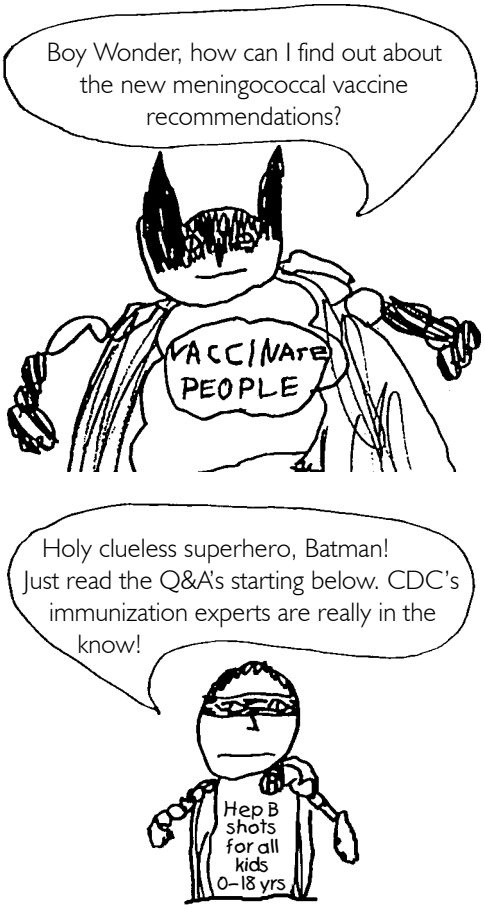
Volume 15 – Number 1 May 2005

NEEDLE TIPS

and the Hepatitis B Coalition News

Published by the Immunization Action Coalition for individuals and organizations concerned about vaccine-preventable diseases



WHAT YOU'LL FIND INSIDE:

Ask the Experts

Editor's note: The Immunization Action Coalition thanks William L. Atkinson, MD, MPH; Andrew T. Kroger, MD, MPH; Eric E. Mast, MD, MPH; and Linda A. Moyer, RN, of the Centers for Disease Control and Prevention (CDC) for answering the following questions for our readers. Dr. Atkinson is a medical epidemiologist, and Dr. Kroger is a medical officer, both at CDC's National Immunization Program. Dr. Mast is chief, Prevention Branch, and Ms. Moyer is an epidemiologist, both at CDC's Division of Viral Hepatitis.

Sign up for IAC Express!

To subscribe, send an email message to **express@immunize.org** and place the word SUBSCRIBE in the "Subject:" field. You'll receive timely immunization and viral hepatitis news via email on Mondays.

Immunization questions

by William L. Atkinson, MD, MPH, and Andrew T. Kroger, MD, MPH

We've heard that several new vaccine products may be licensed soon. Please tell us more about them.

Two new products that combine the acellular pertussis vaccine with the adult formulation of tetanus and diphtheria are expected to be licensed in the next several months. A new combination MMR and varicella vaccine is also anticipated soon. It is anticipated that the ACIP will discuss the use of these vaccines at its June 29–30 meeting.

What is the difference between the existing meningococcal polysaccharide vaccine (MPSV4) and the new conjugate vaccine (MCV4)?

The new conjugate vaccine is believed to have several advantages over the existing polysaccharide vaccine, such as reduction in bacterial carriage in the nose and throat and longer duration of the following: immunity, induction of immunologic memory, and booster responses. These advantages may result in better herd immunity.

Will MCV4 provide protection against all serogroups?

No. The conjugate vaccine, like the polysaccharide vaccine, contains antigen for serogroups A, C, Y, and W-135. Serogroups C and Y account for about two-thirds of invasive meningococcal disease in the United States. Serogroups A and W-135 are rare in this country. Serogroup B, which accounts for about a third of invasive disease, is not included in the vaccine. Work is underway to develop a vaccine for serogroup B.

How should the MCV4 be administered?

MCV4 should be administered IM, whereas MPSV4 should be given SC.

Who is recommended to receive MCV4?

MCV4 is currently approved by the Food and Drug Administration (FDA) for persons 11–55

(continued on page 19)

Immunization questions?

- Email nipinfo@cdc.gov
- Call your state health dept. (phone numbers at www.immunize.org/coordinators)

Needle Tips

Immunization Action Coalition
Hepatitis B Coalition
1573 Selby Avenue, Suite 234
St. Paul, MN 55104
Phone: (651) 647-9009
Fax: (651) 647-9131
Email: admin@immunize.org
Websites: www.immunize.org
www.vaccineinformation.org
www.hepprograms.org
www.izcoalitions.org

Needle Tips is a semiannual publication of the Immunization Action Coalition (IAC) written for health professionals. All content is reviewed by the Centers for Disease Control and Prevention (CDC) for technical accuracy, with the exception of opinion pieces written by non-CDC authors. This publication is supported in part by CDC Grant Nos. U66/CCU524042 and U50/CCU523259. The content is solely the responsibility of IAC and does not necessarily represent the official views of CDC. Circulation is approximately 130,000. ISSN 1526-1816.

Publication Staff
Editor: Deborah L. Wexler, MD
Associate Editor: Diane C. Peterson
Managing Editor: Dale Thompson
Editorial Asst.: Janelle Tangonan Anderson
Consultant: Teresa Anderson, DDS, MPH
Layout: Kathy Cohen
Artwork: Isaac and Leo Wexler-Mann

IAC Staff
Assistant to the Director: Becky Payne
Office Administrator: Robin VanOss
Administrative Asst.: Susan Broadribb
Website Design: Lantern Web™

IAC Express is IAC's free email news and announcement service. To subscribe, send an email to express@immunize.org with the word SUBSCRIBE in the "Subject" field.

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

The **Hepatitis B Coalition,** a program of IAC, promotes hepatitis B vaccination for all children 0–18 years; HBsAg screening for all pregnant women; testing and vaccination for high-risk groups; and education and treatment for people chronically infected with hepatitis B.

Want an easy way to stay informed between *Needle Tips* issues?

Subscribe to IAC Express, and you'll receive immunization news every week! Visit www.immunize.org/express

Many health professionals tell us how much they love getting *Needle Tips* in the mail twice a year. As one correspondent wrote, "We think your publication is terrific and always has the latest and greatest news."

Our concern is that the news in *Needle Tips* is only the "latest" as we go to press—by the time our readers receive their copies three weeks later, the immunization world has already changed. For example, we printed the fall issue of *Needle Tips* in September 2004, and distributed it just before the unexpected influenza vaccine shortage was announced. Through no fault of our own, some of the influenza-related material we printed was outdated before the issue was even delivered. We had no way to bring our *Needle Tips* readers up to date, unless they were subscribers to *IAC Express,* our weekly electronic newsletter.

The benefits of a weekly update are many

We were able to keep our *IAC Express* readers fully informed about the rapidly changing vaccine-supply situation as it unfolded. For example, CDC published its "Interim Influenza Vaccine Recommendations, 2004–05 Influenza Season" on October 5, and *IAC Express* reprinted it on October 6, distributing it directly to the email in-boxes of 19,000 subscribers. In October and November alone, *IAC Express* published 12 issues related to the influenza vaccine shortage, bringing readers information about an array of timely CDC resources, such as these:

- Provider and patient information sheets pertinent to the influenza vaccine shortage
- Information about the expanded use of nasal-spray influenza vaccine
- New patient-screening questionnaires to determine eligibility for injectable influenza vaccine and for nasal-spray influenza vaccine
- Seven new translations of the VIS for nasal-spray vaccine

If you aren't an *IAC Express* subscriber, you missed receiving this timely information. You continue to miss receiving the unique range of material covered in *IAC Express*. Subscribers regularly receive news and information about the following: the latest ACIP statements; vaccine recommendations made by AAP, AAFP, and other organizations; new VISs and translations; current *MMWR* articles on vaccines and vaccine-preventable diseases; notices of FDA vaccine license approvals; and updates on new immunization resources from CDC and other organizations. *IAC Express* also alerts readers to new and revised IAC print education pieces and newly posted information on IAC's websites.

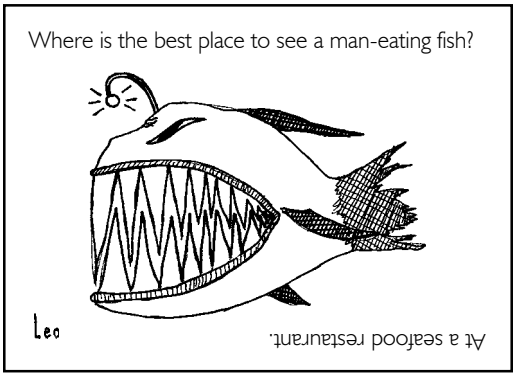
Becoming a subscriber is free and easy

Given the value of a weekly update, we're concerned that only about 7% of the 250,000 recipients of our print newsletters subscribe to *IAC Express*. Published every Monday, *IAC Express* ensures that healthcare professionals receive the "latest" immunization news. Subscribers describe it as "invaluable" and "essential" to their continuing immunization education.

It just takes a minute to sign up for IAC Express! To subscribe, send an email message to express@immunize.org and place the word SUBSCRIBE in the "Subject:" field.

We urge you to give *IAC Express* a try. It's free (and you can always unsubscribe). To subscribe, send an email to express@immunize.org and place the word SUBSCRIBE in the "Subject" field. Alternatively, you can visit www.immunize.org/express to sign up.

We hope you will come to appreciate these weekly updates as much as the nurse who wrote: "Thank you so much for this truly valuable resource!! *IAC Express* has become a source of my weekly continuing education, and I am proud to say I have become a reliable up-to-date resource for all in my office!!"



Hepatitis B Virus Transmitted in U.S. Long-Term–Care Facilities

Good infection-control practices can prevent patient-to-patient HBV transmission in all healthcare settings

Certain staff members in almost every healthcare setting perform procedures that have the potential to transmit bloodborne pathogens from patient to patient. This includes the possibility of transmitting hepatitis B virus (HBV) during routine blood glucose monitoring. In the *Morbidity and Mortality Weekly Report (MMWR)* on March 11, 2005, CDC reported on recent outbreaks of HBV infection among patients undergoing blood glucose monitoring in three U.S. long-term–care (LTC) facilities. Two patients died.[1]

CDC attributed the outbreaks to shared devices and other breaks in infection-control practices related to blood glucose monitoring. Findings from these investigations and previous reports suggest that recommendations concerning standard precautions and the reuse of fingerstick devices had not been adhered to or enforced consistently in LTC settings. The findings underscore the need for education, training, adherence to standard precautions, and specific infection-control recommendations targeting diabetes-care procedures in LTC settings.

As part of the article, CDC published several recommended practices and measures healthcare professionals should follow to prevent patient-to-patient HBV transmission from diabetes-care procedures in LTC settings. Though the recommendations were written for specific settings (LTC facilities), many are important for all healthcare settings to follow. Recommendations especially pertinent to preventing disease transmission in primary care practices are excerpted below.

Recommended practices for preventing patient-to-patient transmission of hepatitis viruses from diabetes-care procedures

Diabetes-care procedures and techniques

- Prepare medications such as insulin in a centralized medication area; multidose insulin vials should be assigned to individual patients and labeled appropriately.
- Never reuse needles, syringes, or lancets.
- Restrict use of fingerstick capillary blood sampling devices to individual patients.
- Consider using single-use lancets that permanently retract upon puncture.
- Dispose of used fingerstick devices and lancets at the point of use in approved sharps containers.
- Assign separate glucometers to individual patients. If a glucometer used for one patient must be reused for another patient, the device must be cleaned and disinfected. Glucometers and other environmental surfaces should be cleaned regularly and whenever contamination with blood or body fluids occurs or is suspected.

Hand hygiene and gloves

- Wear gloves during fingerstick blood glucose monitoring, and any other procedure involving potential exposure to blood or body fluids.
- Change gloves between patient contacts and after every procedure that involves potential exposure to blood or body fluids, including fingerstick blood sampling. Discard gloves in appropriate receptacles.
- Perform hand hygiene (i.e., hand washing with soap and water or use of an alcohol-based hand rub) immediately after removal of gloves and before touching other medical supplies intended for use on other patients.

Recommended medical management, training, and oversight measures to prevent patient-to-patient transmission of hepatitis viruses from diabetes-care procedures

- Provide a full hepatitis B vaccination series to all previously unvaccinated staff members with exposure to blood or body fluids. Check and document postvaccination titers 1–2 months after completion of the vaccination series.
- Establish responsibility for oversight of infection-control activities. Investigate and report any suspected case of newly acquired bloodborne infection.
- Require staff members to know standard precautions and demonstrate proficiency in taking these precautions with procedures involving potential blood or body fluid exposures.
- Provide staff members who perform percutaneous procedures with infection-control training that includes practical demonstration of aseptic techniques and instruction regarding reporting exposures or breaches. Conduct annual retraining of all staff members who perform procedures with exposure to blood or body fluids.
- Assess compliance with infection-control recommendations (e.g., hand hygiene or glove changes) by periodic observation of staff and tracking use of supplies.

The full article, which includes *all* the CDC recommendations, is available on CDC's website at: www.cdc.gov/mmwr/preview/mmwrhtml/mm5409a2.htm

[1]The information provided above is based on the article "Transmission of Hepatitis B Virus Among Persons Undergoing Blood Glucose Monitoring in Long-Term–Care Facilities — Mississippi, North Carolina, and Los Angeles County, California, 2003–2004."

Vaccine Highlights

Recommendations, schedules, and more

Editor's note: The information on these pages is current as of May 2, 2005.

The next ACIP meetings

The Advisory Committee on Immunization Practices (ACIP) is a committee of 15 national experts that provides advice and guidance to the Centers for Disease Control and Prevention (CDC) regarding the most appropriate use of vaccines. ACIP meetings are held three times a year in Atlanta and are open to the public. The next meetings will be held on June 29–30 and October 26–27. For more information, visit www.cdc.gov/nip/acip

ACIP statements

All clinicians should have a set of ACIP statements, the public health recommendations on vaccines, published in the *Morbidity and Mortality Weekly Report (MMWR).* Free continuing education credits are available for reading many of the statements and completing the brief test at the end of the statement. To obtain ACIP statements

- Download individual statements from links on IAC's website: www.immunize.org/acip
- Download individual statements from CDC's website: www.cdc.gov/nip/publications/acip-list.htm
- Call the CDC-INFO Contact Center at (800) CDC-INFO [(800) 232-4636]

Vaccine news

On Feb. 10–11, 2005, the ACIP met and deliberated on the use of influenza vaccines for the 2005–06 influenza season. Among the changes was the addition of people with certain neuromuscular conditions that compromise respiratory function to the groups for whom vaccination is now recommended. This and other changes will be included in the annual "Recommendations of the ACIP: Prevention and Control of Influenza," which is expected to be published in *MMWR* in May 2005.

On Jan.14, FDA approved sanofi pasteur's (formerly Aventis Pasteur) biologics license application for Menactra, a conjugated meningococcal vaccine (MCV4). The vaccine is for the prevention of invasive meningococcal disease caused by *Neisseria meningitidis* serogroups A, C, Y, and W-135. It may be used in persons 11–55 years of age. To view the package insert, go to www.fda.gov/cber/label/mpdtave011405LB.pdf

On Feb. 10, ACIP voted to recommend routine vaccination with MCV4 for two age cohorts: children ages 11–12 years and adolescents age 15 years. In addition, ACIP voted to recommend routine meningococcal vaccination of all college freshmen living in dormitories, preferably with MCV4. Publication of the revised ACIP statement is anticipated in late May 2005. A revised interim Vaccine Information Statement (VIS), dated 4/4/05, has been issued. It should be used with MCV4 and can also be used with the meningococcal polysaccharide vaccine (MPSV4). The older VIS dated 7/28/03, may only be used with MPSV4. To obtain VISs, go to www.immunize.org/vis

On Jan. 1, four new pediatric immunization administration CPT (current procedural terminology) codes became effective. These new codes allow for reimbursement for physician or nurse time spent in counseling patients (and their parents) who are up to 8 years of age. The American Academy of Pediatrics subsequently posted on its website an 8-page document "Comprehensive Overview: Immunization Administration 2005." The document describes the 8 immunization administration CPT codes now available. It also presents a series of Q&As that explain how to use the codes. To view the document, go to www.aap.org/visit/ImmunizationAdmin2005.doc

On Dec. 23, 2004, FDA approved a supplement to Aventis Pasteur's license application for Fluzone, Influenza Virus Vaccine, No Preservative: Pediatric Dose. This formulation will be available in prefilled syringes (0.25 mL for children ages 6–35 mos and 0.5 mL for children 3 yrs and older).

On Nov. 3, 2004, the Centers for Medicare & Medicaid Services (CMS) issued Medicare's final rule for physician payment for 2005, effective Jan. 1. The final rule increased payments for vaccinations and other types of injections. For example, the average payment for administering injectable influenza vaccine increased from $8 to $18. Physicians can now also be paid for vaccinations, even when performed on the same day as other Medicare-covered services.

On March 24, 2004, FDA approved a supplement to Aventis Pasteur's license application for Decavac, the preservative-free formulation of tetanus and diphtheria (Td) toxoids adsorbed, for adult use. It is indicated for use as a routine Td booster every 10 years and may be used in persons 7 years of age or older.

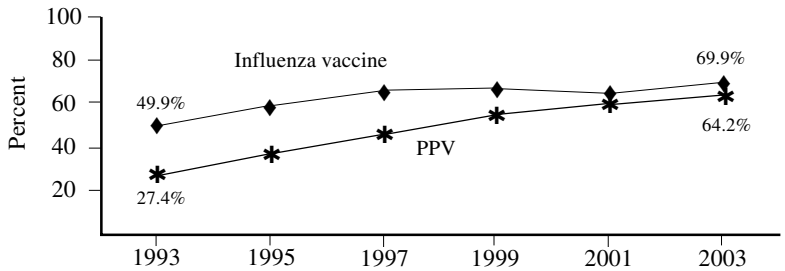
New CDC-INFO Contact Center

On March 15, the CDC Immunization Information Hotline was replaced by the new CDC-INFO Contact Center. CDC-INFO will answer all questions related to immunization as well as other public health issues. The number (800) CDC-INFO [(800) 232-4636], is available 24/7 and answers calls in English or Spanish. Eventually, all CDC materials will carry the new phone number. To access updated VISs that include the new number (but retain the former VIS date), go to www.immunize.org/vis Current stocks of VISs with the old number do not have to be discarded since calls are being rolled over to the new number.

Influenza & PPV rates for 2003

On Nov. 5, 2004, CDC published "Influenza and Pneumococcal Vaccination Coverage Among Persons Aged ≥65 Years and Persons Aged 18–64 Years with Diabetes or Asthma—U.S., 2003" in the *MMWR,* Vol. 53 (43). Although substantial increases in vaccination rates for adults 65 years and older have occurred over the last decade for both influenza (+20%) and pneumococcal polysaccharide vaccines (+36.8%), they still fall below the national health objectives of 90% for 2010. Of even greater concern, vaccination rates for noninstitutionalized adults 18–64 years with high-risk conditions (e.g., asthma, diabetes) are seriously below the 2010 target of 60%. The 2003 state vaccination rates can be viewed in the table on page 5. To read the complete *MMWR* report, go to www.cdc.gov/mmwr/preview/mmwrhtml/mm5343a2.htm

Influenza and Pneumococcal Vaccination Rates As Determined by Telephone Surveys of U.S. Residents 65 years of age and older, 1993–2003



Source: Behavioral Risk Factor Surveillance Surveys, *MMWR,* Vols. 53(43), 51(45), 50(25), 47(38), 46(39), 45(40).

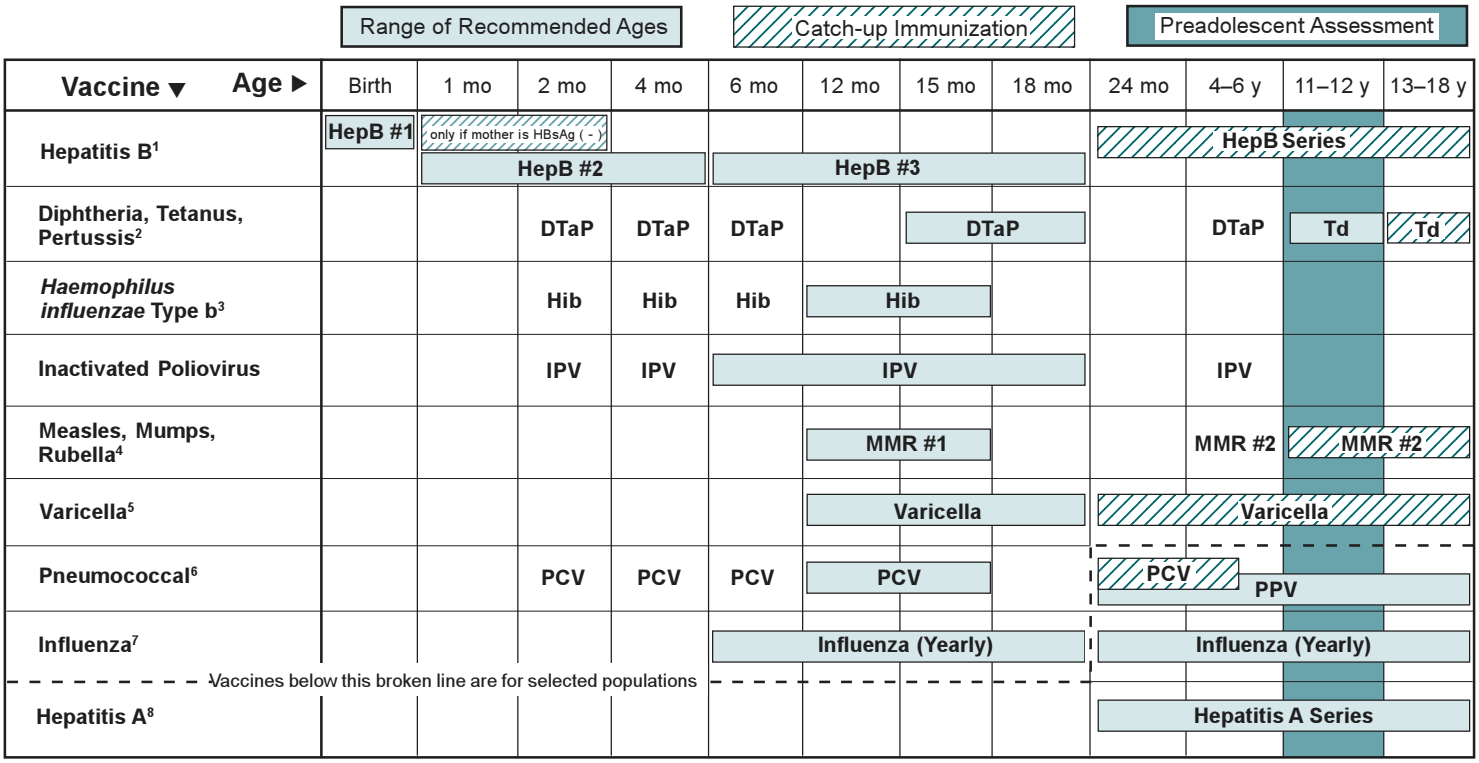
2003 Vaccination Rates for Influenza & PPV

The table below displays (1) influenza and pneumococcal (PPV) vaccination rates among adults ages ≥65 years, (2) influenza vaccination rates among adults ages 18–64 years with asthma or diabetes, and (3) pneumococcal vaccination rates among adults ages 18–64 years with diabetes.

	Influenza			PPV	
State	≥65 yrs	Asthmatics	Diabetics	≥65 yrs	Diabetics
U.S.	69.9	34.0	49.0	64.2	37.1
AL	70.2	33.8	47.4	61.4	34.8
AK	66.5	38.7	50.4	59.6	41.2
AZ	68.9	33.9	54.4	65.5	33.8
AR	71.0	40.2	45.2	61.9	30.7
CA	72.5	28.7	40.2	65.2	29.5
CO	74.2	39.0	52.7	69.1	41.2
CT	74.3	39.9	54.8	64.5	33.5
DE	70.0	34.8	44.0	67.4	27.9
DC	63.0	24.7	41.8	50.1	*
FL	65.9	28.8	43.4	64.5	43.7
GA	67.0	31.6	38.2	60.5	26.2
HI	71.6	42.0	57.5	44.5	26.4
ID	70.3	31.3	54.6	67.2	38.6
IL	63.3	32.4	38.1	56.7	29.4
IN	66.1	33.7	46.6	61.5	40.5
IA	77.5	31.3	62.2	71.4	48.5
KS	70.8	30.4	49.8	60.3	33.9
KY	69.1	29.7	46.6	59.6	33.8
LA	68.3	36.6	40.9	64.2	31.6
ME	74.8	39.3	49.0	64.8	35.0
MD	68.4	38.4	46.6	62.0	38.0
MA	74.9	36.8	49.7	69.4	39.1
MI	67.5	34.3	42.1	62.7	38.0
MN	80.3	40.1	56.3	73.0	33.6
MS	69.0	30.4	39.8	61.8	22.6
MO	69.9	31.9	48.6	61.1	35.2
MT	72.8	46.6	58.8	69.1	58.2
NE	73.6	43.1	57.0	64.8	37.7
NV	60.0	27.8	29.0	63.2	40.0
NH	73.9	36.8	61.9	69.3	50.6
NJ	67.2	31.6	41.9	62.4	29.6
NM	72.4	39.7	61.3	63.9	46.1
NY	68.0	38.6	53.5	61.7	43.6
NC	68.8	34.0	46.1	66.6	38.3
ND	73.0	38.8	56.3	71.2	36.4
OH	68.0	30.4	38.0	64.7	41.8
OK	75.8	38.0	53.9	68.6	41.3
OR	70.5	34.4	54.5	71.7	48.4
PA	69.2	33.6	59.3	66.1	37.1
RI	76.2	42.0	58.9	69.3	46.6
SC	69.3	38.9	52.1	63.0	34.9
SD	77.9	45.8	62.4	63.7	37.7
TN	69.1	32.8	47.4	60.8	28.1
TX	67.7	31.9	40.8	62.0	29.2
UT	74.8	30.9	53.1	66.2	53.4
VT	74.1	30.7	56.0	66.1	40.7
VA	69.6	32.9	45.1	65.2	34.8
WA	73.4	36.5	50.5	68.6	43.8
WV	69.1	37.5	52.4	63.8	40.3
WI	72.1	34.3	58.0	66.7	55.5
WY	72.6	46.6	47.3	70.4	46.0

*Number of respondents too small for meaningful analysis.
Source: *MMWR,* Vol. 53 (43).

Recommended Childhood and Adolescent Immunization Schedule, U.S., 2005



This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2004, for children through age 18 years. Any dose not given at the recommended age should be given at any subsequent visit when indicated and feasible. ▨ Indicates age groups that warrant special effort to administer those vaccines not previously given. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form can be found on the Internet at www.vaers.org or by calling (800) 822-7967.

1. Hepatitis B (HepB) vaccine. All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is hepatitis B surface antigen (HBsAg) negative. Only monovalent HepB can be used for the birth dose. Monovalent or combination vaccine containing HepB may be used to complete the series. Four doses of vaccine may be administered when a birth dose is given. The second dose should be given at least 4 weeks after the first dose, except for combination vaccines which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 24 weeks.

Infants born to HBsAg-positive mothers should receive HepB and 0.5 mL of Hepatitis B Immune Globulin (HBIG) within 12 hours of birth at separate sites. The second dose is recommended at age 1–2 months. The last dose in the immunization series should not be administered before age 24 weeks. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 9–15 months.

Infants born to mothers whose HBsAg status is unknown should receive the first dose of the HepB series within 12 hours of birth. Maternal blood should be drawn as soon as possible to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than age 1 week). The second dose is recommended at age 1–2 months. The last dose in the immunization series should not be administered before age 24 weeks.

2. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose and the child is unlikely to return at age 15–18 months. The final dose in the series should be given at age ≥4 years. **Tetanus and diphtheria toxoids (Td)** is recommended at age 11–12 years if at least 5 years have elapsed since the last dose of tetanus and diphtheria toxoid-containing vaccine. Subsequent routine Td boosters are recommended every 10 years.

3. *Haemophilus influenzae* type b (Hib) conjugate vaccine. Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB or ComVax [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary immunization in infants at ages 2, 4 or 6 months but can be used as boosters following any Hib vaccine. The final dose in the series should be given at age ≥12 mos.

4. Measles, mumps, and rubella vaccine (MMR). The second dose of MMR is recommended routinely at age 4–6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and both doses are administered beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by the visit at age 11–12 years.

5. Varicella vaccine. Varicella vaccine is recommended at any visit at or after age 12 months for susceptible children (i.e., those who lack a reliable history of chickenpox). Susceptible persons aged ≥13 years should receive 2 doses, given at least 4 weeks apart.

6. Pneumococcal vaccine. The heptavalent **pneumococcal conjugate vaccine (PCV)** is recommended for all children aged 2–23 months. It is also recommended for certain children aged 24–59 months. The final dose in the series should be given at age ≥12 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups. See *MMWR* 2000;49(RR-9):1-35.

7. Influenza vaccine. Influenza vaccine is recommended annually for children aged ≥6 months with certain risk factors (including but not limited to asthma, cardiac disease, sickle cell disease, HIV, and diabetes), healthcare workers, and other persons (including household members) in close contact with persons in groups at high risk (see *MMWR* 2004;53 [RR-6]:1-40) and can be administered to all others wishing to obtain immunity. In addition, healthy children aged 6–23 months and close contacts of healthy children aged 0–23 months are recommended to receive influenza vaccine, because children in this age group are at substantially increased risk for influenza-related hospitalizations. For healthy persons aged 5–49 years, the intranasally administered live, attenuated influenza vaccine (LAIV) is an acceptable alternative to the intramuscular trivalent inactivated influenza vaccine (TIV). See *MMWR* 2004;53 (RR-6):1-40. Children receiving TIV should be administered a dosage appropriate for their age (0.25 mL if 6–35 months or 0.5 mL if ≥3 years). Children aged ≤8 years who are receiving influenza vaccine for the first time should receive 2 doses (separated by at least 4 weeks for TIV and at least 6 weeks for LAIV).

8. Hepatitis A vaccine. Hepatitis A vaccine is recommended for children and adolescents in selected states and regions and for certain high-risk groups; consult your local public health authority. Children and adolescents in these states, regions, and high-risk groups who have not been immunized against hepatitis A can begin the hepatitis A immunization series during any visit. The 2 doses in the series should be administered at least 6 months apart. See *MMWR* 1999;48(RR-12):1-37.

For additional information about vaccines, including precautions and contraindications for immunization and vaccine shortages, please visit the National Immunization Program Web site at www.cdc.gov/nip or call (800) CDC-INFO [(800) 232-4636] (English or Spanish).

Approved by the Advisory Committee on Immunization Practices **(www.cdc.gov/nip/acip),** the American Academy of Pediatrics **(www.aap.org),** and the American Academy of Family Physicians **(www.aafp.org).**

Recommended Immunization Schedule for Children and Adolescents Who Start Late or Who Are More Than 1 Month Behind, U.S., 2005

The tables below give catch-up schedules and minimum intervals between doses for children who have delayed immunizations. There is no need to restart a vaccine series regardless of the time that has elapsed between doses. Use the chart appropriate for the child's age.

Catch-up schedule for children aged 4 months through 6 years

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
DTaP	**6 wk**	**4 wk**	**4 wk**	**6 mo**	**6 mo**[1]
IPV	**6 wk**	**4 wk**	**4 wk**	**4 wk**[2]	
HepB[3]	**Birth**	**4 wk**	**8 wk** (and 16 wk after first dose)		
MMR	**12 mo**	**4 wk**[4]			
Varicella	**12 mo**				
Hib[5]	**6 wk**	**4 wk:** if first dose given at age <12 mo **8 wk (as final dose):** if first dose given age 12–14 mo **No further doses needed:** if first dose given at age ≥15 mo	**4 wk**[6]**:** if current age <12 mo **8 wk (as final dose)**[6]**:** if current age ≥12 mo and second dose given at age <15 mo **No further doses needed:** if previous dose given at age ≥15 mo	**8 wk (as final dose)**: this dose only necessary for children aged 12 mo–5 y who received 3 doses before age 12 mo	
PCV[7]	**6 wk**	**4 wk:** if first dose given at age <12 mo and current age <24 mo **8 wk (as final dose):** if first dose given at age ≥12 mo or current age 24–59 mo **No further doses needed:** for healthy children if first dose given at age ≥24 mo	**4 wk:** if current age <12 mo **8 wk (as final dose):** if current age ≥12 mo **No further doses needed:** for healthy children if previous dose given at age ≥24 mo	**8 wk (as final dose)**: this dose only necessary for children aged 12 mo–5 y who received 3 doses before age 12 mo	

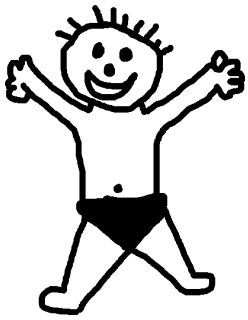
Catch-up schedule for children aged 7 through 18 years

Vaccine	Minimum Interval Between Doses		
	Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Booster Dose
Td	**4 wk**	**6 mo**	**6 mo**[8]**:** if first dose given at age <12 mo and current age <11 y **5 y**[8]**:** if first dose given at age ≥12 mo and third dose given at age <7 y and current age ≥11 y **10 y**[8]**:** if third dose given at age ≥7 y
IPV[9]	**4 wk**	**4 wk**	**IPV**[2,9]
HepB	**4 wk**	**8 wk** (and 16 wk after first dose)	
MMR	**4 wk**		
Varicella[10]	**4 wk**		

1. **DTaP.** The fifth dose is not necessary if the fourth dose was given after the fourth birthday.
2. **IPV.** For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if third dose was given at age ≥4 years. If both OPV and IPV were given as part of a series, a total of 4 doses should be given, regardless of the child's current age.
3. **HepB.** All children and adolescents who have not been immunized against hepatitis B should begin the HepB immunization series during any visit. Providers should make special efforts to immunize children who were born in, or whose parents were born in, areas of the world where hepatitis B virus infection is moderately or highly endemic.
4. **MMR.** The second dose of MMR is recommended routinely at age 4–6 years but may be given earlier if desired.
5. **Hib.** Vaccine is not generally recommended for children aged ≥5 years.
6. **Hib.** If current age <12 months and the first 2 doses were PRP-OMP (PedvaxHIB or ComVax[Merck]), the third (and final) dose should be given at age 12–15 months and at least 8 weeks after the second dose.
7. **PCV.** Vaccine is not generally recommended for children aged ≥5 years.
8. **Td.** For children aged 7–10 years, the interval between the third and booster dose is determined by the age when the first dose was given. For adolescents aged 11–18 years, the interval is determined by the age when the third dose was given.
9. **IPV.** Vaccine is not generally recommended for persons aged ≥18 years.
10. **Varicella.** Give 2-dose series to all susceptible adolescents aged ≥13 years.

Report adverse reactions to vaccines through the federal Vaccine Adverse Event Reporting System. For information on reporting reactions following immunization, please visit **www.vaers.org** or call the 24-hour national toll-free information line (800) 822-7967. Report suspected cases of vaccine-preventable diseases to your state or local health department.

For additional information about vaccines, including precautions and contraindications for immunization and vaccine shortages, please visit the National Immunization Program Web site at **www.cdc.gov/nip** or call (800) CDC-INFO [(800) 232-4636] (English or Spanish).



Immunizations for Babies...

A Guide for Parents

These are the vaccinations your baby needs!

At birth	**HepB**
2 months	**HepB** 1–4 mos[1] + **DTaP** + **PCV** + **Hib** + **Polio**
4 months	**HepB**[2] + **DTaP** + **PCV** + **Hib** + **Polio**
6 months	**HepB** 6–18 mos[1,2] + **DTaP** + **PCV** + **Hib**[3] + **Polio** 6–18 mos[1] + **Influenza** 6–23 mos[4]
12 months or older	**MMR** 12–15 mos[1] + **DTaP** 15–18 mos[1,5] + **PCV** 12–15 mos[1] + **Hib** 12–15 mos[1] + **Chickenpox** 12–18 mos[1] + **Influenza** 6–23 mos[4]

Check with your doctor or nurse to make sure your baby is receiving all vaccinations on schedule. Many times vaccines are combined to reduce the number of injections. Be sure you ask for a record card with the dates of your baby's shots; bring this with you to every visit.

Here's a list of the diseases your baby will be protected against:

HepB: hepatitis B, a serious liver disease

DTaP: diphtheria, tetanus (lockjaw), and pertussis (whooping cough)

Hib: *Haemophilus influenzae* type b, a serious brain, throat, and blood infection

Polio: polio, a serious paralyzing disease

PCV: pneumococcal conjugate vaccine protects against a serious blood, lung, and brain infection

Influenza: a serious lung infection

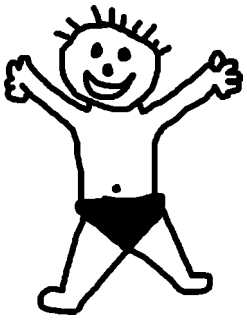
MMR: measles, mumps, and rubella

Chickenpox: also called varicella

Footnotes to above chart (for use by healthcare professionals):

1. This is the age range in which this vaccine should be given.
2. All babies should receive a total of at least 3 doses of HepB vaccine. Babies may receive up to 4 doses when given HepB vaccine at birth followed by combination vaccines containing HepB. The last dose of HepB vaccine should not be given before 24 weeks of age.
3. Depending on the brand of Hib vaccine used for the 1st and 2nd doses, a dose at 6 months of age may not be needed.
4. All children between the ages of 6 and 23 months should receive vaccination for influenza in the fall of each year. First-time vaccinees should receive 2 doses, separated by at least 4 weeks. Children 2 years of age and older with certain medical conditions should be vaccinated every year.
5. DTaP may be given as early as 12 months if it has been 6 months since the previous dose and if the child might not return by 18 months of age.

www.immunize.org/catg.d/p4010imm.pdf • Item #P4010 (4/05)



Vacunas para Bebés...

Una guía para los padres
¡Éstos son las vacunas que necesitan sus bebés!

Al nacer	**HepB**
2 meses	**HepB** 1–4 meses[1] + **DTaP** + **PCV** + **Hib** + **Polio**
4 meses	**HepB**[2] + **DTaP** + **PCV** + **Hib** + **Polio**
6 meses	**HepB** 6–18 meses[1,2] + **DTaP** + **PCV** + **Hib**[3] + **Polio** 6–18 meses[1] + **Influenza** 6–23 meses[4]
12 meses o más	**MMR** 12–15 meses[1] + **DTaP** 15–18 meses[1,5] + **PCV** 12–15 meses[1] + **Hib** 12–15 meses[1] + **Varicela** 12–18 meses[1] + **Influenza** 6–23 meses[4]

Verifíque con su médico or su enfermera para asegurarse que su bebé esté siendo vacunado(a) a tiempo. Ya existen varias vacunas combinadas con lo que se reduce el número de inyecciones necesarias. No deje de pedir que le den un registro de vacunas con todas las fechas de las vacunas de su bebé; llévelo a cada visita al consultorio o clínica.

Aquí está una lista de las vacunas y las enfermedades que pueden prevenir:

HepB: hepatitis B, una enfermeda seria del hígado

DTaP: difteria, tétanos, y tos ferina

Hib: *Haemophilus influenzae* tipo b—una infección seria del cerebo, la garganta, y la sangre

Polio: polio—una enfermedad grave que causa paralisis

PCV: la vacuna neumocócica conjugada protege contra una infección de la sangre, los pulmones, y el cerebro

Influenza: también conocida como la gripe—una enfermedad que puede causar infección seria de los pulmones

MMR: sarampión, paperas, y rubéola (sarampión alemán)

Varicela: vacuna varicela zoster—protección contra varicela

Notas (para ser utilizado por los profesionales del cuidado de la salud):

1. Éste es el rango de edad en que se debe dar esta vacuna.
2. Todos los bebés deben recibir por lo menos un total de 3 dosis de la vacuna de HepB. Los bebés que han recibido la vacuna al nacimiento seguida por vacunas combinadas con HepB pueden recibir hasta 4 dosis. La última dosis de la vacuna HepB no debe darse antes de las 24 semanas de edad.
3. Dependiendo en la marca del la vacuna Hib usada para la primera y segunda dosis, una dosis a los 6 meses de edad quizás no sea necesaria.
4. Todos los niños de 6 a 23 meses deben recibir la vacuna contra la influenza cada año en el otoño; niños que reciben la vacuna por primera vez deben recibir 2 dosis esperando por lo menos 4 semanas entre una y otra dosis. Niños de 2 años de edad o mayores con ciertos condiciones médicas deben vacunarse cada año.
5. La vacuna DTaP puede darse lo más temprano como a los 12 meses de edad si 6 meses han pasado desde la dosis previa y si es posible que el niño no regrese a los 18 meses de edad.

Translated by the California Department of Health Services

www.immunize.org/catg.d/p4010-01imm.pdf • Item #P4010-01 (4/05)

Unprotected people . . .

Parents helpless as children battle pertussis

In the case reports below, parents recount the suffering their young children endured during life-and-death struggles with pertussis. The parents' overriding message is that pertussis is common and has the potential to kill infants and young children. For this reason, parents of newborns and children too young to be fully vaccinated have to learn about the dangers of pertussis and keep their children away from coughing people.

Most of today's parents haven't witnessed a child coughing with pertussis or manifesting other signs of the disease. Thanks to the Internet, parents can hear and see children wracked with cough and gasping for air by accessing audio and video clips on these websites: www.pertussis.com and *www.vaccineinformation.org/video*

Two statements below, provided by Pamela and Kevin Durkin and Mary-Clayton Enderlein, appear on www.pertussis.com, a project of the National Association of Pediatric Nurse Practitioners (NAPNAP). They are reprinted here with permission of NAPNAP, the copyright holder. Thomas Morris's statement appeared in the Winter 1999 issue of Immunize Georgia's Little Guys, *a newsletter published by Children's Healthcare of Atlanta (CHOA). It is reprinted here with the permission of CHOA, the copyright holder.*

To read more articles and case reports about people who have suffered or died from vaccine-preventable diseases, visit IAC's web section Unprotected People Reports

www.immunize.org/stories

It includes 74 reports about 15 different diseases.

The hospitalization of Colin, Mary-Clayton Enderlein's newborn son

During my ninth month of pregnancy, I was exposed to whooping cough by an unvaccinated playmate of my older son. Even though as an adult my own symptoms were relatively mild, I would soon realize the dangers of transmitting the disease to my newborn son. Young infants, such as my son Colin, are within the age range in which the disease poses the most danger for severe complications and even death.

I gave my son Colin pertussis with my first kiss and would watch him suffer with the disease for the first few months of his life. Pertussis left him exhausted because he would cough continuously until he turned blue and threw up, gasping for breath. At one week of age, he was hospitalized for ten days and placed on continuous monitors and intravenous medications. The effects of the disease continued for many months even after he was discharged from the hospital. Watching him closely and listening to every heartbeat, I understand what it feels like to watch your child battle a potentially fatal disease far before they even take their first steps into the new world. I would encourage all parents to be on the lookout for pertussis and suspect it in older children and adults before they spread it to younger children and infants. No child is safe unless he or she is vaccinated against pertussis, a decision that unfortunately for Colin, we never had the choice to make.

To witness the sights and sounds of infants and children struggling with pertussis, go to:

www.pertussis.com and

www.vaccineinformation.org/video

The hospitalization of Thomas T. Morris's preschool son, Nick

[In the early 1990s, Nick Morris of Columbus, GA, almost died from pertussis. Here is his story, as told by his father to *Immunize Georgia's Little Guys.*]

Nick's father, Thomas T. Morris, says parents would never hesitate to immunize their children if they understood what whooping cough puts a child through.

"If you were able to see the horrible, debilitating condition the disease brings about, it greatly outweighs the risk of a reaction to the inoculation itself," Morris said.

Nick received his first pertussis vaccination. But his parents responded to a national media blitz about adverse effects of the vaccine and chose not to complete the series. Nick had already been prone to lung problems and seizures, and they didn't want to take the risk.

"My wife and I, thinking we were making an informed, educated decision, chose not to get the second dose," Morris said. "We wimped out."

When he was 4, Nick developed a cough, which gradually worsened. As his condition progressed, an ambulance took him from a Columbus hospital to Scottish Rite Children's Medical Center in Atlanta.

His parents feared their child would die. His coughing spells were frequently violent, causing him to vomit and turn blue, and he suffered additional complications.

In hindsight, Morris says he thinks the media did a disservice by frightening parents about the vaccine without noting the risks of pertussis.

"It was everywhere, a big national controversy," he said. "The press really ran with it without knowing what they reported would bring about."

Nick and his older sister are now fully immunized.

The death of Colin, Pamela and Kevin Durkin's infant son

We never knew that our newborn son, Colin, was exposed to pertussis. He never showed signs of the classic "whoop," for which the disease is named. But something was definitely wrong. After visiting our family's pediatrician in December of 2002, we were immediately referred to the local emergency room, where he was diagnosed with a stomach virus. Two nights later, he began severe vomiting so we took him back to the hospital.

After numerous respiratory tests, spinal tests, and chest x-rays, he was admitted to the hospital with pneumonia. Over the next 24 hours Colin's breathing became more and more labored and he developed a gagging cough. As his condition grew worse, Colin was intubated and transported to Children's Hospital of Philadelphia where he was put on life support. Finally, on his second day of life support, Colin was diagnosed with pertussis. Colin was our fourth child, and we never even realized he could contract pertussis and didn't understand its dangers. He was born a healthy, beautiful 7-lb. baby, whose life was suffocated out of him long before he would have taken his first step.

Colin died December 14, 2002, at seven weeks of age. Our lives, the lives of his siblings and extended family will never be the same. We could not be more devastated or bewildered about the events we encountered the week Colin died. We didn't know about pertussis until it was too late. Colin's experience has brought us closer as a family and compelled us to share our story. We encourage everyone to learn all they can about this disease; how it affects adolescents, adults, and especially unimmunized infants and young children.

We never had the chance to immunize Colin as he was still too young, but an ounce of prevention could go a long way in saving your child's life . . . .

Vaccine concerns

Editor's note: The following questions and answers are excerpted from Chapter 15 of the book ***Vaccines: What You Should Know,*** *third edition, by Paul A. Offit, MD, and Louis M. Bell, MD, ©2003. To purchase a copy of this book, go to www.wiley.com Dr. Offit has given IAC permission to reprint these excerpts. IAC also offers two related educational pieces by Dr. Offit: "Vaccine Concerns," which discusses such subjects as autism, thimerosal, and hepatitis B vaccine (www.immunize.org/catg.d/4038myth.pdf); and "Vaccines and Autism," a summary of studies investigating MMR vaccine and autism, and the possible causes of autism (www.immunize.org/catg.d/p2065.pdf).*

It seems that almost every month newspaper articles and television programs depict the horrors of vaccines. The villains of these stories are greedy vaccine manufacturers, disinterested doctors, and burdensome regulatory agencies. The focus of the stories is that children are hurt unnecessarily by vaccines, and the tone is one of intrigue and cover-up.

Perhaps the most dangerous part of these stories (apart from the fact that they may cause many children to miss the vaccines they need) is that the explanations are presented in a manner that seem believable. Below we have listed the most commonly aired stories about vaccines and have tried to separate fact from myth.

CONCERN: Vaccines don't work.

Probably the best example of the impact of vaccines is the vaccine that prevents meningitis caused by the bacterium *Haemophilus influenzae* type b (Hib).

The current Hib vaccine was first introduced to this country in 1990. At that time Hib was the most common cause of bacterial meningitis, accounting for approximately 15,000 cases and 400 to 500 deaths every year. The incidence of cases and deaths per year had been steady for decades. After the current Hib vaccine was introduced, the incidence of Hib meningitis declined to fewer than fifty cases per year! The power of the Hib vaccine is that most pediatricians and family practitioners working today saw its impact.

The story of the Hib vaccine is typical of all widely used vaccines. A dramatic reduction in the incidence of diseases such as measles, mumps, German measles, polio, diphtheria, tetanus, and pertussis occurred within several years of the introduction of vaccines against them.

Vaccines not only work, but they work phenomenally well.

CONCERN: Vaccines aren't necessary.

In some ways, vaccines are victims of their own success. Most young parents today have never seen a case of measles, mumps, German measles, polio, diphtheria, tetanus, or whooping cough. As a result, some of these parents question the continued need for vaccines.

Vaccines should be given for three reasons:

- Some diseases are so prevalent in this country that a decision not to give a vaccine is a decision to risk that disease (for example, pertussis).
- Some diseases are still present in the environment. These diseases continue to occur, but at fairly low levels (for example, measles, mumps, and German measles). If immunization rates drop, outbreaks of these diseases will again occur and children will die from our lack of vigilance. This is exactly what happened in the late 1980s and early 1990s when immunization rates against measles dropped. The result was 11,000 hospitalizations and more than a hundred deaths caused by measles. Now, due to an increase in measles immunization rates, there are only about a hundred cases of measles and no deaths every year in the United States.
- Some diseases have been virtually eliminated from this country (such as polio and diphtheria). However, these diseases continue to cause outbreaks in other areas of the world. Given the high rate of international travel, these diseases could be easily imported by travelers or immigrants.

CONCERN: Vaccines are not safe.

What does the word safe mean?

The first definition of the word *safe* is "harmless." This definition would imply that any negative consequences of vaccines would make the vaccine unsafe. Using this definition, no vaccine is 100 percent safe. Almost all vaccines can cause pain, redness, or tenderness at the site of injection. And some vaccines cause more severe side effects. For example, the pertussis (or whooping cough) vaccine can be a very rare cause of persistent, inconsolable crying or high fever. Although none of these severe symptoms results in permanent damage, they can be quite frightening to parents.

But, in truth, few things meet the definition of "harmless." Even everyday activities contain hidden dangers. For example, each year in the United States, 350 people are killed in bath- or

(continued on page 12)

shower-related accidents, 200 people are killed when food lodges in their windpipe, and 100 people are struck and killed by lightning. However, few of us consider eating solid food, taking a bath, or walking outside on a rainy day as unsafe activities. We just figure that the benefits of the activity clearly outweigh its risks.

The second definition of the word *safe* is "having been preserved from a real danger." This definition implies that vaccines provide safety. Using this definition, the danger (the disease) must be significantly greater than the means of protecting against the danger (the vaccine). Or, said another way, a vaccine's benefits must clearly and definitively outweigh its risks. **Editor's note:** *for further discussion of this topic, read the online "Vaccine Concerns" cited in the introduction.*

CONCERN: Vaccines weaken the immune system.

Natural infection with certain viruses can indeed weaken the immune system. This means that when children are infected with one virus, they can't fight off other viruses or bacteria as easily. This happens most notably during natural infection with either chickenpox or measles. Children infected with chickenpox are susceptible to infection with certain bacterial infections (like "flesh-eating" bacteria). And children infected with measles are more susceptible to bacterial infections of the bloodstream (sepsis).

But vaccines are different. The viruses in the measles and chickenpox vaccines (the so-called vaccine viruses) are very different from those that cause measles and chickenpox infections (the "wild-type" viruses). The vaccine viruses are themselves so disabled that they cannot weaken the immune system. Vaccinated children are not at greater risk of other infections (meaning infections not prevented by vaccines) than unvaccinated children.

CONCERN: It's better to be naturally infected than immunized.

It is true that "natural" infection almost always causes better immunity than vaccination (only the Hib, pneumococcal, and tetanus vaccines are better at inducing immunity than natural infection). Whereas natural infection causes immunity after just one infection, vaccines usually create immunity only after several doses are given over a number of years. For example, DTaP, hepatitis B, and IPV are each given at least three times.

However, the difference between vaccination and natural infection is the price paid for immunity. The price paid for vaccination is the inconvenience of several shots and the occasional sore arm. The price paid for a single natural infection is usually considerably greater: paralysis from natural polio infection, mental retardation from natural Hib infection, liver failure from natural hepatitis B virus infection, deafness from natural mumps infection, or pneumonia from natural varicella infection are high prices to pay for immunity.

CONCERN: Children get too many shots.

Infants and young children commonly encounter and manage many challenges to their immune system at the same time. Twenty years ago, seven vaccines were routinely recommended, and children received five shots by two years of age and as many as two shots at one time. Now that we have eleven routinely recommended vaccines, children could receive as many as twenty shots by two years of age and five shots at a single visit. Many parents are concerned about whether children can handle all these vaccines.

But vaccines are just a small part of what babies encounter every day. Although the mother's womb is free from bacteria and viruses, newborns immediately face a host of different challenges to their immune system. For example, from the minute they are born, thousands of different bacteria start to live on the skin as well as the lining of the nose, throat, and intestines. By quickly making an immune response to these bacteria, babies keep the bacteria from invading their bloodstream and causing serious disease.

In fact, babies are capable of responding to millions of different viruses and bacteria because they have billions of immunologic cells circulating in their bodies. Therefore the vaccines given in the first two years of life are literally a raindrop in the ocean of what infants' immune systems successfully encounter in their environment every day.

It is interesting to note that although children receive more vaccines today than they did a hundred years ago, when only the smallpox vaccine was routinely recommended in infancy, the number of separate immunologic challenges contained in vaccines has actually decreased! The smallpox vaccine contained about 200 viral proteins. If you add up today's eleven routinely recommended vaccines, the number of vaccine proteins and polysaccharides (complex sugars) is less than 130: diphtheria (1), tetanus (1), pertussis (2–5), polio (15), measles (10), mumps (9), rubella (5), Hib (2), varicella (69), conjugate pneumococcus (8), and hepatitis B (1).

CONCERN: Some vaccines contain other infectious agents that may damage my child.

All currently recommended vaccines are tested by pharmaceutical companies under the strict supervision of the FDA. Vaccines are tested for the presence of known viruses, bacteria, fungi, or parasites different from those contained in the vaccine.

When you consider that the 3.5 to 4 million children born every year in the United States receive eleven different vaccines by the time they are six years old, and that some of these vaccines have been in existence for over fifty years, the record of vaccine safety in this country is remarkable. ♦

How do I know when to take my baby in for shots?

Your healthcare provider should give you a reminder when the next doses are due. If you are not sure, call your clinic or health-care provider to find out when you should bring your child back. Doses cannot be given too close together or immunity doesn't have time to build up. On the other hand, you don't want to delay your child's shots and get behind schedule. It takes time to catch up and during this time, your child remains unprotected against these diseases.

What if I miss an appointment? Does my baby have to get the shots all over again?

No. If your baby misses some doses, it's not necessary to start over. Your provider will continue from where he or she left off.

How do I keep track of my baby's shots?

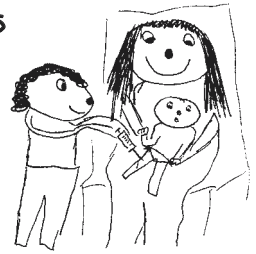
Your healthcare provider should give you a personal record card for your child's vaccinations. If you don't receive one, ask! Bring the card to all medical appointments. Whenever your child receives a vaccine, make sure the card gets updated. Your child will benefit by retaining an accurate vaccination record throughout his or her life.

What if my child isn't a baby anymore? Is it too late to get him or her vaccinated?

No. Although it's best to have your child begin vaccination as an infant, it's never too late to start. If your child has not received any, or all, of his/her shots, now is the time to start.

Everyone needs vaccinations!

If you can't afford shots or don't know where to get them, contact your city, county, or state health department, or call (800) 232-4636.



What if I can't afford to get my child vaccinated?

Vaccinations are usually free or low cost for children when families can't afford them. You can call (800) 232-4636 or your local health department to find out where to go for affordable vaccinations. Your child's health depends on it!

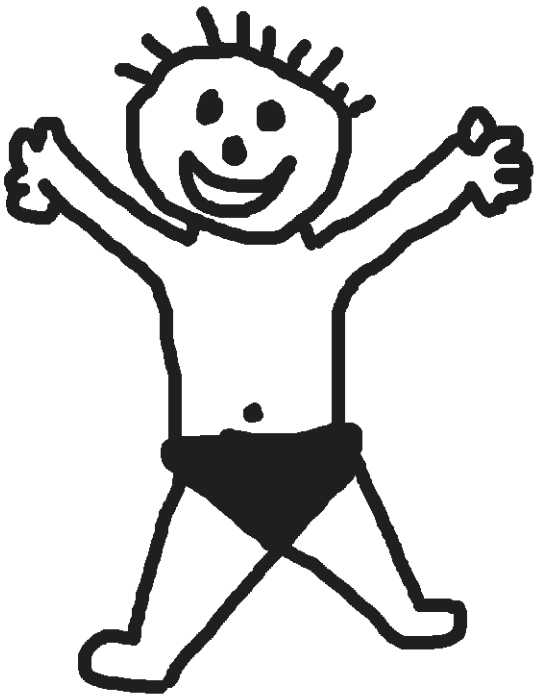
A friendly reminder for parents:

Adults need vaccinations, too! Call your clinic or health department to find out what vaccinations you might need or when your next ones are due. Your baby is counting on you!

Immunization Action Coalition
1573 Selby Avenue, Suite 234
St. Paul, MN 55104
(651) 647-9009
www.vaccineinformation.org • www.immunize.org

www.immunize.org/catg.d/p4025.pdf • Item #P4025 (4/05)

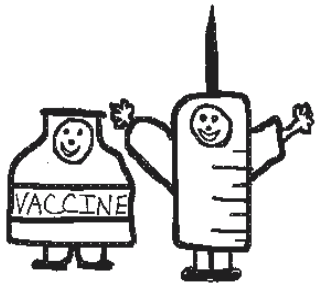
Questions parents ask about baby shots



What are vaccinations?

Vaccinations (vaccines) protect your child against serious diseases by stimulating the immune system to create antibodies against certain bacteria or viruses. Most vaccinations are given as injections.

What diseases do vaccines protect against?



Vaccines protect against measles, mumps, rubella, influenza, hepatitis B, hepatitis A, polio, diphtheria, tetanus, pertussis (whooping cough), Hib disease, chickenpox, and pneumococcal disease. Vaccines can't protect children from minor illnesses like colds, but they can keep children safe from many serious diseases.

Isn't all this talk about diseases just a way to scare parents so they'll bring their babies in for shots?

No. These diseases can injure and kill children in the U.S. Pertussis, for example, is currently a dangerous disease for infants. During 1997–2000, nearly 30,000 pertussis cases were reported; 62 resulted in death. In 2003 alone, 11,647 cases and 18 deaths from pertussis were reported. Influenza also takes a toll on children. During the 2003–04 influenza season, 40 states reported 152 influenza-related deaths among children younger than 18 years of age.

I don't know anybody who has had measles or rubella. Why does my baby need these shots?

You might not think that measles and rubella are a threat today because you don't see or hear much about them, but they are still around. These diseases are common in other parts of the world and are just a plane ride away. If we stop vaccinating against these diseases, many more people will become infected. Vaccinating your child will keep him or her safe.

Isn't there some way besides vaccination to protect my baby against these diseases?

No. Breastfeeding offers temporary immunity against some minor infections like colds, but it is not an effective means of protecting a child from the specific diseases preventable by vaccines. Likewise, vitamins don't protect against the specific bacteria and viruses that cause these serious diseases.

Of course, infection usually results in immunity, and some parents think that getting the "natural" disease is preferable to "artificial" vaccination. Some even arrange chickenpox "parties" to ensure their child is infected. However, the price paid for natural disease can include paralysis, retardation, liver cancer, deafness, blindness, or even death. Vaccination is definitely a better choice!

Are vaccinations safe?

Vaccines are safe, and researchers continually work to make sure they become even safer. Every vaccine undergoes many tests before being licensed, and its safety continues to be monitored as long as the vaccine is in use.

Most side effects from vaccination are minor, such as soreness where the injection was given or a low-grade fever. These side effects do not last long and are treatable. Serious reactions are very rare. The tiny risk of a serious vaccine reaction has to be weighed against the very real risk of getting a dangerous vaccine-preventable disease. If you have concerns or questions, talk to your child's healthcare provider.

What if my baby has a cold or fever, or is taking antibiotics? Can he or she still get vaccinated?

Yes. Your child can still be vaccinated if he or she has a mild illness, a low-grade fever, or is taking antibiotics. Ask your child's healthcare provider if you have questions.

How many times do I need to bring my baby in for vaccinations?

At least four visits are needed before age two, but the visits can be timed to coincide with well-child check-ups. Your baby should get the first vaccine (hepatitis B) shortly after birth, while still in the hospital. Multiple visits during the first two years are necessary because there are thirteen diseases your baby can be protected against, and most require several doses of vaccine for optimal protection.

Suggestions to Improve Your Immunization Services

Following are several ideas that healthcare professionals and practices can use to improve their efficiency in administering vaccines and increase their immunization rates. Read each idea and check the response that applies to your work setting.

Yes = We already practice this.
No = We don't like this idea, or it couldn't work in our practice setting.
Partly = We do some of this (or do it sometimes); we will consider it.

	Yes	No	Partly
1. In all exam rooms, we post the current, official U.S. immunization schedule for children and/or adults or variations thereof (for example, the official schedule of a medical society or of a state health department).	○	○	○
2. We use the official "catch-up" schedule for children for advice on how to bring children up to date on their vaccinations when they have fallen behind.	○	○	○
3. We are familiar with special vaccination recommendations for high-risk patients (e.g., special groups who need hepatitis A, hepatitis B, pneumococcal, influenza vaccines).	○	○	○
4. When scheduling appointments, we remind patients/parents to bring along their (or their child's) personal shot record. We also confirm the address and phone number in case we need to contact them.	○	○	○
5. We've trained our nursing and office staff (e.g., receptionist, scheduler) to know how to determine valid and invalid contra-indications to vaccinations, as well as the minimum intervals permissible between vaccinations. This training ensures that our clinic staff miss no opportunity to vaccinate.	○	○	○
6. Our staff are trained to administer multiple vaccinations to patients who are due for multiple vaccinations.	○	○	○
7. Our nurses can give vaccinations under standing orders (i.e., they can independently screen patients and administer vaccines under pre-existing signed physician's orders).	○	○	○
8. We maintain a comprehensive immunization record in a visible location in each patient's chart (e.g., the front of the chart).	○	○	○
9. Prior to patient visits, we review the immunization record for each patient and flag charts of those who are due or overdue.	○	○	○
10. We provide vaccinations during some evening and/or weekend hours.	○	○	○
11. Patients can walk in during office hours for a "nurse only" visit and get vaccinated.	○	○	○
12. We use all patient encounters (including acute-care and follow-up visits) to assess and provide vaccinations.	○	○	○
13. Whenever a patient comes in, the staff routinely asks to see his/her shot record to determine if the patient received vaccinations at another healthcare site.	○	○	○
14. If a patient tells us "I'm up to date with my vaccinations," or "my child's vaccinations are up to date," we are not convinced. We must have written documentation.	○	○	○
15. We ask patients/parents to complete a simple screening questionnaire for contra-indications to determine if the vaccinations they need can be given safely on the day of their visit. To save time, we have them complete it prior to seeing the clinician (e.g., in the waiting room).	○	○	○
16. Before the clinician sees the patient, a staff member completes an immunization assessment and gives Vaccine Information Statements (VISs) to the patient/parent to read. If they need a VIS in another language, we give it, if it is available.	○	○	○
17. We can call on translators when we need to communicate with patients who speak little or no English.	○	○	○

(continued on next page)

www.immunize.org/catg.d/p2045tip.pdf • Item #P2045 (4/05)

	Yes	No	Partly
18. If children in our waiting room are the siblings or children of the patient, we pull their charts and review their immunization status and vaccinate them if needed before they leave the office.	◯	◯	◯
19. If no immunization record exists for a patient at the time of the visit and we are unable to obtain records by phone, we give the vaccinations that we THINK are indicated, based on the history provided by the patient/parent. We have the patient/parent sign a release of records to obtain immunization records from previous providers. If no records of previous vaccinations can be located, the patient is treated as if unimmunized.	◯	◯	◯
20. With each patient visit, we document on the patient's chart that their immunization status has been reviewed (e.g., a notation such as "immunization status reviewed" is pre-printed on the progress note or other chart form).	◯	◯	◯
21. We give patients/parents a simple schedule of recommended vaccinations.	◯	◯	◯
22. We give patients/parents an information sheet about how to treat pain and fever following vaccinations.	◯	◯	◯
23. We always update the patient's personal immunization record card each time we administer vaccinations. If the patient doesn't have a card, we give them one that contains their vaccination history.	◯	◯	◯
24. We provide resources (e.g., information, pamphlets, websites, hotline numbers) to patients/parents who have questions or concerns about vaccine safety or who want more vaccine information. We provide translated materials, if available.	◯	◯	◯
25. If we see a patient in our office and don't administer a vaccination when it's due, we document the reason why in the patient's chart.	◯	◯	◯
26. When giving vaccinations, we inform the patient/parent when the next appointment for vaccinations is due. We schedule the visit before they leave the office if our appointment system allows it; otherwise we put the information in a manual tickler system or electronic recall system.	◯	◯	◯
27. If children miss "well-child" visits and can't be rescheduled quickly, we reschedule them in one to two weeks for a "shots only" visit.	◯	◯	◯
28. We contact all patients who are due for vaccinations with a reminder (e.g., by phone or mail) and those who are past due with a recall (e.g., using computerized tracking or a simple tickler system).	◯	◯	◯
29. If we have written confirmation that a patient received vaccines at another site or at a public health, school-based, worksite-based, or community-based immunization site, we update the patient's medical chart with that information, recording the vaccination date(s) and healthcare site(s) where the vaccination was received.	◯	◯	◯
30. We routinely assess immunization levels of our patient population, including those with high-risk indicators. (Contact your state or local health department's immunization staff for assistance in performing such an assessment.) We share this information with all our staff and use it to develop strategies to improve immunization rates.	◯	◯	◯
31. We are enrolled in the Vaccines for Children (VFC) program so that we can provide free vaccine to uninsured children (0–18 years) and others who are eligible under the state's program.	◯	◯	◯

Now that you know where you stand on your office practices, you can take steps that will likely improve your immunization rates. Talk to your local or state health department for assistance or visit the website of the Immunization Action Coalition at www.immunize.org/izpractices for resources to help you change your "partly" statements into "yes" statements.

Pneumococcal polysaccharide vaccine (PPV23)

CDC answers your questions

William L. Atkinson, MD, MPH, medical epidemiologist, CDC's National Immunization Program, answers your questions on pneumococcal polysaccharide vaccine (PPV).

To obtain a copy of the official CDC recommendation **"Prevention of Pneumococcal Disease,"** call (800) CDC-INFO [(800) 232-4636] or go to ftp.cdc.gov/pub/publications/mmwr/rr/rr4608.pdf

How serious is pneumococcal disease?
An estimated 40,000 cases of invasive pneumococcal disease occur annually. Case-fatality rates are high, particularly when disease results in meningitis (~30%) or bacteremia (~20%). In addition, pneumococcal pneumonia, often a secondary complication of influenza, results in an estimated 175,000 hospitalizations annually.

My patient doesn't have a record of receiving PPV, but she believes she may have had it in the past. What should I do?
Persons with uncertain or unknown vaccination status should be vaccinated.

Should all nursing home patients be vaccinated against pneumococcal disease?
Yes. Standing orders for vaccination of persons admitted to long-term care facilities can help simplify the procedure.

Should people with asthma receive PPV?
Asthma is not an indication for routine pneumococcal vaccination unless it occurs with chronic bronchitis, emphysema, or long-term systemic corticosteroid use. However, persons with obstructive lung disease should be vaccinated regardless of the cause.

My patient has had pneumococcal pneumonia. Is vaccination still necessary?
Maybe. More than 80 known serotypes of pneumococcus exist; 23 serotypes are in the current vaccine. Infection with one serotype does not necessarily produce immunity to other serotypes. Please note, however, that vaccination is indicated only for those in a risk group (see table). A history of pneumococcal pneumonia alone is not an indication for vaccination with PPV unless other risk factors are present (see table).

Should HIV-positive patients receive PPV?
Yes. Patients with HIV infection should be given PPV as soon as possible after diagnosis and a one-time revaccination dose at the appropriate interval (see table). The risk of pneumococcal infection is up to 100 times greater in HIV-infected persons than in other adults of similar age. Although severely immunocompromised persons may not respond well to the vaccine, the risk of disease is great enough to warrant vaccination even though there is a chance that the vaccine may not produce an antibody response.

If I give PPV to my patient now, must I wait a month before giving influenza or Td vaccine?
Inactivated influenza vaccine and Td toxoids may be given at the same time as or at any time before or after a dose of PPV. There are no minimum interval requirements between the doses of these or any other inactivated vaccines.

When should I vaccinate patients who are planning to have either a cochlear implant or elective splenectomy?
If time permits, give PPV to such patients at least 2 weeks before surgery.

What needle length is recommended for administration of PPV to adults?
Pneumococcal vaccine may be given either IM or SC. Use a 1–1½" needle for IM, depending on muscle mass. For SC, use a ⅝–¾" needle.

Which patients should also receive the pneumococcal conjugated vaccine (PCV)?
PCV is recommended for all children age less than 24 months as well as children ages 24–59 months with a high-risk medical condition. Consult the ACIP recommendations for more details (*MMWR,* Vol. 49, RR-9, 10/6/00).

Immunocompetent Persons	
Who needs pneumococcal (PPV) vaccine?	**Who in the groups in the left column needs revaccination?**
Vaccinate all persons age 65 years and older.	Revaccination for healthy persons is not recommended. However, if a patient received the first dose prior to age 65, give a single revaccination at age 65 (or older) if at least 5 years have elapsed since the previous dose.
Vaccinate persons ages 2–64 years who • have chronic cardiovascular disease (including congestive heart failure and cardiomyopathy), chronic pulmonary disease (including COPD and emphysema), or diabetes mellitus or are cochlear implant patients. • have chronic liver disease (including cirrhosis), are alcoholic, or have cerebrospinal fluid leaks. • live in special environments or social settings (including Alaska Natives and certain American Indian populations).	If the patient received the first dose prior to age 65, give a single revaccination at age 65 (or older) if at least 5 years have elapsed since the previous dose.
Vaccinate persons ages 2–64 years with functional or anatomic asplenia (including persons with sickle cell disease or splenectomy patients).	If a vaccinated patient in this risk group is older than age 10 years, give a single revaccination if at least 5 years have elapsed since the previous dose. If the patient is age 10 years or younger, consider revaccination 3 years after the previous dose.
Immunocompromised Persons	
Vaccinate immunocompromised patients age 2 years and older, including those with HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, chronic renal failure (including dialysis patients), or nephrotic syndrome; those receiving immunosuppressive therapy (including long-term systemic corticosteroids); and those who have received an organ or bone marrow transplant.	If a vaccinated immunocompromised patient is older than age 10 years, give a single revaccination if at least 5 years have elapsed since the previous dose. If the patient is age 10 years or younger, consider revaccination 3 years after the previous dose.

www.immunize.org/catg.d/2015pne.pdf • Item #P2015 (1/05)

Vaccine Storage and Handling

For a ready-to-copy 8½" x 11" version of this piece, go to www.immunize.org/catg.d/p3035chk.pdf

Checklist for Safe Vaccine Handling and Storage

Here are the 20 most important things you can do to safeguard your vaccine supply. Are you doing them all? Reviewing this list can help you improve your clinic's vaccine management practices.

Yes	No		
____	____	1.	We have a designated person in charge of the handling and storage of our vaccines.
____	____	2.	We have a back-up person in charge of the handling and storage of our vaccines.
____	____	3.	A vaccine inventory log is maintained that documents:
			____ Vaccine name and number of doses received
			____ Date the vaccine was received
			____ Arrival condition of vaccine
			____ Vaccine manufacturer and lot number
			____ Vaccine expiration date
____	____	4.	Our refrigerator for vaccines is either household-style or commercial-style, NOT dormitory-style. The freezer compartment has a separate exterior door.
____	____	5.	We do NOT store any food or drink in the refrigerator or freezer.
____	____	6.	We store vaccines in the middle of the refrigerator or freezer, and NOT in the door.
____	____	7.	We stock and rotate our vaccine supply so that the newest vaccine of each type (with the longest expiration date) is placed behind the vaccine with the shortest expiration date.
____	____	8.	We check vaccine expiration dates and we first use those that will expire soonest.
____	____	9.	We post a sign on the refrigerator door showing which vaccines should be stored in the refrigerator and which should be stored in the freezer.
____	____	10.	We always keep a thermometer in the refrigerator.
____	____	11.	The temperature in the refrigerator is maintained at 35–46°F (2–8°C).
____	____	12.	We keep extra containers of water in the refrigerator to help maintain cold temperatures.
____	____	13.	We always keep a thermometer in the freezer.
____	____	14.	The temperature in the freezer is maintained at +5°F (-15°C) or colder.
____	____	15.	We keep ice packs and other ice-filled containers in the freezer to help maintain cold temperatures.
____	____	16.	We post a temperature log on the refrigerator door on which we record the refrigerator and freezer temperatures twice a day—first thing in the morning and at clinic closing time—and we know whom to call if the temperature goes out of range.
____	____	17.	We have a "Do Not Unplug" sign next to the refrigerator's electrical outlet.
____	____	18.	In the event of a refrigerator failure, we take the following steps:
			____ We assure that the vaccines are placed in a location with adequate refrigeration.
			____ We mark exposed vaccines and separate them from undamaged vaccines.
			____ We note the refrigerator or freezer temperature and contact the vaccine manufacturer or state health department to determine how to handle the affected vaccines.
			____ We follow the vaccine manufacturer's or health department's instructions as to whether the affected vaccines can be used, and, if so, we mark the vials with the revised expiration date provided by the manufacturer or health department.
____	____	19.	We have obtained a detailed written policy for general and emergency vaccine management from our local or state health department.
____	____	20.	If all above answers are "yes," we are patting ourselves on the back. If not, we have assigned someone to implement needed changes!

www.immunize.org/catg.d/p3035chk.pdf • Item #P3035 (8/04)

Immunization Action Coalition • 1573 Selby Avenue • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org

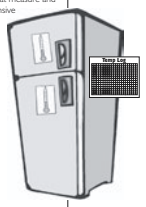
For a ready-to-copy 8½" x 11" version of this piece, go to www.immunize.org/catg.d/p3036.pdf

Don't Be Guilty of These Errors in Vaccine Storage and Handling

The following are frequently reported errors in vaccine storage and handling. Some of these errors are much more serious than others, but none of them should occur. Be sure your clinic or practice is not making errors such as these.

Error #1: Designating only one person in the office to be responsible for storage and handling of vaccines, instead of a minimum of two.
It's important to train at least one back-up person to learn proper storage and handling of vaccines. The back-up person should be familiar with all aspects of vaccine storage and handling, including knowing how to handle vaccines when they arrive, how to properly record refrigerator and freezer temperatures, and what to do in case of an equipment problem or power outage.

Error #2: Recording temperatures only once per day.
Temperatures fluctuate throughout the day. Temperatures in the refrigerator and freezer should be checked at the beginning and end of the day to determine if the unit is getting too cold or too warm. Ideally, you should have continuous thermometers that measure and record temperatures all day and all night. A less expensive alternative is to purchase maximum/minimum thermometers. Only certified thermometers should be used for vaccine storage. It's also a good idea to record the room temperature on your temperature log in case there is a problem with the refrigerator or freezer temperature. This information may be helpful to the vaccine company's telephone consultant in ascertaining whether your vaccine can still be used.



Error #3: Recording temperatures for only the refrigerator or freezer.
If your facility administers varicella vaccine or live attenuated influenza vaccine (LAIV), you should have certified thermometers in both the refrigerator and the freezer. Rather than buying cheap thermometers that may not accurately measure the temperature, buy quality thermometers that will last for years.

Error #4: Documenting out-of-range temperatures on vaccine temperature logs and not taking action.
Documenting temperatures is not enough. Acting on the information is even more important! So, what should you do? Notify your supervisor whenever you have an out-of-range temperature. Safeguard your vaccines by moving them to another location and then determine if they are still useable. Check the condition of the unit for problems. Are the seals tight? Is there excessive lint or dust on the coils? After you have made the adjustment, document the date, time, temperature, what the problem was, the action you took, and the results of this action. Recheck the temperature every two hours. Call maintenance or a repair person if the temperature is still out of range.

Error #5: Throwing away temperature logs at the end of every month.
It's important that you keep your temperature logs for at least three years. As the refrigerator ages, you can track recurring problems. If temperatures have been documented out of range, you can determine how long this has been happening and take appropriate action. It's also a great way to lobby for a new refrigerator.

Error #6: Storing vaccine in the refrigerator in a manner that may inappropriately affect its temperature.
The temperature in the vegetable bins, on the floor, next to the walls, in the door, and near the cold air outlet from the freezer may differ significantly from the temperature in the body of the refrigerator. Always store vaccines in their original packaging in the body of the refrigerator away from these locations. Place vaccine packages in such a way that air can circulate around the compartment. Never overpack a refrigerator compartment.

Error #7: Storing frozen vaccines in a dorm-style refrigerator.
Varicella and LAIV must be stored in a freezer that has its own external door separate from the refrigerator. No matter how hard you try to adjust the temperature to +5°F in a dorm-style refrigerator's freezer, you won't be able to reach this low temperature in the freezer, and you'll probably freeze the rest of your vaccines in the refrigerator!

Error #8: Inadvertently leaving the refrigerator or freezer door open or having inadequate seals.
Remind staff to close the unit doors tightly each time they open them. Also, check the seals on the doors on a regular schedule, and if there is any indication the door seal may be cracked or not sealing properly, have it replaced. The cost of replacing a seal is much less than replacing a box of pneumococcal conjugate or varicella vaccine.

Error #9: Discarding multi-dose vials 30 days after they are opened.
Don't discard your vaccines prematurely. Almost all multi-dose vials of vaccine contain a preservative and can be used until the expiration date on the vial unless there is visible contamination. However, you must discard multi-dose vials of reconstituted vaccine (e.g., meningococcal, yellow fever) if they are not used within a defined period after reconstitution. Refer to the vaccine package inserts for additional information.

Error #10: Not having emergency plans for a power outage or natural disaster.
Every clinic should have a written Disaster Recovery Plan that identifies a refrigerator with a back-up generator in which to store vaccine in the event of a power outage or natural disaster. Consider contacting a local hospital or similar facility to be your back-up location if you should need it.

Error #11: Storing food and drinks in the vaccine refrigerator.
Frequent opening of the refrigerator door to retrieve food items can adversely affect the internal temperature of the unit and damage vaccines.

www.immunize.org/catg.d/p3036.pdf • Item #P3036 (8/04)

Immunization Action Coalition • 1573 Selby Avenue • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org

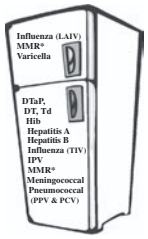
For a ready-to-copy 8½" x 11" version of this piece, go to www.immunize.org/catg.d/p3048.pdf

Vaccine Handling Tips

Outdated or improperly stored vaccines won't protect patients!

Maintain freezer temperature at 5°F (-15°C) or colder

Maintain refrigerator temperature at 35–46°F (2–8°C)



Order vaccine carefully.
Inventory your vaccine at least monthly and before placing an order. Expired vaccine must never be used and is money wasted!

Store vaccine correctly.†
Refrigerate or freeze immediately upon receiving shipment. Do not store vaccine in the door of the refrigerator or freezer. Inactivated vaccines should always be placed in the middle of the refrigerator far enough away from the freezer compartment to protect them from freezing.

Always use the vaccine with the earliest expiration date first.
Move vaccine with the earliest expiration date to the front and mark it to be used first. Keep vials in their boxes. Never use outdated vaccine.

Stabilize temperatures.
Store ice packs in the freezer and large jugs of water in the refrigerator along with the vaccine. This will help maintain a stable, cold temperature in case of a power failure or if the refrigerator or freezer doors are opened frequently or left open. Frequent opening of the refrigerator unit's doors can lead to temperature variations inside, which could affect vaccine efficacy. For this reason you should not store food or beverages in the refrigerator or freezer.

Safeguard the electrical supply to the refrigerator.
Make sure the refrigerator is plugged into an outlet in a protected area where it cannot be disconnected accidentally. Label the refrigerator, electrical outlets, fuses, and circuit breakers on the power circuit with information that clearly identifies the perishable nature of vaccines and the immediate steps to be taken in case of interruption of power (use DO NOT UNPLUG stickers). If your building has auxiliary power, use the outlet supplied by that system.

*MMR may be stored in either the freezer or the refrigerator.

†Refer to package insert for specific instructions on the storage of each vaccine. If you have questions about the condition of the vaccine, you should immediately place the vaccine in recommended storage and call the vaccine manufacturer(s) to determine whether the potency of the vaccine(s) has been affected. For other questions, call the immunization program at your state or local health department.

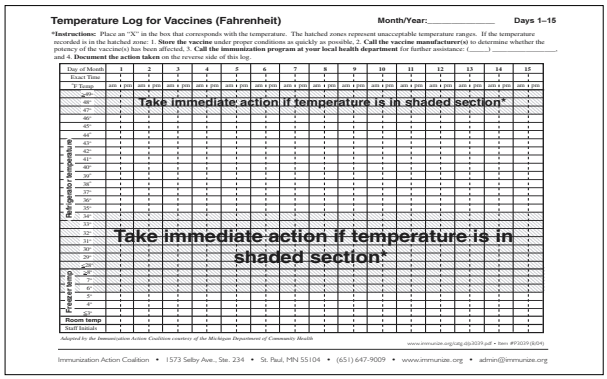
Record your health department's phone number here:_____

Adapted by the Immunization Action Coalition, courtesy of the Minnesota Department of Health

www.immunize.org/catg.d/p3048.pdf • Item #P3048 (11/03)

Immunization Action Coalition • 1573 Selby Avenue • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org

For a ready-to-copy 8½" x 11" version of this 2-page piece, go to www.immunize.org/catg.d/p3039.pdf (For Celsius, go to www.immunize.org/news.d/celsius.pdf)



Temperature Log for Vaccines (Fahrenheit) Month/Year:_____ Days 1–15

*Instructions: Place an "X" in the box that corresponds with the temperature. The hatched zones represent unacceptable temperature ranges. If the temperature recorded is in the hatched zone: 1. **Store the vaccine** under proper conditions as quickly as possible, 2. **Call the vaccine manufacturer(s)** to determine whether the potency of the vaccine(s) has been affected, 3. **Call the immunization program at your local health department** for further assistance: (_____) _____, and 4. **Document the action taken** on the reverse side of this log.

Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Exact Time	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
°F Temp	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm
49°															
48°															
47°															
46°															
45°															
44°															
43°															
42°															
41°															
40°															
39°															
38°															
37°															
36°															
35°															
34°															
33°															
32°															
31°															
30°															
29°															
28°															
27°															
26°															
25°															
24°															
23°															
22°															
21°															
20°															
19°															
18°															
17°															
16°															
15°															
14°															
13°															
12°															
11°															
10°															
9°															
8°															
7°															
6°															
5°															
4°															
3°															
2°															
1°															
0°															
-1°															
-2°															
-3°															
-4°															
-5°															
-6°															
-7°															
-8°															
Room temp															
Staff Initials															

Refrigerator temperature

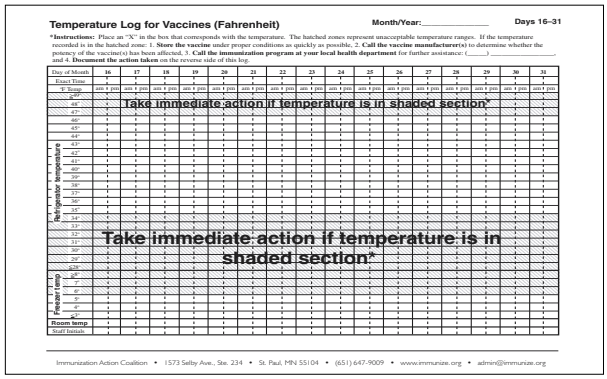
Freezer temp

Take immediate action if temperature is in shaded section*

Adapted by the Immunization Action Coalition courtesy of the Michigan Department of Community Health

www.immunize.org/catg.d/p3039.pdf • Item #P3039 (8/04)

Immunization Action Coalition • 1573 Selby Ave., Ste. 234 • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org • admin@immunize.org



Temperature Log for Vaccines (Fahrenheit) Month/Year:_____ Days 16–31

*Instructions: Place an "X" in the box that corresponds with the temperature. The hatched zones represent unacceptable temperature ranges. If the temperature recorded is in the hatched zone: 1. **Store the vaccine** under proper conditions as quickly as possible, 2. **Call the vaccine manufacturer(s)** to determine whether the potency of the vaccine(s) has been affected, 3. **Call the immunization program at your local health department** for further assistance: (_____) _____, and 4. **Document the action taken** on the reverse side of this log.

Day of Month	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Exact Time	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
°F Temp	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm	am • pm
49°																
48°																
47°																
46°																
45°																
44°																
43°																
42°																
41°																
40°																
39°																
38°																
37°																
36°																
35°																
34°																
33°																
32°																
31°																
30°																
29°																
28°																
27°																
26°																
25°																
24°																
23°																
22°																
21°																
20°																
19°																
18°																
17°																
16°																
15°																
14°																
13°																
12°																
11°																
10°																
9°																
8°																
7°																
6°																
5°																
4°																
3°																
2°																
1°																
0°																
-1°																
-2°																
-3°																
-4°																
-5°																
-6°																
-7°																
-8°																
Room temp																
Staff Initials																

Refrigerator temperature

Freezer temp

Take immediate action if temperature is in shaded section*

Immunization Action Coalition • 1573 Selby Ave., Ste. 234 • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org • admin@immunize.org

IAC's "Ask the Experts" team from CDC

William L. Atkinson, MD, MPH

Andrew T. Kroger, MD, MPH

Linda A. Moyer, RN

Eric E. Mast, MD, MPH

years of age (use in younger persons may be approved in the future). Groups for whom ACIP has recently recommended MCV4 include all children at the pre-adolescent visit (11–12 years of age), children entering high school (15 years of age), college freshmen who will be living in a dormitory, and other adolescents who wish to reduce their risk of meningococcal disease. Among high-risk persons in the 11–55 year age range, MCV4 indications are the same as MPSV4 indications: having terminal complement component deficiency and/or asplenia, traveling to areas of the world with high rates of meningococcal disease, working in certain laboratory settings, etc.

Will MCV4 be included in the VFC program?
Yes. ACIP has already voted to include MCV4 in the Vaccines for Children (VFC) program (see www.cdc.gov/nip/vfc/acip_resolutions/0205mening-mpsv4.pdf), and a federal contract for purchase of MCV4 has been negotiated.

Can immunizations be given without a physician's order?
Vaccines are controlled substances and must always be dispensed with a prescription or order from a physician or other healthcare provider authorized to prescribe medications (such as a nurse practitioner, in some areas). However, there are situations where vaccines can be administered using authorized and signed standing orders. In these situations the physician or other healthcare provider does not need to be physically present for the vaccine to be administered.

Is it necessary to wear gloves when we administer vaccinations?
No. Gloves are not required when administering vaccinations, unless the person administering the vaccine is likely to come into contact with potentially infectious body fluids or has an open lesion on their hand.

While giving an injection, a nurse had blood return in the syringe upon aspirating. What should she have done with the vaccine?
Although aspiration is no longer recommended, if you do aspirate and get a flash of blood, then the procedure is to withdraw the needle and start over. The syringe, needle, and contaminated dose of vaccine should be discarded in a sharps container, and a new syringe and needle should be used to draw up and administer another dose of vaccine. This is a waste of expensive vaccine that could be avoided by simply not aspirating.

What percentage of vaccine recipients will experience an anaphylactic reaction?
It is estimated that for every million doses administered, about one (~0.000001%) will result in an anaphylactic reaction following vaccination. With proper screening, most providers who administer thousands of vaccines in their lifetimes will never see an anaphylactic reaction.

Are vaccine diluents interchangeable?
As a general rule vaccine diluents are not interchangeable. One exception is that the diluent for MMR can be used to reconstitute varicella vaccine, and vice versa. The diluent for both vaccines is sterile water for injection, and is produced by the same company. No other diluent can be used for MMR and varicella vaccines, and these diluents must not be used to reconstitute any other lyophilized vaccine.

Why are vaccines generally not given to infants under 6 weeks of age in the U.S.?
Mainly because little safety or efficacy data exist on doses given before 6 weeks of age, and the vaccines aren't licensed for this use. The data that exist suggest that the response to doses given before 6 weeks is poor; the response to hepatitis B vaccine is the exception.

What does "simultaneous administration of vaccines" mean? Does it mean the same day, hour, or what?
Simultaneous means the same day—the same clinic day. If someone receives a vaccine in the morning and then another that same afternoon, it would be considered simultaneous administration.

Is there validated software that will assist in determining appropriate and effective vaccination schedules when patient data are provided?
Some state registries do have programs that will recommend doses based on prior history. There are also a couple of resources available on the NIP website:
www2a.cdc.gov/nip/scheduler_le/default.asp and
www2.cdc.gov/nip/adultImmSched

Do any or all stoppers still contain latex?
Not all stoppers in vaccine vials contain latex. Manufacturers are beginning to switch to synthetic rubberlike materials that do not contain rubber latex or dry natural rubber. The best approach is to check the package insert, which will indicate if the packaging contains latex. Also, remember that prefilled syringes could contain natural rubber in the plunger or in the needle cover. This information is also supplied in the package insert.

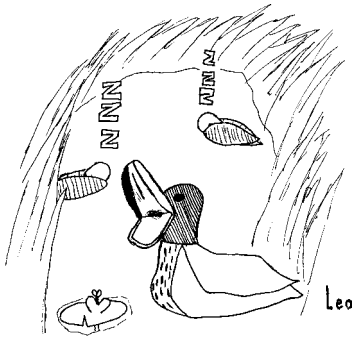
What are the special recommendations on vaccine administration for people with clotting disorders?
This issue is discussed in the 2002 ACIP "General Recommendations on Immunization" *[MMWR* 2002;51(No. RR-2), 23]. Intramuscular injections should be scheduled shortly after antihemophilia therapy or just prior to a dose of anticoagulant. For

(continued on page 20)

Needle Tips correction policy

The Immunization Action Coalition works tirelessly to ensure the accuracy of the information we make available. At times, however, mistakes occur. If you find an error, please notify us immediately. We publish notification of significant errors in ***Needle Tips*** and on our email announcement service ***IAC Express.*** Be sure you're signed up for this service. Visit www.immunize.org/express to sign up, or subscribe by sending an email to express@immunize.org Enter the word SUBSCRIBE in the "Subject:" field. No message is needed.

What time do ducks get up?



At the quack of dawn.

both intramuscular and subcutaneous injections a fine needle (23 gauge or smaller) should be used and firm pressure applied to the site, without rubbing, for at least 2 minutes. Providers should avoid administration of vaccines by a route not approved by the FDA (i.e., administration of IM vaccines by the SC route).

Do persons who received chemotherapy need their vaccines repeated?

Vaccines received before starting chemotherapy do not need to be repeated after chemotherapy is completed. Chemotherapy does not negate vaccine-induced immunity. However, revaccination is recommended for persons who are recipients of a hematopoietic stem cell transplant (HSCT), such as a bone marrow transplant, because immunity present before the transplant is lost; it may not be replaced by donor cells.

Which vaccinations should be given to an adult who has had a stem cell transplant?

Antibody titers to vaccine-preventable diseases (e.g., tetanus, poliovirus, measles, mumps, rubella, and encapsulated bacteria) decline during the 1–4 years after HSCT, if the recipient is not revaccinated. HSCT recipients are at increased risk for certain vaccine-preventable diseases, including those caused by encapsulated bacteria and should receive Hib, PPV, and influenza vaccines at a minimum. Other vaccines, such as tetanus and diphtheria toxoids, inactivated polio vaccine, and MMR should also be repeated. For a complete discussion of the indications and schedule of vaccination, see "Guidelines for Preventing Opportunistic Infections Among Hematopoietic Stem Cell Transplant Recipients: Recommendations of CDC, the Infectious Diseases Society of America, and the American Society of Blood and Marrow Transplantation." *MMWR* 2000;49 (No. RR-10). A summary of this document is available on the National Immunization Program website at www. cdc.gov/nip/publications/hsct-recs.pdf

Since the Health Insurance Portability and Accountability Act (HIPAA) went into effect, we are unsure if we can share immunization information on our pediatric patients with staff in schools or daycare facilities.

Healthcare providers (or other covered entities) may share immunization information with schools or daycare facilities, without authorization, if permitted or required by state law. These state laws would not be preempted by the HIPAA Privacy Rule [45 CFR 160.203(c)].

Hepatitis A and B

by Linda A. Moyer, RN, and Eric E. Mast, MD, MPH

A twelve-year-old was given dose #1 of the hepatitis B vaccine on 6/9/04, dose #2 on 1/11/05, and dose #3 on 1/31/05. Is another dose needed?

Yes. For any vaccine, *all* minimal intervals must be met. The minimum spacing for hepatitis B vaccine is 4 weeks between doses #1 and #2, 8 weeks between #2 and #3, and at least 16 weeks between #1 and #3. In this case, because the third dose was given too soon, it is invalid (should not be counted), and a fourth dose needs to be given no sooner than 8 weeks after the invalid dose.

Please explain the purpose of doing post-vaccination testing of infants born to HBsAg-positive mothers. Our providers follow the prophylaxis protocol, but some don't see the benefit of follow-up testing.

It is a standard of practice for infants born to HBsAg-positive mothers to be tested for both HBsAg and anti-HBs at 9–15 months of age.

Postvaccination testing is needed to identify infants who have developed perinatal HBV infection despite appropriate prophylaxis. These infected infants should be referred for medical follow-up, including regular monitoring for liver disease and liver cancer. In addition, the infected infant's family should be given appropriate counseling, and unvaccinated, susceptible household members should be vaccinated. Postvaccination testing also identifies infants who have not responded adequately to the vaccine (antibody to HBsAg <10 mIU/mL); these infants should be revaccinated with three additional doses of hepatitis B vaccine and retested 1–2 months after the last dose of vaccine.

Can you provide a cost-benefit analysis of giving the birth dose of hep B vaccine in the U.S., given the low prevalence of disease?

Cost-benefit analysis has shown that routine infant hepatitis B immunization is cost-saving for society. For more information, read "Prevention of Hepatitis B Virus Transmission by Immunization: An Economic Analysis of Current Recommendations," *JAMA*, 10/18/95, Vol. 274(15): 1201–1208.

Should healthcare employees who have no patient contact but clean areas that could be contaminated with blood or other body fluids be given hepatitis B vaccination?

Yes. Persons who have a reasonable expectation of being exposed to blood on the job, including custodial workers who clean areas contaminated with blood or other body fluids, should be given hepatitis B vaccine. However, healthcare employees who would not be expected to have occupational risk, such as receptionists, managers and administrators, billing staff, and general office workers, do not need to be given the vaccine. All staff persons who have a reasonable expectation of blood exposure should receive training on standard precautions for prevention of bloodborne infection, such as using gloves when cleaning up potentially infectious materials.

I read about a new study showing an association between recombinant hepatitis B vaccine and multiple sclerosis (MS) in adults. What can I tell my patients who are worried about this issue?

The benefits of hepatitis B vaccine are well documented. As many published studies and extensive reviews indicate, hepatitis B vaccine is safe and effective. Millions of persons worldwide have received hepatitis B vaccine without developing MS or any other autoimmune disease.

The study to which you refer, "Recombinant Hepatitis B Vaccine and the Risk of Multiple Sclerosis: A Prospective Study," was published September 14, 2004, in *Neurology*. This study has a number of important weaknesses. For example, the main finding of the study is based on 11 people. In the study, only 11 of the 163 people who had MS had ever received hepatitis B vaccine—the other 152 people with MS had never received hepatitis B vaccine. As such, the sample size is too small to draw definitive conclusions. In addition, the researchers did not verify the vaccination histories of the people in the study.

Both CDC and WHO's Global Advisory Committee on Vaccine Safety have published responses to this article. Access the original article abstract and these responses on IAC's hepatitis B vaccine safety page at www.immunize.org/safety/hepb.htm

Current VIS dates

Here are the most current VISs and the issue date printed at the bottom of each. Make sure you are using the current ones. Please recycle old copies.

DTaP/DT/DTP	7/30/01	hepatitis A	8/4/04
hepatitis B	7/11/01	influenza (LAIV)	5/24/04
Hib	12/16/98	influenza (TIV)	5/24/04
MMR	1/15/03	meningococcal	4/4/05
PCV	9/30/02	PPV	7/29/97
polio	1/1/00	rabies	11/4/03
Td	6/10/94	typhoid	5/19/04
varicella	12/16/98	yellow fever	11/9/04

VISs and instructions on how to use them can be obtained from CDC's website: www.cdc.gov/nip/publications/vis or from your state health department (for contact information, see box on page 1). The VISs, some in 32 languages, and the VIS instruction sheet are also available on IAC's website: www.immunize.org/vis

How do I interpret some of the common hepatitis B panel results?

Tests	Results	Interpretation
HBsAg anti-HBc anti-HBs	negative negative negative	susceptible
HBsAg anti-HBc anti-HBs	negative negative positive with ≥10mIU/mL*	immune due to vaccination
HBsAg anti-HBc anti-HBs	negative positive positive	immune due to natural infection
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive positive negative	acutely infected
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive negative negative	chronically infected
HBsAg anti-HBc anti-HBs	negative positive negative	four interpretations possible†

*Postvaccination testing, when it is recommended, should be performed 1–2 months following the last dose of vaccine. Infants born to HBsAg-positive mothers should be tested 3–9 months after the last dose.

†1. May be recovering from acute HBV infection.
2. May be distantly immune, but the test may not be sensitive enough to detect a very low level of anti-HBs in serum.
3. May be susceptible with a false positive anti-HBc.
4. May be chronically infected and have an undetectable level of HBsAg present in the serum.

If an infant received immune globulin (IG), does s/he need hepatitis A vaccine at age three, prior to traveling to a high-risk area?
Yes. IG protects against hepatitis A virus (HAV) infection for only 3–5 months, depending on the dosage given. Hepatitis A vaccine is the first choice of protection as long as the traveler is at least two years old.

Should daycare workers be routinely vaccinated against hepatitis A?
No. Although HAV infection can occur at daycare centers due to poor hygiene among children wearing diapers and improper handling of diapers by staff, the results of serologic studies do not indicate an increased prevalence of HAV infection among staff at daycare centers compared with control populations.

Hepatitis A and B lab tests

Hepatitis A lab nomenclature

anti-HAV: *Antibody to hepatitis A virus.* This diagnostic test detects total antibody of both IgG and IgM subclasses of HAV. Its presence indicates either acute or resolved infection.

IgM anti-HAV: *IgM antibody subclass of anti-HAV.* Its presence indicates a recent infection with HAV (≤6 mos). It is used to diagnose acute hepatitis A.

Hepatitis B lab nomenclature

HBsAg: *Hepatitis B surface antigen* is a marker of infectivity. Its presence indicates either acute or chronic HBV infection.

anti-HBs: *Antibody to hepatitis B surface antigen* is a marker of immunity. Its presence indicates an immune response to HBV infection, an immune response to vaccination, or the presence of passively acquired antibody. (It is also known as ***HBsAb,*** but this abbreviation is best avoided since it is often confused with abbreviations such as HBsAg.)

anti-HBc (total): *Antibody to hepatitis B core antigen* is a nonspecific marker of acute, chronic, or resolved HBV infection. It is *not* a marker of vaccine-induced immunity. It may be used in prevaccination testing to determine previous exposure to HBV infection. (It is also known as ***HBcAb,*** but this abbreviation is best avoided since it is often confused with other abbreviations.)

IgM anti-HBc: *IgM antibody subclass of anti-HBc.* Positivity indicates recent infection with HBV (≤6 mos). Its presence indicates acute infection.

HBeAg: *Hepatitis B "e" antigen* is a marker of a high degree of HBV infectivity, and it correlates with a high level of HBV replication. It is primarily used to help determine the clinical management of patients with chronic HBV infection.

Anti-HBe: *Antibody to hepatitis B "e" antigen* may be present in an infected or immune person. In persons with chronic HBV infection, its presence suggests a low viral titer and a low degree of infectivity.

HBV-DNA: *HBV Deoxyribonucleic acid* is a marker of viral replication. It correlates well with infectivity. It is used to assess and monitor the treatment of patients with chronic HBV infection.

Do you have patients who are HBsAg-positive?

They need medical monitoring, including liver cancer screening; many can benefit from treatment.

The FDA licenses four medications for treatment in the United States. They are interferon alfa-2b (administered subcutaneously); and adefovir dipivoxil, entecavir,* and lamivudine (administered orally).

Consult a liver specialist experienced in the treatment of viral hepatitis for appropriate monitoring guidelines and for help in determining which of your patients might benefit from treatment.

*On March 29, 2005, FDA approved Bristol-Myers Squibb's medication Baraclude (entecavir) for the treatment of hepatitis B virus infection in persons 16 years of age and older.

Visit IAC websites

www.immunize.org
www.vaccineinformation.org
www.hepprograms.org
www.izcoalitions.org

A CD of essential immunization information . . . yours when you support IAC with $75 or more

Our new CD of essential immunization information includes current versions of ALL IAC's print pieces in English and many in Spanish (more than 100 pieces!). Written for staff, parents, and patients, these pieces are CDC reviewed and continually updated, making them resources you can use and distribute with confidence. In addition, the CD includes all federal Vaccine Information Statements (VISs)—in English *and* Spanish.

In the past, we mailed our supporters print copies of our educational pieces. We have switched to CD technology because it offers contributors significant benefits:

- Every piece you print from the CD will be a crisp, professional-looking original
- If you accidentally hand out your last hard copy, you can print another without downloading from the Internet
- You can reduce storage space for staff- and patient-education materials to the size of the CD—the span of your hand!

In addition to this must-have CD, your contribution of $75 or more will bring you the following:

- **A year's worth of *Needle Tips.*** IAC's flagship print publication, *Needle Tips* has a worldwide readership of more than 130,000 health professionals. Read it, and you'll know why it's a trusted source of accurate and timely immunization information.
- **The satisfaction of being IAC's partner in saving lives by preventing disease.** Your contribution is critical in continuing IAC's work of producing accurate, up-to-date immunization information and making it available worldwide.
- **We'll even send a colorful IAC mousepad!** Our mousepad supply is being nibbled away. Don't miss out—become a contributor today!

Four outstanding resources for patient and staff education

Complete your collection of immunization print materials with these four indispensable resources:

"Adults Only Vaccination: A Step-by-Step Guide." Copies of this invaluable book are gone. A CD-ROM IS COMING SOON! The book contains 157 pages of practical information on ALL aspects of adult immunization: administration, patient education, billing, and more. Indispensable for any setting where adults are immunized—long-term care settings, family planning clinics, adult medical practices, college health services, etc. ~~$75~~; comes with the 2 videos below. Stay tuned for the CD-ROM.

Video: "How to Protect Your Vaccine Supply." Developed by CDC in 2004, the 25-minute video offers practical information on vaccine handling and storage. Order from IAC for $15.

Video or DVD: "Immunization Techniques: Safe, Effective, Caring." Developed by the California Immunization Program in 2001, the 35-minute video or DVD presents abundant practical information on how to vaccinate people of all ages. An excellent tool for training new staff and refreshing experienced staff. Comes with presenter notes and a skills checklist. $30.

Adult Immunization Record Cards. The card lists the vaccines adults get, making it easy to discuss your patients' vaccination needs with them. At the end of a visit, give the card to the patient as a permanent reminder of their immunization status. Rip-proof, smudge-proof, and waterproof, the card fits into a wallet for lifelong use. $35 for a 250-card box; see page 23 for larger quantity discounts.

To order materials on this page, use the order form on page 23.

Essential Immunization Resources from IAC

You may have noticed that the content of this resource page of *Needle Tips* has changed dramatically. IAC's individual print materials for health professionals and patients are no longer listed here for you to order. BUT, they are all still available free of charge on our main website at www.immunize.org/free All print materials are CDC reviewed, ready-to-copy, and available for your immediate use.

To access all IAC print materials, go to: www.immunize.org/free

In addition, at IAC we've invested in a high-quality CD-ROM burner and are producing CDs containing the most current versions of more than 100 of IAC's print materials. (See page 22 for more information.) We are offering the CD as a special thank-you to IAC partners who contribute $75 or more. To receive the CD, please read the section below left, I Want to Support IAC.

You can also receive the CD-ROM when you contribute $75 or more online at www.immunize.org/join

I Want to Support IAC!

I am a ❑ new ❑ renewing contributor.

Here is my contribution: (I will receive 2 issues of *Needle Tips,* plus a set of IAC's 15 most popular print pieces, such as the "Summary of Rules for Childhood and Adolescent Immunization.")

❑$75 ❑$50 ❑$100 ❑$150
❑$200 ❑$250 ❑$500 other: $_____

❑ I'm supporting IAC at a $75 level or higher. Please send me a CD of all IAC print materials in English and available Spanish translations, as well as Vaccine Information Statements (VISs) in English & Spanish.

❑ I don't need a CD, thanks!

Total contribution: $_____

Essential Immunization Resources

CD-ROM of IAC print materials (details p. 22)
FREE with a contribution of $75 or more (see above). The CD contains all IAC's ready-to-print materials in English and any translations available in Spanish. Includes VISs in English & Spanish.

Qty.			Amt.
	Videos and DVD (details p. 5)		
___	V2010	Videotape: How to Protect Your Vaccine Supply $15	_____
___	V2020	Videotape: Immunization Techniques: Safe, Effective, Caring $30	_____
___	D2020	DVD: Immunization Techniques: Safe, Effective, Caring $30	_____
	Adult Vaccination Guide (details p. 22) SOLD OUT — CD-ROM coming soon!		
___	R2070	Adults Only Vaccination: A Step-by-Step Guide (includes the two videotapes listed above) ..... ~~$75~~	_____
	Record cards and slides (details p. 22)		
___	R2005	Adult immunization record cards: 250 cards/box; 1 box–$35; 2 boxes–$65; 3 boxes–$90; 4 boxes–$110 ..... $	_____
___	S3010	Vaccine-preventable diseases slide set (script included) ☐En ☐Sp (check both boxes to receive both scripts) $25	_____
	Subscriptions to our publications		
___	J1001	*Needle Tips,* 1-year subscription (2 issues), FREE with a contribution ... $25	_____
___	J2001	*Vaccinate Adults,* 1-year subscription (2 issues) $20	_____
___	J3001	*Vaccinate Women,* 1-year subscription (1 issue) $10	_____

Grand Total $_____

Ready to order? Please read this first!

1. **Whether you order by check, credit card, or purchase order, complete both parts of this form** (the ordering information to the left and the payment and shipping information below). Our federal ID# is 41-1768237.
2. **To order by check** (in U.S. dollars only), make your check payable to Immunization Action Coalition. Mail it with this order form in the enclosed envelope addressed to Immunization Action Coalition, 1573 Selby Avenue, Suite 234, St. Paul, MN 55104
3. **To order by purchase order,** include your purchase order number in the Method of Payment section below. Mail this form to the address above or **fax it to (651) 647-9131.**
4. **To order by credit card,** include your credit card information in the Method of Payment section below. Mail this form to the address above or **fax it to (651) 647-9131.**
5. **No charge for shipping small orders within the U.S.** We ship by fourth-class mail; delivery in 3 weeks or less.

Method of payment: ❑ Check enclosed ❑ Purchase order # _____

Exp. date _____ ❑ Visa ❑ Mastercard ❑ Am. Express ❑ Discover

Card # | | | | | | | | | | | | | | | | |

Name/Title

Organization

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

City/State/Zip

( ) Telephone

Email address

Mailcode (from your address imprint)

Act on your commitment to disease prevention—support IAC!

Deborah L. Wexler, MD
IAC Executive Director

Dear Colleagues,

Like thousands of *Needle Tips* readers, we at IAC care deeply about improving the delivery of immunization services so that millions more children and adults are protected and more lives are saved.

IAC plays a key role in disease prevention by creating and distributing materials for health professionals and patients. These include print materials, videos, websites, and email news services that enhance the delivery of vaccination services and communication about the value, efficacy, and safety of vaccines.

In recent years, thousands of you have contributed to IAC's work. Here are some ways you can help us now.

Send us your personal contribution. Please fill out the form below. Fax it to us at (651) 647-9131, use the enclosed envelope, or, if you prefer to contribute online, visit www.immunize.org/join

Send us a workplace contribution. Whether a private practice, hospital, health plan, or corporation, your workplace can contribute. IAC is a well-run organization that makes efficient use of funds (access our IRS 990 form online at www.guidestar.org). Call me if you would like more information.

Order our materials singly or in bulk. Thousands of individuals, health departments, health plans, medical society chapters, and other groups have ordered single or bulk copies of our videos, immunization record cards, and resource guides for distribution throughout their organizations. IAC's Essential Immunization Resources (on page 22) are excellent items to consider.

Spread the word about IAC. If you find our materials valuable, please tell your colleagues about them, including *IAC Express,* our email news service (see page 2), and our two main websites, www.immunize.org and www.vaccineinformation.org

Finally, *Needle Tips* readers, you have our deepest appreciation for your generous support over the years. You are our valued—and vital—partners; we are grateful for your help. If you are a new contributor, or if it's been a while since you contributed, please take a few minutes to do so now. IAC relies on your support.

Deborah L. Wexler MD

Deborah L. Wexler, MD, Executive Director
deborah@immunize.org or (651) 647-9009

IAC needs thousands of contributors. Can we count on you?

Thank you to CDC!
CDC's National Immunization Program and the Division of Viral Hepatitis, National Center for Infectious Diseases, provide invaluable technical and financial support.

Thank you, readers!
We greatly appreciate your financial support and your comments and suggestions.

Thank you to our major supporters!
We deeply appreciate your generosity.

- Merck & Co., Inc.
- GlaxoSmithKline
- sanofi pasteur
- MedImmune, Inc.
- Wyeth Vaccines
- Baxter Healthcare
- Chiron Vaccines
- Talecris Biotherapeutics, Inc.
- American Pharmacists Association

A special thank you to the Mark and Muriel Wexler Foundation.

IAC receives funding from a variety of sources, both public and private, but maintains strict control over the content of its publications.

May 2005

Your tax-deductible contribution will help hundreds of thousands of health professionals, parents, and patients gain access to reliable immunization information. When you contribute $75 or more, you'll receive an extensive collection of IAC's ready-to-print materials on a CD in English, as well as any translations available in Spanish. The CD also contains VISs in English and Spanish.

I want to contribute to the Immunization Action Coalition!

Name/Title: _____

Organization: _____

Address: _____

City/State/Zip: _____

Phone and Email: _____

____$75 ____$50 ____$100 ____$150 ____$200 ____$250 ____$ other

❑ I'm supporting IAC at a $75 level or higher, so please send me the CD of your print materials in English and Spanish. (Access other translations free online at www.immunize.org/free)

❑ I don't need a CD, thanks!

You can contribute online at www.immunize.org/join

Method of payment: ❑ **Check enclosed** ❑ **Credit Card** ❑ **P.O. #**_____

❑ Visa ❑ Mastercard ❑ Am. Express ❑ Discover Exp. Date _____

Card # | | | | | | | | | | | | | | | | |

Fax this form to **(651) 647-9131** or use the enclosed envelope

Immunization Action Coalition

Needle Tips and the Hepatitis B Coalition News

1573 Selby Avenue, Suite 234
Saint Paul, MN 55104

Nonprofit Org.
U.S. Postage
PAID
Permit No. 3388
Champlin, MN