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VACCINATE ADULTS!

from the Immunization Action Coalition — www.immunize.org

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Temperature Monitoring — the "Vital Sign" for Vaccine Storage

A patient's physical exam usually begins with checking vital signs of pulse, respiratory rate, blood pressure, and temperature. But when checking your vaccine supply, only one "vital sign"— temperature — must be monitored to assure your vaccines remain viable. Regular monitoring of vaccine storage temperatures is critical to ensuring quality patient care.

The Centers for Disease Control and Prevention's (CDC) *Vaccine Storage & Handling Toolkit,* at www.cdc.gov/vaccines/recs/storage/default.htm, covers topics including routine storage and handling practices, proper storage and monitoring equipment, and inventory management. The toolkit also includes CDC's recommendation that only stand-alone units, i.e., self-contained units that only refrigerate or only freeze, be used for vaccine storage.

As a companion resource to the toolkit, CDC and the Immunization Action Coalition (IAC) have updated the popular vaccine temperature logs:

- Vaccine Temperature Log for Refrigerator in Fahrenheit and Celsius
- Vaccine Temperature Log for Freezer in Fahrenheit and Celsius

All are available at www.immunize.org/clinic/storage-handling.asp.

These logs provide a convenient tool for documenting storage unit temperatures a minimum of twice each workday, as recommended by CDC. They also have space to document daily minimum/maximum temperature readings. Twice-a-day monitoring is important even if temperatures are being assessed with a digital system. This proactive approach can prevent inadvertent loss of vaccine and the potential need for revaccination by assuring that temperature excursions are identified quickly so that immediate corrective action can be taken. This physical inspection also provides an opportunity to visually examine the storage unit, reorganize any vaccines that are inadvertently misplaced, and remove any expired vaccines.

In spite of appropriate monitoring, unacceptable vaccine storage events sometimes occur. For these instances, CDC and IAC have developed a new Vaccine Storage Troubleshooting Record at www.immunize.org/catg.d/p3041.pdf. This one-page form leads clinic staff through a series of pertinent questions so they can document both the circumstances of the event and the subsequent actions taken. Most importantly, the form helps users identify ways to prevent similar problems from occurring in the future. The form is available both as a stand-alone document and also is included as part of the vaccine temperature logs.

Be sure to use these updated resources to assist your clinic staff in monitoring storage unit temperatures, a "vital" aspect of ensuring vaccine viability.

Ask the Experts

IAC extends thanks to our experts, medical officer 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).

Influenza vaccine

What influenza vaccine products will be available during the 2013–14 influenza season?

Seven manufacturers now produce influenza vaccine for the U.S. market through different technologies (e.g., egg-based, cell culture-based, and recombinant hemagglutinin vaccines). The seven manufacturers and the products they have available for the upcoming season are listed below.

A series of new abbreviations will help identify the different types of vaccines available. The current abbreviations include *IIV* for inactivated influenza vaccine, *RIV* for recombinant hemagglutinin influenza vaccine, *LAIV* for live, attenuated influenza vaccine, and *ccIIV* for cell culture-based IIV. The addition of either a 3 or a 4 at the end of an abbreviation indicates if the vaccine is trivalent or quadrivalent (e.g., IIV3, RIV3, IIV4, LAIV4). The currently available products are

- Afluria (IIV3), CSL Limited
- Fluarix (IIV3, IIV4), GlaxoSmithKline
- FluLaval (IIV3, IIV4), ID Biomedical Corporation of Quebec
- FluMist (LAIV4), MedImmune
- Fluvirin (IIV3), Novartis
- Flucelvax (ccIIV3), Novartis
- Flublok (RIV3), Protein Sciences Corporation
- Fluzone (IIV3, IIV4), sanofi pasteur

Ask the Experts continued on page 10 ▶

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)

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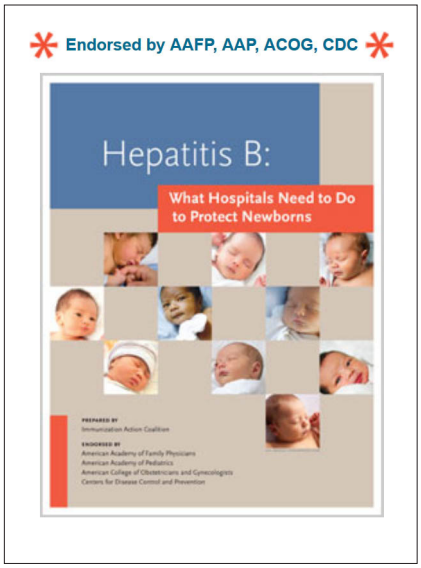
Please help "*Give birth to the end of Hep B!*"

To learn more, visit www.immunize.org/protect-newborns

On July 16th, the Immunization Action Coalition (IAC) launched an initiative urging the nation's hospitals to *Give birth to the end of Hep B*. IAC has created the Protect Newborns web section — www.immunize.org/protect-newborns — to feature related resources from its new campaign. It includes a free 84-page guidebook for hospitals and birthing centers. Read on for more details.

About the Guidebook *Hepatitis B: What Hospitals Need to Do to Protect Newborns*

The centerpiece of the initiative is IAC's new, comprehensive guidebook, *Hepatitis B: What Hospitals Need to Do to Protect Newborns*. The book contains a wide range of resources to help birthing institutions establish, implement, and optimize their hepatitis B vaccine birth dose policies. The resources include background information about medical errors and educational materials for staff and parents. The American Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), the American College of Obstetricians and Gynecologists (ACOG), and the Centers for Disease Control and Prevention (CDC) have reviewed and endorsed IAC's birth dose guidebook.



IAC's 84-page Guidebook

- Table of contents
- Download entire guide [4.3 MB]

Hepatitis B Birth Dose Honor Roll

Complementing the guidebook is our new Hepatitis B Birth Dose Honor Roll, which recognizes birthing institutions that have attained a birth dose coverage rate of 90% or greater and have met specific additional criteria. These criteria help define the important elements of a birth dose policy needed to ensure newborns are protected from hepatitis B virus infection, even when medical errors occur.

Birth Dose Honor Roll

In achieving a 99% coverage rate, Albany Medical Center (Albany, NY) became the first birth dose champion to be inducted into the honor roll at the initiative's July 16 launch event in Albany.

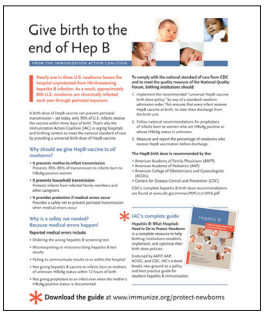
For information about the Hepatitis B Birth Dose Honor Roll and how you can apply, visit www.immunize.org/honor-roll/birthdose.

Additional Resources

IAC has developed a fact sheet about its initiative and the guidebook. The information it includes about the importance of implementing a hepatitis B birth dose policy can help you to garner support in your healthcare setting.

IAC will announce new enrollees in the Hepatitis B Birth Dose Honor Roll in *IAC Express*, our free weekly email news service.

If you would like to start receiving weekly email announcements about important developments related to immunization, as well as future updates to the Birth Dose Honor Roll, we urge you to complete the sign-up form at www.immunize.org/subscribe.



Birth Dose Fact Sheet

- Color version
- B&W version

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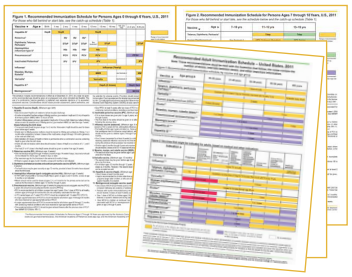
Laminated adult and child immunization schedules Order one of each for every exam room



Here are the ACIP/AAFP/ACP/ACOG/ACNM-approved schedule for adults and the ACIP/AAP/AAFP-approved immunization schedule for people ages 0 through 18 years. 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 12.

For 20 or more copies, contact us for discount pricing: admininfo@immunize.org

Wallet-sized immunization record cards for all ages: For adults, children & teens, and for a lifetime!

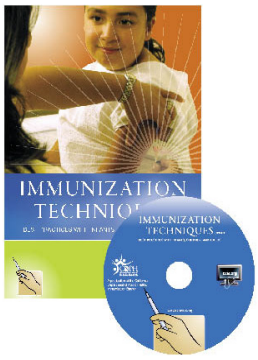
Now you can give any patient a permanent vaccination record card designed specifically for their age group: adult, child & teen, or lifetime. These brightly colored cards are printed on durable rip-, smudge-, and water-proof paper. To view the cards or for more details, go to www.immunize.org/shop and click on the images.

Buy 1 box (250 cards) for $45 (first order of a 250-card box comes with a 30-day, money-back guarantee). Discounts for larger orders: 2 boxes $40 each; 3 boxes $37.50 each; 4 boxes $34.50 each

To order, visit www.immunize.org/shop, or use the order form on page 12.

To receive sample cards, contact us: admininfo@immunize.org

"Immunization Techniques — Best Practices with Infants, Children, and Adults"



The California Department of Public Health, Immunization Branch, updated its award-winning training video, "Immunization Techniques: Best Practices with Infants, Children, and Adults." The 25-minute DVD can be used to train new employees and to refresh the skills of experienced staff on administering injectable, oral, and nasal-spray vaccines to children, teens, and adults. Make sure your healthcare setting has the 2010 edition!

The cost is $17 each for 1–9 copies; $10.25 each for 10–24 copies; $7 each for 25–49 copies; $5.75 each for 50–99 copies.

To order, visit www.immunize.org/shop, or use the order form on page 12.

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Vaccine Highlights

Recommendations, schedules, and more

Editor's note: The information in Vaccine Highlights is current as of September 11, 2013.

The next ACIP meetings

A committee of 15 national experts, the Advisory Committee on Immunization Practices (ACIP) advises CDC on the appropriate use of vaccines. ACIP meets three times a year in Atlanta; meetings are open to the public. The next two meetings will be held on Oct. 23–24, 2013, and Feb. 26–27, 2014. For more information, visit www.cdc.gov/vaccines/acip/index.html.

ACIP periodically issues public health recommendations on the use of vaccines. Clinicians who vaccinate should have a current set for reference. Published in the *Morbidity and Mortality Weekly Report (MMWR)*, ACIP recommendations are readily available. Here are sources:

- Download them from links on IAC's website: www.immunize.org/acip.
- Download them from CDC's recently updated ACIP website at www.cdc.gov/vaccines/hcp/acip-recs.

Vaccine news

On August 7, CDC posted "Summary Recommendations: Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—(ACIP)—United States, 2013–14" on its website. This document is a summary of the ACIP influenza vaccination recommendations for the 2013–2014 season. The full recommendations will be published in *MMWR* at a future date. To access the summary recommendations, go to www.cdc.gov/flu/professionals/acip/2013-summary-recommendations.htm.

On June 14, CDC published ACIP recommendations titled *Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013*. The document summarizes recommendations made during 1998–2011 and adds revisions ACIP adopted in October 2012. These include changes in (1) acceptable evidence of immunity to measles and mumps, (2) age indication for MMR vaccination of people with HIV infection, and (3) measles postexposure prophylaxis. Access the recommendations at www.cdc.gov/mmwr/pdf/rr/rr6204.pdf.

On June 6, CDC announced that the rabies vaccines RabAvert (Novartis) and Imovax (sanofi pasteur) are available without restriction for preexposure and postexposure prophylaxis. Access continually updated information on CDC's Rabies Vaccine and Immune Globulin Availability web page at www.cdc.gov/rabies/resources/availability.html.

On July 19, CDC published "Updated Recommendations for Use of VariZIG—U.S., 2013." It states that the decision to administer VariZIG immune globulin for varicella postexposure prophylaxis depends on whether (1) the patient lacks evidence of immunity to varicella, (2) the exposure is likely to result in infection, and (3) the patient is at greater risk for varicella complications than the general population. For high-risk patients who have additional exposures to varicella-zoster virus 3 or more weeks after initial VariZIG administration, another dose of VariZIG should be considered. To access the ACIP recommendations, see pages 574–576 of www.cdc.gov/mmwr/pdf/wk/mm6228.pdf.

Vaccine Info. Statement news

On July 26, CDC issued two influenza vaccine VISs for use during the 2013–14 season. One is for inactivated influenza vaccine (IIV), the other for live attenuated influenza vaccine (LAIV). The VIS for IIV is intended for use with all inactivated formulations—trivalent, quadrivalent, cell-culture, recombinant, intradermal, and high-dose. To access the IIV VIS and its translations, go to www.immunize.org/vis/vis_flu_inactive.asp. To access the LAIV VIS and its translations, go to www.immunize.org/vis/vis_flu_live.asp.

On May 17, CDC released an updated VIS for Gardasil human papillomavirus vaccine (HPV4; Merck). The only substantive change is the removal of language relating to Merck's pregnancy registry. To access the VIS for Gardasil and its translations, go to www.immunize.org/vis/vis_hpv_gardasil.asp.

On May 9, CDC released an updated VIS for Tdap vaccine. The VIS contains information about Tdap only (it does not cover Td). Changes in the VIS relate primarily to recommendations regarding use of Tdap during pregnancy. To access the new Tdap VIS and its translations, go to www.immunize.org/vis/vis_tdap.asp.

Note: When vaccinating patients with Td, providers should continue to use the 1/24/12 Td/Tdap VIS until a VIS dedicated exclusively to Td is available.

More CDC news

On May 31, CDC published "Preventing Unsafe Injection Practices in the U.S. Health-Care System." It states the following: "Safe administration depends on adherence to the practices outlined in CDC's evidence-based Standard Precautions guideline. Health-care providers should never (1) administer medications from the same syringe to more than one patient, (2) enter a vial with a used syringe or needle, or (3) administer medications from single-dose vials to multiple patients. They also should maintain aseptic technique at all times and properly dispose of used injection equipment." To access the document, see pages 423–425 of www.cdc.gov/mmwr/pdf/wk/mm6221.pdf.

In July, CDC made the 2014 edition of the Yellow Book (formally titled *CDC Health Information for International Travel*) available online and in print. To access the online and print versions, go to wwwnc.cdc.gov/travel/page/yellowbook-home-2014. Single-copy cost is approximately $40.

New and updated VISs

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	MMRV	5/21/10
Hepatitis A	10/25/11	PCV13	2/27/13
Hepatitis B	2/2/12	PPSV	10/6/09
Hib	12/16/98	Polio	11/8/11
HPV (Cervarix)	5/3/11	Rabies	10/6/09
HPV (Gardasil)	5/17/13	Rotavirus	8/26/13
Influenza (LAIV)	7/26/13	Shingles	10/6/09
Influenza (TIV)	7/26/13	Td/Tdap	1/24/12
Japan. enceph.	12/7/11	Tdap	5/9/13
Meningococcal	10/14/11	Typhoid	5/29/12
MMR	4/20/12	Varicella	3/13/08
Multi-vaccine VIS (for 6 vaccines given to infants/children: DTaP, IPV, Hib, HepB, PCV, RV)	11/16/12	Yellow fever	3/30/11

For a ready-to-print version of this table for posting in your practice, go to www.immunize.org/catg.d/p2029.pdf.

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www.immunize.org/subscribe

Vaccinations for Pregnant Women

The table below shows which vaccinations you should have to protect your health when you are pregnant. Make sure you and your healthcare provider keep your vaccinations up to date.

Vaccine	Do you need it?
Hepatitis A (HepA)	***Maybe.*** You need this vaccine if you have a specific risk factor for hepatitis A virus infection* or simply want to be protected from this disease. The vaccine is usually given in 2 doses, 6 months apart. It's safe to get this vaccine during pregnancy.
Hepatitis B (HepB)	***Maybe.*** You need this vaccine if you have a specific risk factor for hepatitis B virus infection* or simply want to be protected from this disease. The vaccine is usually given in 3 doses, over a 6-month period. It's safe to get this vaccine during pregnancy. It's important, too, that your newborn baby gets started on his or her hepatitis B vaccination series before leaving the hospital.
Human papillomavirus (HPV)	***No.*** This vaccine is not recommended to be given during pregnancy, but if you inadvertently receive it, this is not a cause for concern. HPV vaccine is recommended for all women age 26 years or younger, so make sure you are vaccinated before or after your pregnancy. The vaccine is given in 3 doses over a 6-month period.
Influenza	***Yes!*** You need a flu shot every fall (or winter) for your protection and for the protection of others around you. It's safe to get the vaccine during pregnancy.
Measles, mumps, rubella (MMR)	***No.*** The MMR vaccine is not recommended to be given during pregnancy, but if you inadvertently receive it, this is not a cause for concern. At least 1 dose of MMR vaccine is recommended for you if you were born in 1957 or later. (And you may need a second dose.*) It's best for you (and any future baby) to receive the protection vaccination provides before trying to conceive.
Meningococcal (MCV4, MPSV4)	***Maybe.*** You need this vaccine if you have one of several health conditions, or if you are 19–21 and a first-year college student living in a residence hall and you either have never been vaccinated or were vaccinated before age 16.* It's safe to get the vaccine during pregnancy.
Pneumococcal (PCV13, PPSV23)	***Maybe.*** You need this vaccine if you have a specific risk factor for pneumococcal disease, such as diabetes. If you're unsure of your risk, talk to your healthcare provider to find out if you need this vaccine.* It's safe to get the vaccine during pregnancy.
Tetanus, diphtheria, and whooping cough (pertussis) (Tdap, Td)	***Yes!*** Women who are pregnant need a dose of Tdap vaccine (adult whooping cough vaccine) during each pregnancy, preferably during the third trimester. After that, you'll need a Td booster dose every 10 years. Talk to your healthcare provider if you haven't had at least 3 tetanus- and diphtheria-containing shots sometime in your life or if you have a deep or dirty wound.
Varicella (chickenpox) (VAR)	***No.**** Varicella vaccine is not recommended to be given during pregnancy, but if you inadvertently receive it, this is not a cause for concern. If you haven't been vaccinated or had chickenpox, it's best for you (and any future baby) to be protected with the vaccine before trying to conceive. If you were born in the U.S. in 1980 or later and have never had chickenpox or the vaccine, you need to get 2 doses 4–8 weeks apart.

*Consult your healthcare provider to determine your level of risk for infection and your need for this vaccine.

If you will be traveling outside the United States, you may need additional vaccines. For information, consult your healthcare provider, a travel clinic, or the Centers for Disease Control and Prevention at www.cdc.gov/travel.

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1573 Selby Avenue • Saint Paul, Minnesota 55104 • 651-647-9009
www.immunize.org • www.vaccineinformation.org
http://www.immunize.org/catg.d/p4040.pdf • Item #P4040 (8/13)

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

New! Easy-to-read handouts in English and Spanish encourage adults and teens to get vaccinated

Use these handouts to teach patients about the dangers of vaccine-preventable diseases and value of vaccination

Protéjase de la **enfermedad meningocócica...** ¡Vacúnese!

Protect yourself from **pneumococcal disease**... Get vaccinated!

Protéjase del **herpes...** ¡Vacúnese!

Protect yourself from **hepatitis A**... Get vaccinated!

La hepatitis B es una enfermedad grave... ¡Proteja a su hijo!

Protect yourself from **HPV**... Get vaccinated!

La gripe (influenza) es una enfermedad grave... ¡Proteja a su hijo!

Protect yourself from **whooping cough**... Get vaccinated!

What is whooping cough? Whooping cough is a serious disease caused by bacteria. It is called whooping cough because of the "whoop" heard when a person who has it gasps for breath. Whooping cough is also known as pertussis.

How do you catch it? Whooping cough is spread through the air by coughing and sneezing. It is very contagious.

Is it serious? Whooping cough can trigger coughing so severe that it results in vomiting and broken ribs. The cough can last for weeks or months.

More than half of babies younger than one year old who get whooping cough are hospitalized. Babies are the most likely to die from whooping cough or have complications such as seizures and brain damage.

Am I at risk? Yes. Whooping cough is most dangerous for babies, but anyone can become seriously ill from it.

How can I protect myself from whooping cough? You can protect yourself (and others) by getting vaccinated.

All babies, children, and teens should get vaccinated against whooping cough as part of their regular checkups.

Adults should also get vaccinated against whooping cough to protect themselves, their families and friends, and babies they may be in contact with.

Babies and children need to be vaccinated with DTaP vaccine, and older children, teens, and adults should receive Tdap vaccine. These vaccines protect against diphtheria, tetanus, and pertussis (whooping cough).

Ask your healthcare provider if you need this vaccine!

▶ For more information, visit www.vaccineinformation.org

For other vaccine handouts in this series, visit www.immunize.org/handouts

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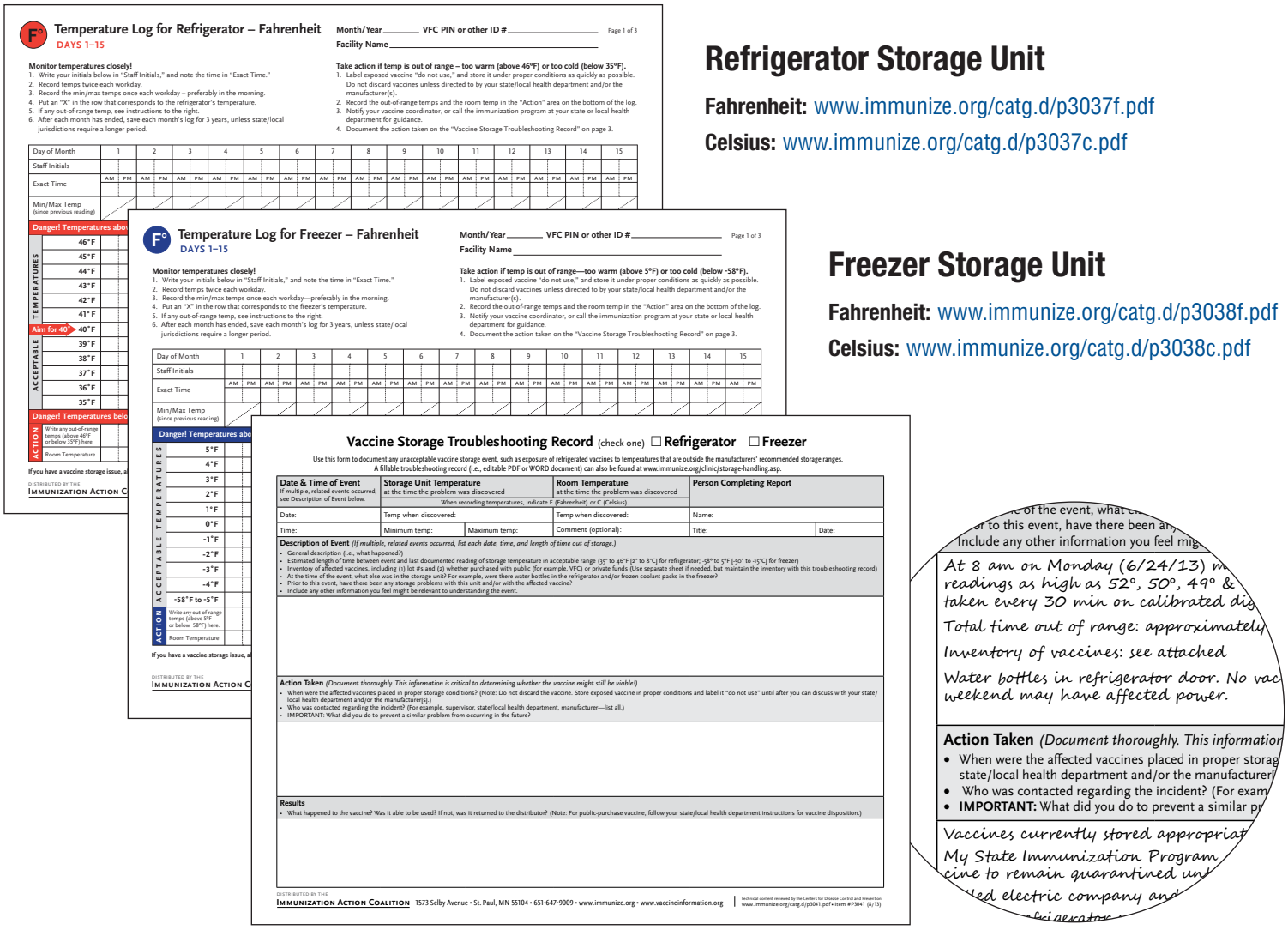
Technical content reviewed by the Centers for Disease Control and Prevention
1573 Selby Avenue • Saint Paul, Minnesota • www.immunize.org
www.immunize.org/catg.d/p4416.pdf • Item #P4416 (5/13)

For 8-1/2" x 11" copies of the pieces above, visit IAC's website: www.immunize.org/vaccine-summaries

	ENGLISH	SPANISH
1. Protect yourself from hepatitis A...	www.immunize.org/catg.d/p4402.pdf	www.immunize.org/catg.d/p4402-01.pdf
2. Protect yourself from hepatitis B...	www.immunize.org/catg.d/p4404.pdf	www.immunize.org/catg.d/p4404-01.pdf
3. Protect yourself from HPV...	www.immunize.org/catg.d/p4406.pdf	www.immunize.org/catg.d/p4406-01.pdf
4. Protect yourself from influenza...	www.immunize.org/catg.d/p4408.pdf	www.immunize.org/catg.d/p4408-01.pdf
5. Protect yourself from meningococcal disease...	www.immunize.org/catg.d/p4410.pdf	www.immunize.org/catg.d/p4410-01.pdf
6. Protect yourself from pneumococcal disease...	www.immunize.org/catg.d/p4412.pdf	www.immunize.org/catg.d/p4412-01.pdf
7. Protect yourself from shingles...	www.immunize.org/catg.d/p4414.pdf	www.immunize.org/catg.d/p4414-01.pdf
8. Protect yourself from whooping cough...	www.immunize.org/catg.d/p4416.pdf	www.immunize.org/catg.d/p4416-01.pdf

Updated! Temperature logs for separate refrigerator and freezer vaccine storage units

New! Troubleshooting record with instructions and examples of problems and corrective actions



Refrigerator Storage Unit

Fahrenheit: www.immunize.org/catg.d/p3037f.pdf

Celsius: www.immunize.org/catg.d/p3037c.pdf

Freezer Storage Unit

Fahrenheit: www.immunize.org/catg.d/p3038f.pdf

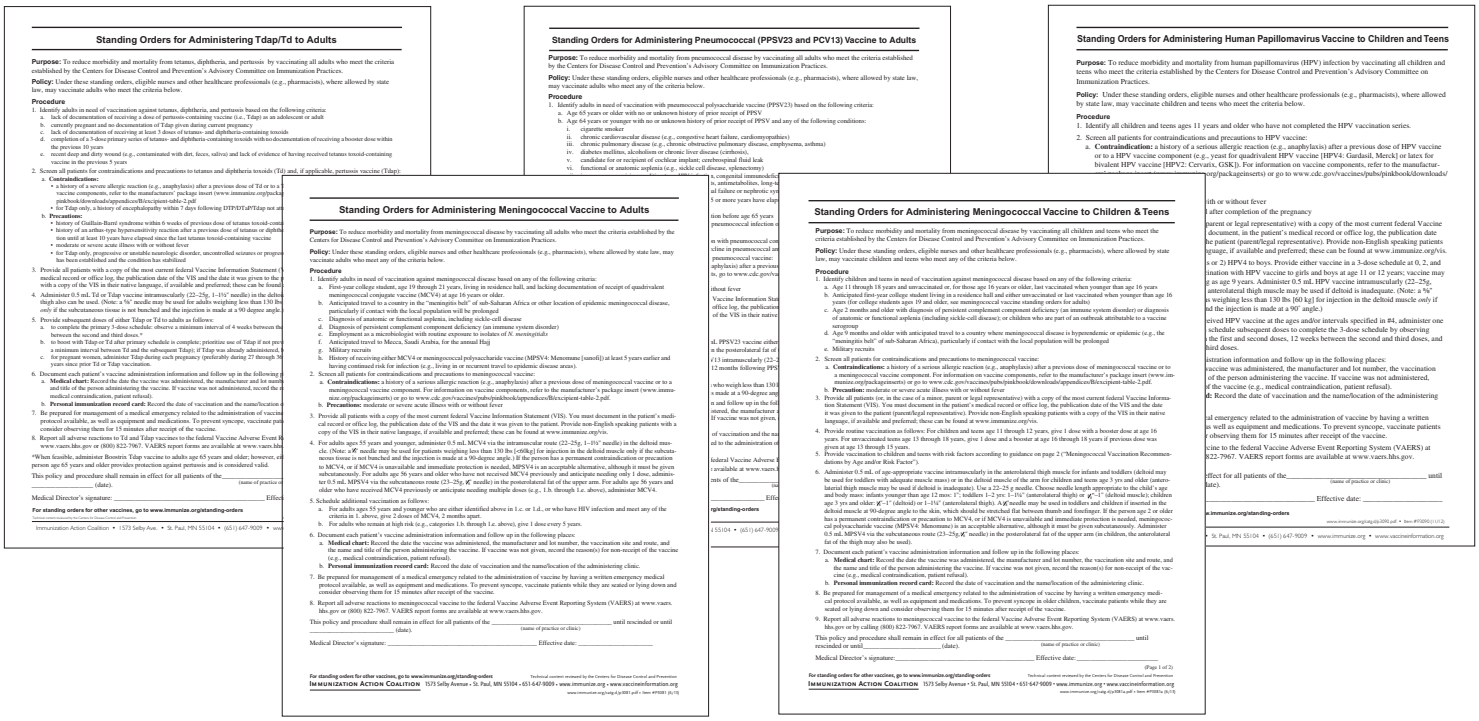
Celsius: www.immunize.org/catg.d/p3038c.pdf

New troubleshooting record! Fill in electronically (as fillable PDF) or by hand. Additional pages include examples of how this can be filled in.

Fillable PDF: www.immunize.org/catg.d/p3041.pdf

Standing Orders for Administering Vaccines

Free and CDC-reviewed, they're ready for you to download, copy, and use!



Standing Orders for Administering Tdap/Td to Adults

Standing Orders for Administering Pneumococcal (PPSV23 and PCV13) Vaccine to Adults

Standing Orders for Administering Human Papillomavirus Vaccine to Children and Teens

Standing Orders for Administering Meningococcal Vaccine to Adults

Standing Orders for Administering Meningococcal Vaccine to Children & Teens

Here are standing orders for child, teen, and adult vaccinations

Click blue text to view standing orders documents

Vaccines	Standing Orders Documents (date of latest revision)	
DTaP	Child (10/12)	
Hib	Child (4/13)	
HepA	Child/Teen (6/13)	Adult (6/13)
HepB	Child/Teen (10/12)	Adult (6/13)
HPV	Child/Teen (11/12)	Adult (11/12)
IPV (polio)	Child/Teen (12/09)	
Influenza	Child/Teen (9/13)	Adult (9/13)
MMR	Child/Teen (6/13)	Adult (6/13)
MCV4, MPSV	Child/Teen (6/13)	Adult (6/13)

Vaccines	Standing Orders Documents (date of latest revision)	
PCV	Child/Teen (4/13)	Adult (8/12)
PPSV	Child/Teen (2/09)	
Rotavirus	Child (2/12)	
Td, Tdap	Child/Teen (4/13)	Adult (4/13)
Var (Chickenpox)	Child/Teen (6/13)	Adult (6/13)
Zos (Shingles)		Adult (5/08)

Medical Management of Vaccine Reactions	Child/Teen (7/11)	Adult (4/11)

Influenza Vaccine Products for the 2013–2014 Influenza Season

Manufacturer	Trade Name (vaccine abbreviation)[1]	How Supplied	Mercury Content (µg Hg/0.5mL)	Age Group	Product Code
CSL Limited	Afluria (IIV3)	0.5 mL (single-dose syringe)	0	9 years & older[2]	90656
		5.0 mL (multi-dose vial)	24.5		90658 Q2035 (Medicare)
GlaxoSmithKline	Fluarix (IIV3)	0.5 mL (single-dose syringe)	0	3 years & older	90656
	Fluarix (IIV4)	0.5 mL (single-dose syringe)	0	3 years & older	90686
ID Biomedical Corp. of Quebec, a subsidiary of GlaxoSmithKline	FluLaval (IIV3)	5.0 mL (multi-dose vial)	<25	3 years & older	90658 Q2036 (Medicare)
	FluLaval (IIV4)	5.0 mL (multi-dose vial)	<25	3 years & older	90688
MedImmune	FluMist (LAIV4)	0.2 mL (single-use nasal spray)	0	2 through 49 years	90672
Novartis	Fluvirin (IIV3)	0.5 mL (single-dose syringe)	≤1	4 years & older	90656
		5.0 mL (multi-dose vial)	25		90658 Q2037 (Medicare)
	Flucelvax (ccIIV3)	0.5 mL (single-dose syringe)	0	18 years & older	90661
Protein Sciences Corp.	Flublok (RIV3)	0.5 mL (single-dose vial)	0	18 through 49 years	90673 Q2033 (Medicare)
sanofi pasteur	Fluzone (IIV3)	0.25 mL (single-dose syringe)	0	6 through 35 months	90655
		0.5 mL (single-dose syringe)	0	3 years & older	90656
		0.5 mL (single-dose vial)	0	3 years & older	90656
		5.0 mL (multi-dose vial)	25	6 through 35 months	90657
		5.0 mL (multi-dose vial)	25	3 years & older	90658 Q2038 (Medicare)
	Fluzone (IIV4)	0.25 mL (single-dose syringe)	0	6 through 35 months	90685
		0.5 mL (single-dose syringe)	0	3 years & older	90686
		0.5 mL (single-dose vial)	0	3 years & older	90686
	Fluzone High-Dose (IIV3)	0.5 mL (single-dose syringe)	0	65 years & older	90662
	Fluzone Intradermal (IIV3)	0.1 mL (single-dose microinjection system)	0	18 through 64 years	90654

Footnotes

1. IIV3 = egg-based and cell culture-based trivalent inactivated influenza vaccine (injectable); where necessary to refer to cell culture-based vaccine, the prefix "cc" is used (e.g., ccIIV3). IIV4 = egg-based quadrivalent inactivated influenza vaccine (injectable); LAIV4 = egg-based quadrivalent live attenuated influenza vaccine (nasal spray); RIV3 = trivalent recombinant hemagglutinin influenza vaccine (injectable).

2. On August 6, 2010, ACIP recommended that Afluria not be used in children younger than age 9 years. If no other age-appropriate IIV is available, Afluria may be considered for a child age 5 through 8 years at high risk for influenza complications, after risks and benefits have been discussed with the parent or guardian. Afluria should not be used in children younger than age 5 years. This recommendation continues for the 2013–2014 influenza season.

Immunization Action Coalition 1573 Selby Avenue • St. Paul, MN 55104 • 651-647-9009 • www.immunize.org • www.vaccineinformation.org
Technical content reviewed by the Centers for Disease Control and Prevention
www.immunize.org/catg.d/p4072.pdf • Item #P4072 (9/13)

IAC's "Ask the Experts" team from CDC

Andrew T. Kroger, MD, MPH

Donna L. Weaver, RN, MN

Iyabode Akinsanya-Beysolow, MD, MPH

- Fluzone High-Dose (IIV3), sanofi pasteur
- Fluzone Intradermal (IIV3), sanofi pasteur

IAC has developed a handout that provides information about these numerous products, their age indications, CPT and Q codes, and other details. Access it at www.immunize.org/catg.d/p4072.pdf.

What are the differences in trivalent and quadrivalent influenza vaccines?

Most of the influenza vaccine offered for the 2013–2014 season will be trivalent (three components), containing two A viruses and one of the B viruses. The 2013–2014 trivalent influenza vaccine is made from the following three viruses:

- A/California/7/2009 (H1N1)pdm09-like virus
- A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011
- B/Massachusetts/2/2012-like virus

A limited quantity of seasonal influenza vaccine will be quadrivalent (four components), containing two A viruses and two B viruses. The quadrivalent vaccines will contain the three viruses listed above, plus a B/Brisbane/60/2008-like virus.

If quadrivalent vaccine includes one additional strain, why isn't it preferred for use over trivalent vaccines in ACIP's 2013–14 influenza recommendations?

Even though both influenza B viruses are likely to cause disease during an influenza season, for trivalent vaccine, experts had to choose between the two very different B viruses to pair with the two A viruses. The quadrivalent vaccine that will be available for the 2013–14 season includes both B viruses. However, while quadrivalent vaccines may eventually replace trivalent vaccines, it is anticipated that during the coming season only a limited quantity of quadrivalent vaccine will be available. Consequently, ACIP does not express a preference for use of one type of influenza vaccine over another type (i.e., live over inactivated, or quadrivalent over trivalent) for persons for whom more than one type of vaccine is indicated and available.

I heard there was a new influenza vaccine that can be given to people with severe egg allergies. Is that true?

If someone has a severe allergy to eggs with symptoms suggestive of anaphylaxis, CDC recommends referring patients to a provider experienced in managing allergy. Only inactivated influenza vaccines should be given in this circumstance. If the severe allergy to eggs is diagnosed as anaphylactic allergy, and the patient is age 18 through 49 years, then the provider can consider using Flublok, the one inactivated influenza vaccine that is egg-free. FDA licensed Flublok, a trivalent influenza vaccine, in January 2013. Unlike current production methods for other available seasonal influenza vaccines, production of Flublok does not use the whole influenza virus or chicken eggs in its manufacturing process.

Flublok has a shorter shelf life than other currently available inactivated influenza vaccines. It expires 16 weeks from the production date. Other currently available inactivated influenza vaccines expire on June 30, 2014.

You can find additional information about Flublok at www.cdc.gov/flu/protect/vaccine/qa_flublok-vaccine.htm.

Does ACIP recommend one influenza product over another for pregnant women?

Pregnant women can receive any of the inactivated vaccines. They should not be given the live quadrivalent attenuated influenza vaccine (FluMist, MedImmune, LAIV4).

Why is a higher dose influenza vaccine (Fluzone High-Dose) available for adults 65 and older?

Aging decreases the body's ability to develop a good immune response after getting influenza vaccine, which places older people at greater risk of severe illness from influenza. A higher dose of antigen in the vaccine should give older people a better immune response and therefore provide better protection against influenza. Data from clinical trials comparing Fluzone to Fluzone High-Dose among people age 65 and older indicate that a stronger immune response (i.e., higher antibody levels) occurs after vaccination with Fluzone High-Dose. Whether the improved immune response leads to greater protection against influenza disease after vaccination is not yet known. A study designed to determine how effective Fluzone High-Dose is in preventing illness from influenza, when compared with standard-dose Fluzone, is expected to be completed in 2014–2015.

CDC has stated no preference for using high-dose influenza vaccine or standard-dose influenza vaccine when vaccinating people age 65 and older. CDC stresses that vaccination is the first and most important step in protecting against influenza.

If a patient is undergoing treatment for cancer, is it safe to vaccinate her or him against influenza?

People with cancer need to be protected from influenza, and they can and should receive inactivated influenza vaccine (not LAIV) even if they are immunosuppressed. Cancer patients and survivors are at higher risk for complications from flu, including hospitalization and death.

Here is a helpful CDC web page on cancer and influenza for patients: www.cdc.gov/cancer/flu.

Tdap vaccine

If a woman received Tdap in early pregnancy, should she get it again in the third trimester?

No, it is not recommended to give another dose of Tdap in such cases. Optimal timing for Tdap administration is between 27 and 36 weeks' gestation because of transplacental antibody kinetics.

According to ACIP recommendations published in *MMWR* on February 22, 2013, "Tdap may be administered any time during pregnancy, but vaccination during the third trimester would provide the highest concentration of maternal antibodies to be transferred closer to birth." More information is available at www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm.

Each time there is a pregnancy in the family, should fathers and other family members receive a Tdap booster to ensure adequate protection and boost the cocoon effect to protect the newborn from pertussis?

At this time, ACIP does not recommend additional doses of Tdap for fathers or other family members/caregivers. The multiple Tdap recommendation to optimize immunity for the infant applies only to the pregnant woman.

A pertussis outbreak is occurring in our town, with many cases happening in the schools. Is there a recommendation for boosting middle- and high-school students with an additional dose of Tdap during an outbreak if students have already had 1 dose?

Currently, ACIP recommends only 1 lifetime dose

Ask the Experts . . . *continued on p. 11* ▶

Vaccinate Adults 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.

of Tdap for everyone except pregnant women.

In light of the ongoing pertussis outbreaks in the nation, ACIP is continuing to evaluate the need for additional pertussis protection. The Immunization Action Coalition always announces new ACIP recommendations in its free weekly electronic newsletter, *IAC Express.* If you're not already one of the newsletter's nearly 50,000 subscribers, you can sign up at www.immunize.org/subscribe.

Pneumococcal vaccine

Currently, ACIP recommends pneumococcal polysaccharide (PPSV23) for smokers age 19–64 years. Should we also vaccinate 16-year-olds who smoke?

No. Currently no data exist to indicate that people younger than 19 are at increased risk of pneumococcal disease.

Rather than giving pneumococcal conjugate vaccine (PCV13) first and waiting 8 weeks to give PPSV as recommended for an immunocompromised adult patient, we inadvertently gave both vaccines at the same visit. We are looking for guidance.

When these two vaccines are given simultaneously, each probably affects the other detrimentally. The risk of diminished responsiveness (which is "caused" by PPSV23, not PCV13) means that you should count the PPSV23 dose as valid for adults, and repeat the PCV13 dose 1 year after the PPSV23 dose was administered.

HPV vaccine

Why did Merck discontinue the registry for collecting reports of pregnant women who inadvertently received its HPV vaccine (Gardasil) during pregnancy?

Because HPV vaccine is not recommended for use during pregnancy, Merck facilitated a registry to document outcomes when its HPV vaccine (Gardasil) was inadvertently administered to pregnant women. This registry was ongoing for more than 6 years (June 2006 –April 2013), and Merck has fulfilled its FDA obligation to facilitate it. But more importantly, the data from the registry are reassuring with respect to safety after pregnancy exposures. Review of the data collected during the first 5 years of the registry does not support a causal relationship between HPV vaccine and birth defects.

Vaccine information statements

It seems CDC is changing the format of VISs. Do we have to throw our old supply away and use the new ones?

Not necessarily. CDC is in the process of re-releasing all VISs in a slightly modified format. The modified VISs have a consistent look and use consistent language in the sections common to all VISs. Modified VISs will not necessarily be new, but may simply be redesigned versions of existing VISs and have the same edition dates as existing VISs. Providers do not need to discard their existing VIS stocks when nothing but the VIS format has been changed. CDC posts information on its website to alert healthcare providers when the older version of a VIS should not be used. This information is available on CDC's web section titled What's New with VISs, available at www.cdc.gov/vaccines/hcp/vis/what-is-new.html.

To submit an "Ask the Experts" question . . .
You can email your questions about immunization to us at admin@immunize.org. IAC will respond to your inquiry. Because we receive hundreds of emails each month, we cannot guarantee that we will use your question in "Ask the Experts." IAC works with CDC to compile new Q&As for our publications based on commonly asked questions. Most of the questions are thus a composite of several inquiries.

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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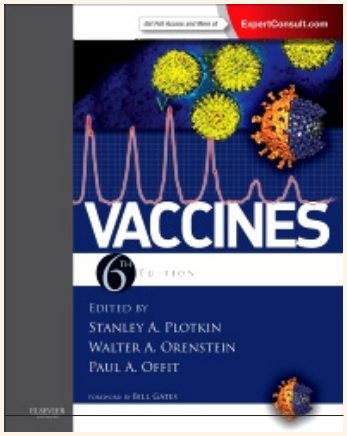

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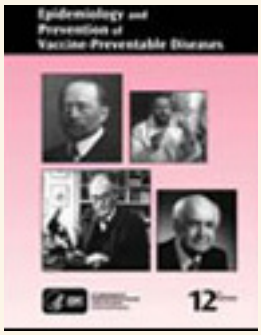

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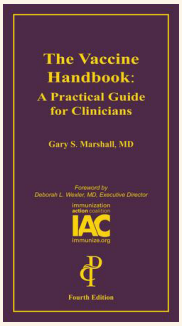

The Vaccine Handbook: A Practical Guide for Clinicians
2012 Edition

by Gary S. Marshall, MD

www.immunize.org/vaccine-handbook

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