-you gift, I'd like a packet of some of IAC's most popular print pieces.

❒ I'm contributing $75 or more and would like the additional thank-you gift of a CD containing all of IAC's English- and Spanish-language print materials, plus Vaccine Information Statements in English and Spanish.

IAC is a 501(c)(3) charitable organization and your contribution is tax deductible to the fullest extent of the law.

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Fax the page to: (651) 647-9131 or

Mail the page to: Immunization Action Coalition
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St. Paul, MN 55104

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*The CV Code is the Credit Verification Code, the additional 3- or 4-digit number on your credit card.

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Organization _____

Shipping address (Check one: This is my ❑ organization address ❑ home address) _____

City/State/Zip _____

Telephone _____

Email address _____

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type 1 (PCV1) in the vaccine. In May, Merck confirmed the presence of DNA from PCV1 and porcine circovirus type 2 (PCV2) in its rotavirus vaccine, RotaTeq.

On May 14, FDA updated its recommendations for both Rotarix and RotaTeq vaccines for the prevention of rotavirus disease in infants. Based on careful evaluation of a variety of scientific information, FDA has determined it is appropriate for clinicians and healthcare professionals to resume the use of Rotarix and to continue the use of RotaTeq. All available evidence supports the safety and effectiveness of Rotarix and RotaTeq. Both vaccines were extensively studied before and after approval. For more detailed information go to www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm205539.htm.

Many children in my practice have received their complete series of 7-valent pneumococcal conjugate vaccine (PCV7). Would you please review the recommendations for which of them now need a supplemental dose of 13-valent pneumococcal conjugate vaccine (PCV13)?

A single supplemental dose of PCV13 is recommended for all children ages 14 through 59 months who have received the complete 4-dose series of PCV7 or another age-appropriate, complete PCV7 schedule. For children who have underlying medical conditions, a single supplemental PCV13 dose is recommended through age 71 months. This also includes children who have previously received pneumococcal polysaccharide vaccine (PPSV23). Give the single supplemental dose of PCV13 no sooner than 8 weeks after the last dose of PCV7 or PPSV23 was given.

IAC has created a table that explains how to use PCV13 to catch up children who have fallen behind on their PCV7 doses. It's available at www.immunize.org/catg.d/p2016.pdf and also on page 7 of this issue of *Needle Tips.*

I have a 13-year-old patient in my practice who recently had his spleen removed. He has been vaccinated with pneumococcal polysaccharide vaccine (PPSV23) but never received 7-valent pneumococcal conjugate vaccine (PCV7). Can I give him the new 13-valent pneumococcal conjugate vaccine, PCV13?

Yes. Administer a single dose of PCV13 to children ages 6 through 18 years who are at increased risk for invasive pneumococcal disease because of sickle cell disease, HIV infection or other immunocompromising condition, cochlear implant, functional or anatomical asplenia, or cerebrospinal fluid leaks, regardless of whether they have previously received PCV7 or PPSV23. A table that details the underlying medical conditions that are indications for pneumococcal vaccination among children is available on page 260 of the related ACIP recommendations at www.cdc.gov/mmwr/PDF/wk/mm5909.pdf.

We see children ages 7 through 9 years who are behind on their diphtheria-tetanus toxoids and acellular pertussis (DTaP) series or their tetanus-diphtheria toxiods (Td) series. Though FDA hasn't licensed Tdap for children in this age group, when pertussis is circulating in the community or a new infant is in the home, I believe it would be prudent to give Tdap instead of Td. What is your opinion?

No Tdap product is licensed for this age group, so the official recommendation is to give Td to children this age who need additional doses. Providers may certainly choose to exercise their professional judgment and give Tdap vaccine "off-label" in cases where they think the patient is at risk of either acquiring or transmitting pertussis.

Instead of giving tetanus/diphtheria toxoid and acellular pertussis (Tdap) vaccine to a father-to-be who needed protection against pertussis, we mistakenly gave him tetanus/diphtheria (Td) toxoid. How soon after the Td dose can we give him the dose of Tdap he needs?

As long as they are younger than age 65 years and at least age 10 years, parents, grandparents, healthcare workers, and all others who have not already received Tdap, and who are close contacts of infants younger than age 12 months, should receive a single dose of this vaccine as soon as possible to protect infants from pertussis. When giving Tdap to protect infants, one does not need to observe a "minimum interval" between giving Td and Tdap. For example, if you had immediately realized that you had mistakenly given the father-to-be Td instead of Tdap, you could have given him the needed Tdap dose at the same visit at which you gave him the erroneous Td dose.

CDC recommendations state that the minimum intervals for human papillomavirus (HPV) vaccination are at least 4 weeks between doses #1 and #2, and at least 12 weeks between doses #2 and #3. This adds up to a total of 16 weeks between doses #1 and #3. But the recommendations also say that there must be a minimum of 24 weeks between doses #1 and #3. This doesn't make sense to me.

When administering HPV vaccine, you must meet ALL the minimum intervals. For example, if you give dose #2 at the minimum interval of 4 weeks after dose #1, you must wait 20 weeks to give dose #3 in order to meet the 24-week minimum interval between #1 and #3. Determination of these minimum intervals was based on extensive discussion with the manufacturers and on data from the HPV clinical trials.

We mistakenly gave a patient the diluent for Menveo meningococcal conjugate vaccine (MCV4; Novartis) without adding it to the powdered vaccine. Since vaccine is present in the diluent as well as in the powder, what should we do now?

Menveo's liquid vaccine component (i.e., diluent) contains the C, Y, and W-135 serogroups, and the lyophilized vaccine component (i.e., freeze-dried powder) contains serogroup A. Because the patient received only the diluent, he or she is not protected against invasive meningococcal disease caused by *Neisseria meningitidis* serogroup A.

Invasive disease with *N. meningitidis* serogroup A is very rare in the United States; it is more common in some other countries, particularly the African meningitis belt. If the patient who received only the C-Y-W135 diluent does not plan to travel outside the United States, the dose does not need to be repeated. However, if the patient plans to travel outside the United States, the dose should be repeated with either correctly reconstituted Menveo, or with a dose of Menactra brand (sanofi pasteur) MCV4. There is no minimum interval between the incorrect dose and the repeat dose.

We now have two meningococcal conjugate vaccines (MCV4) to chose from—Menactra (sanofi pasteur) and Menveo (Novartis). It would be useful to know if they are interchangeable when repeat doses of MCV4 are needed.

Although both vaccines are licensed for single-dose use, you can use either vaccine to revaccinate people ages 11 through 55 years who are at prolonged increased risk for meningococcal disease. Only Menactra is licensed for vaccinating children ages 2 through 10 years. Use only meningococcal polysaccharide vaccine (MPSV4; Menomune; sanofi pasteur) when vaccinating or revaccinating people age 56 years and older.

To access updated recommendations for revaccinating people at prolonged increased risk for meningococcal disease, go to: www.cdc.gov/mmwr/PDF/wk/mm5837.pdf, and see pages 1042–43.

If an adult or child has not had documented chickenpox but has had shingles, is varicella vaccination recommended?

No. Shingles is caused by varicella zoster, the same virus that causes chickenpox. A history of shingles based on a healthcare provider diagnosis is evidence of immunity to chickenpox. Therefore, a person who has had shingles does not need to be vaccinated against varicella. He/she should still receive zoster vaccine, however, if it is not contraindicated and he/she is age 60 or older.

If a dose of vaccine is invalid because it was given more than 4 days before the minimum interval, when should it be repeated?

The repeat dose should be spaced after the invalid dose by an interval at least equal to the recommended minimum interval. You'll find minimum intervals here: www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf.

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.