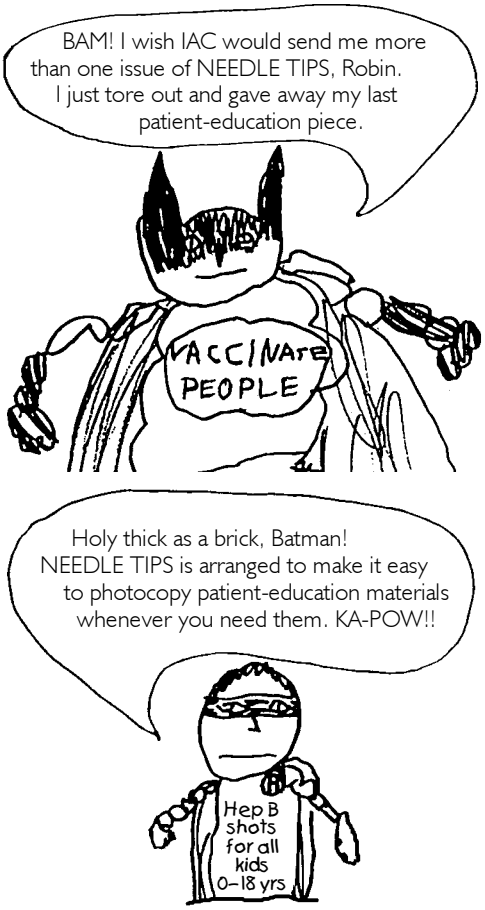
Volume 14 – Number 2 May 2004

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; Linda A. Moyer, RN; and Eric E. Mast, MD, of the Centers for Disease Control and Prevention (CDC) for answering the following questions for our readers. Dr. Atkinson, medical epidemiologist at the National Immunization Program, serves as a CDC liaison to the Coalition. Ms. Moyer is an epidemiologist, and Dr. Mast is a medical epidemiologist, both at CDC's Division of Viral Hepatitis.

Immunization questions?

- Email nipinfo@cdc.gov
- Call CDC's National Immunization Information Hotline at (800) 232-2522
- Call your state health dept. (phone numbers at www.immunize.org/coordinators)

Immunization questions

by William L. Atkinson, MD, MPH

We want to make sure that all our staff who administer vaccines are well trained. Is there a good tool we can use as a refresher?

One of the best resources available today is the video "Immunization Techniques: Safe, Effective, Caring." You can order this from IAC or from the California Distance Learning Health Network. Other good materials in print are available from IAC, including "How to Administer IM and SC Injections."

I've heard there is now a new vaccine storage and handling video available from CDC. How do I get it?

You can get a single copy free of charge from the National Immunization Program, or you can purchase single or multiple copies from IAC (see ad on page 5). CDC is also releasing a CD version that contains a digitized copy of the video as well as other resources, such as emergency planning for equipment failure, vaccine shipment, preparation, and disposal procedures. The CD will be available in the next several months.

How long is a vaccine dose viable if it has been stored in the refrigerator in a syringe?

Disposable syringes are meant for administration of immunobiologics, not for storage. The National Immunization Program recommends that vaccines that have been drawn into syringes be discarded at the end of the clinic day.

With PCV in short supply, which children should be given two doses and which should receive four?

For the present time, healthy infants should receive two doses (usually at ages 2 and 4 months). Children who need the complete series are those who are medically at high risk. This includes children who have sickle cell disease, have functional

(continued on page 19)

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.

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/CCU518372 and U50/CCU523259. The content is solely the responsibility of IAC and does not necessarily represent the official views of CDC. Circulation is approximately 100,000. ISSN 1526-1816.

Publication Staff
Editor: Deborah L. Wexler, MD
Associate Editor: Diane C. Peterson
Managing Editor: Dale Thompson
Editorial Asst.: Janelle Tangonan Anderson
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
Consultant: Teresa Anderson, DDS, MPH
Website Design: Lantern Web™

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

The **Immunization Action Coalition (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.

Communicating with Families about Vaccines

Effective, empathetic communication is critical in responding to parents who are considering not vaccinating their children. Parents should be helped to feel comfortable voicing any concerns or questions they have about vaccination, and providers should be prepared to listen and respond effectively.

Ask questions

- Evaluate whether the child has a valid contraindication to a vaccine by asking about medical history, allergies, and previous experiences.
- Assess the parent's reasons for wanting to delay or forgo vaccination in a nonconfrontational manner. (Have they had a bad experience? Obtained troubling information? Do they have religious or philosophical reservations?)
- If parents have safety concerns or misconceptions about vaccination, ask them to identify the source(s) of those concerns or beliefs.
- Listen carefully, paraphrase to the parent what they have told you, and ask them if you have correctly interpreted what they have said.

Respect and address concerns

- Provide factual information in understandable language that addresses the specific concerns or misconceptions the parent has about vaccination.
- Use Vaccine Information Statements (VISs) for discussing vaccine benefits and risks. Before administering each dose of certain vaccines, providers are required by law to give a copy of the current VIS to the child's parent/legal guardian. VISs in a number of languages can be obtained at www.immunize.org/vis
- Educate parents about the dangers of vaccine-preventable diseases and the risks of not vaccinating as they relate to the child, family, and community. See www.immunize.org/catg.d/p4017.pdf
- Express your personal support for vaccinations, and share experiences you have had with children with vaccine-preventable diseases.
- Provide educational materials to be taken home, and refer the parent to other credible sources of information. See www.immunize.org/catg.d/p4012.pdf

Educate about responsibilities

- Inform parents who defer vaccination of their responsibilities to protect other family and community members, including people who may be immunocompromised (i.e., parents may need to keep sick children at home and find other ways to limit the spread of infection).
- Parents also should be advised of state school or child-care entry laws, which might require that unimmunized children stay home from school during outbreaks of vaccine-preventable diseases.
- Consider having the parent sign a refusal to vaccinate form such as the one available on the AAP website (www.cispimmunize.org/pro/pdf/RefusaltoVaccinate2.pdf)

Explore acceptable options

- Explore whether the parent is willing to allow his/her child to receive certain vaccines, to be immunized on an alternative schedule, or to delay vaccination and "catch-up" if the parent changes his/her mind.

Keep communication open

- Keep the lines of communication open with parents who choose to defer or who refuse vaccination by expressing your desire to talk more about vaccines during future visits.
- Periodically assess the parent's willingness to vaccinate their child, including at every well child visit. Document any refusal to vaccinate in the medical record.

Sources of additional information:

"Responding to Concerns about Vaccines" (IAC) www.immunize.org/concerns

Vaccine-preventable disease photos and videos:
- www.vaccineinformation.org/photos
- www.vaccineinformation.org/videos

"Provider's Guide: Helping Parents Who Question Vaccines" (CDC) www.cdc.gov/nip/vacsafe/parents-question-vacc-hcp.htm

"Communicating with Patients about Immunization" (NNii) www.immunizationinfo.org/healthProfessionals/resource_kit.cfm

Adapted from the Centers for Disease Control and Prevention and the Michigan Department of Community Health.

New! A complete guide to vaccinating adults

"Adults Only Vaccination: A Step-by-Step Guide"

157 pages of comprehensive, practical information on ALL aspects of adult immunization

This guide is indispensable for improving vaccination practices wherever adults are immunized. Designed to help integrate immunization services into OB/Gyn settings, family planning clinics, STD clinics, and other health care settings new to vaccination, the guide is equally valuable for settings experienced in vaccine delivery. It presents clear, authoritative information on administering adult vaccines, billing, educating patients, and much more. Included are 2 videos that explain vaccine administration techniques and vaccine handling and storage, a pack of adult immunization record cards, and other useful resources.

Cost for the guide, two videos, and other valuable resources is only $75. Quantity discounts are available. To order online or for more information, visit www.immunize.org/guide To order by fax or mail, use the order form on page 23.

Questions? Email admin@immunize.org or call (651) 647-9009

Immunization record cards for adults!

Give all your adult patients a permanent vaccination record card from IAC. Printed on rip-proof, smudge-proof, waterproof paper, this durable canary-yellow card is sized to fit in a wallet alongside other important cards. To view the card, visit www.immunize.org/adultizcards/pictures.htm

Buy 1 box (250 cards) for $25 (first order of a 250-card box comes with a 30-day money-back guarantee)

Discounts for larger orders: 2 boxes (500 cards) $45; 3 boxes (750 cards $60; 4 boxes (1000 cards) $70

To order, visit www.immunize.org/adultizcards, or use the order form on page 23.

(To receive sample cards, email your request to admin@immunize.org)

Vaccine Highlights

Recommendations, schedules, and more

Editor's note: The information on these pages is current as of April 9, 2004.

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, Ga., and are open to the public. The next meetings will be held on June 23–24 and October 27–28. For more information, visit www.cdc.gov/nip/acip

ACIP statements

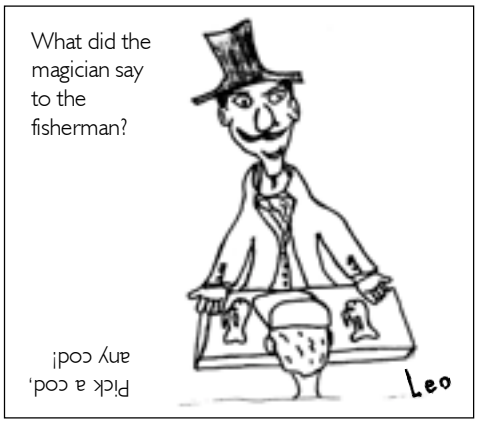
All clinicians should have a set of ACIP statements, the public health recommendations on vaccines, published in the *Morbidity and Mortality Weekly Report (MMWR).* Free continuing education credits are available for reading many of the statements and completing the brief test at the end of the statement.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

- Download individual statements from links on IAC's website: www.immunize.org/acip
- Download individual statements from links on CDC's website: www.cdc.gov/nip/publications/acip-list.htm
- Call CDC's Immunization Information Hotline: (800) 232-2522

Influenza news

On February 24–25, ACIP met and deliberated on the use of influenza vaccines for the 2004–2005 influenza season. Several important changes were adopted including a recommendation for vaccination of all children 6–23 months of age and all pregnant women, regardless of their stage of pregnancy. The committee voted to recommend that use of the live attenuated influenza vaccine (LAIV) should not be restricted in health care workers except those workers with contact with severely immunosuppressed persons (i.e., bone marrow transplant patients in protective isolation). These persons and their close contacts, including health care workers, should receive trivalent inactivated influenza vaccine (TIV) and not LAIV. No such restriction applies to persons who are not severely immunosuppressed, including persons with diabetes, persons with asthma taking corticosteroids, or persons infected with HIV. These changes will be included in the annual "Recommendations of the ACIP: Prevention and Control of Influenza," which will be published in *MMWR* in early May 2004.

In February, the National Foundation for Infectious Diseases issued a four-page report, "Influenza Immunization Among Health Care Workers: A Call to Action." The report has the support of 24 health care organizations, including AAFP, AAP, and AMA. The document urges, among other key points, that measures be taken to ensure health care workers are provided convenient access to influenza vaccine and that employers of health care workers commit programs and resources toward institutionalizing immunization in the workplace. In this issue of *NEEDLE TIPS* (page 15), we summarize the key strategies within the report.



Pneumococcal conj. vaccine

In February 2004, CDC, in conjunction with ACIP, AAP, and AAFP, recommended a temporary suspension of the routine use of the fourth dose in the series of pneumococcal conjugate vaccine. On March 2, this recommendation was expanded to include suspension of both third and fourth doses routinely given to healthy children. Health care providers should continue to administer the routine 4-dose series to children at increased risk for severe disease. To learn more about this shortage and to review the recommendations, go to www.cdc.gov/mmwr/preview/mmwrhtml/mm5308a5.htm

To learn more about the status of the vaccine shortage, go to www.cdc.gov/nip/news/shortages

Viral hepatitis news

On Dec. 7–9, the National Viral Hepatitis Roundtable (NVHR) held its inaugural meeting in Washington, DC, to lay the groundwork to develop a national strategy to eliminate viral hepatitis from the U.S. Approximately 140 individuals representing 120 organizations attended the meeting. For more information about NVHR, visit www.nvhr.org

Looking for your state health department immunization and hepatitis consultants?

For phone numbers of people to contact at your state (or federal project) health department for help on immunization issues, the Vaccines For Children program, or hepatitis A, B, or C, visit:

www.immunize.org/coordinators

Vaccine safety

In December 2003, AAP's journal *Pediatrics* published "Addressing Parents' Concerns: Do Vaccines Contain Harmful Preservatives, Adjuvants, Additives, or Residuals?" The authors reviewed data on thimerosal, aluminum, gelatin, human serum albumin, formaldehyde, antibiotics, egg proteins, and yeast proteins. Both gelatin and egg proteins are contained in vaccines in quantities sufficient to induce rare instances of severe, immediate-type hypersensitivity reactions. However, quantities of mercury, aluminum, formaldehyde, human serum albumin, antibiotics, and yeast proteins in vaccines have not been found to be harmful in humans or experimental animals. To read the article, go to http://pediatrics.aappublications.org/cgi/reprint/112/6/1394.pdf

New vaccine resources

"How to Protect Your Vaccine Supply" (CDC, 2004). This new video includes information and examples regarding acceptable storage and temperature monitoring equipment, required documentation and record-keeping, basic storage and handling procedures for routinely recommended live and inactivated vaccines, and action steps to take when a problem occurs. In May, CDC will also release a CD that includes a digitized copy of the video and many other resources, such as emergency planning for equipment failure, vaccine shipment, preparation, and disposal procedures. More information is available at www.cdc.gov/nip/publications/default.htm#videos

Epidemiology and Prevention of Vaccine-Preventable Diseases, 8th ed. ("Pink Book") (CDC, 2004). Some of the major changes to this recent edition include a new chapter on meningococcal disease, updated information on vaccine safety, updates to the chapters on smallpox, influenza, pertussis, polio, and hepatitis B, and updated appendices. The cost of the "Pink Book" is $29 plus

shipping and handling. To order a copy, call the Public Health Foundation bookstore at (877) 252-1200 or visit http://bookstore.phf.org/prod171.htm You can download selected chapters and slide sets free from CDC's website at www. cdc.gov/nip/publications/pink

Immunofacts: Vaccines and Immunologic Drugs, 2004 edition, by Col. John D. Grabenstein (Facts & Comparisons, 2004). This book has complete information on the immunologic and pharmacologic characteristics of various agents, including their uses, contraindications, and dosing considerations. The 1,250-page book is available from the publisher for $73.95. To order online, go to: www.factsandcomparisons.com/prodpage.asp?id=129 For additional information, call (800) 223-0554.

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	8/25/98
hepatitis B	7/11/01	influenza (LAIV)	9/4/03
Hib	12/16/98	influenza (TIV)	5/6/03
MMR	1/15/03	meningococcal	7/28/03
PCV	9/30/02	PPV	7/29/97
polio	1/1/00	rabies	11/4/03
Td	6/10/94	yellow fever	3/14/03
varicella	12/16/98		

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 4). The VISs, some in 31 languages, and the VIS instruction sheet are also available on IAC's website: www.immunize.org/vis

Martin G. Myers, MD, joins IAC's Advisory Board

The Immunization Action Coalition is delighted to welcome Martin G. Myers, MD, to its Advisory Board as the liaison representing the National Network for Immunization Information (NNii). In addition to serving as Executive Director of NNii, Dr. Myers is Professor of Pediatrics, University of Texas Medical Branch (UTMB), and Associate Director for Public Health Policy and Education, Sealy Center for Vaccine Development, UTMB. Until 2002, he was Director, National Vaccine Program Office, Department of Health and Human Services.

Brief biographical sketches of all IAC Advisory Board members are located on the Web at www.immunize.org/genr.d/advbd.htm

Patient name: _____ Date of birth: ____/____/____
(mo.) (day) (yr.)

Screening Questionnaire for Child and Teen Immunization

For parents/guardians: The following questions will help us determine which vaccines may be given today. If a question is not clear, please ask the nurse or doctor to explain it.

	Yes	No	Don't Know
1. Is the child sick today?	☐	☐	☐
2. Does the child have allergies to medications, food, or any vaccine?	☐	☐	☐
3. Has the child had a serious reaction to a vaccine in the past?	☐	☐	☐
4. Has the child had a seizure or a brain problem?	☐	☐	☐
5. Does the child have cancer, leukemia, AIDS, or any other immune system problem?	☐	☐	☐
6. Has the child taken cortisone, prednisone, other steroids, or anticancer drugs, or had x-ray treatments in the past 3 months?	☐	☐	☐
7. Has the child received a transfusion of blood or blood products, or been given a medicine called immune (gamma) globulin in the past year?	☐	☐	☐
8. Is the child/teen pregnant or is there a chance she could become pregnant during the next month?	☐	☐	☐
9. Has the child received vaccinations in the past 4 weeks?	☐	☐	☐

Form completed by: _____ Date: _____

Form reviewed by: _____ Date: _____

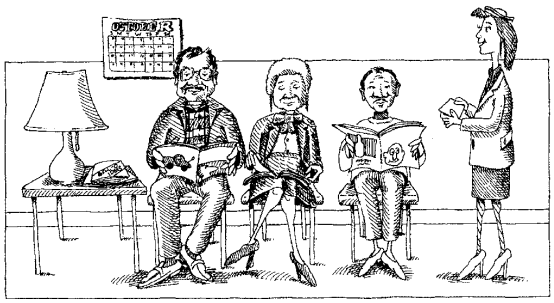
Did you bring your child's immunization record card with you? **yes** ☐ **no** ☐

It is important to have a personal record of your child's vaccinations. If you don't have a record card, ask the child's health care provider to give you one! Bring this record with you every time you seek medical care for your child. Make sure your health care provider records all your child's vaccinations on it. Your child will need this card to enter day care, kindergarten, junior high, etc.

www.immunize.org/catg.d/p4060scr.pdf • Item #P4060 (4/04)

Patient name: _____ Date of birth: ____/____/____
(mo.) (day) (yr.)

Screening Questionnaire for Adult Immunization



For patients: The following questions will help us determine which vaccines may be given today. If a question is not clear, please ask your health care provider to explain it.

	Yes	No	Don't Know
1. Are you sick today?	☐	☐	☐
2. Do you have allergies to medications, food, or any vaccine?	☐	☐	☐
3. Have you ever had a serious reaction after receiving a vaccination?	☐	☐	☐
4. Do you have cancer, leukemia, AIDS, or any other immune system problem?	☐	☐	☐
5. Do you take cortisone, prednisone, other steroids, or anticancer drugs, or have you had x-ray treatments?	☐	☐	☐
6. During the past year, have you received a transfusion of blood or blood products, or been given a medicine called immune (gamma) globulin?	☐	☐	☐
7. For women: Are you pregnant or is there a chance you could become pregnant during the next month?	☐	☐	☐
8. Have you received any vaccinations in the past 4 weeks?	☐	☐	☐

Form completed by: _____ Date: _____

Form reviewed by: _____ Date: _____

Did you bring your immunization record card with you? yes ☐ no ☐

It is important for you to have a personal record of your vaccinations. If you don't have a record card, ask your health care provider to give you one! Bring this record with you every time you seek medical care. Make sure your health care provider records all your vaccinations on it.

www.immunize.org/catg.d/p4065scr.pdf • Item#P4065 (4/04)

When Do Children and Teens Need Vaccinations?

Age	Hep B Hepatitis B	DTaP Diphtheria, tetanus, pertussis	Hib *Haemophilus influenzae* type b	Polio	PCV Pneumococcal conjugate	MMR Measles, mumps, rubella	Varicella Chickenpox	Influenza
Birth	✔[1]							
1 month								
2 months	✔[2]	✔	✔	✔	✔			
4 months		✔	✔	✔	✔			
6 months	✔[3]	✔	✔[4]	✔	✔			✔ (6–23 mos) (given for each influenza season; first time vaccinees should receive 2 doses spaced 1 mo apart)
12–18 months		✔ (15–18 mos)	✔ (12–15 mos)		✔ (12–15 mos)	✔ (12–15 mos)	✔	
19–47 months	Catch-up[5]	Catch-up[5]	Catch-up[5] (to 5 years)	Catch-up[5]	Catch-up[5]	Catch-up[5]	Catch-up[5]	
4–6 years		✔		✔		✔		
11–12 years		✔ (Td only)		Catch-up[5]		Catch-up[5]		
13–18 years		Catch-up[5]					(unvaccinated children at this age need 2 doses)	

[1] All infants should be vaccinated prior to hospital discharge.

[2] Infants who receive hepatitis B vaccine at birth may receive up to 4 doses.

[3] If the infant's mother is HBsAg-positive, a minimum of 3 doses of hepatitis B vaccine should be given by 6 months of age.

[4] A dose of Hib vaccine at 6 months of age is not needed if either PedvaxHib or Comvax was used for doses #1 and #2.

[5] Vaccinations that have been delayed or missed entirely should be given as soon as possible, including throughout the "catch-up" period.

Children 2 years of age and older may need additional vaccines, such as hepatitis A, pneumococcal polysaccharide, meningococcal, or influenza. Talk to your health care provider.

www.immunize.org/catg.d/when1.pdf • Item #P4050 (3/04)

Chickenpox

Chickenpox, also known as varicella, is a highly contagious disease. Caused by a virus, varicella infection can occur after direct contact with an infected person or with airborne droplets from an infected person. Prior to the availability of a vaccine in 1995, approximately 100 people died from chickenpox complications each year in the U.S. The number of cases has since declined by nearly 70%. Adults who get chickenpox often get a more severe case than children and have more complications. For example, adults are 25 times more likely than children to die from the disease or its complications. Adults who have not had chickenpox should consult their physicians regarding vaccination.

Hepatitis B

Hepatitis B is a serious liver disease caused by the hepatitis B virus (HBV). It is spread by contact with blood or other body fluids of an infected person. Though some infected persons have no symptoms, about one out of three will be very ill, with nausea, yellow-tinged skin and eyes, headache, and abdominal pain. Some people develop chronic HBV infection, which can lead to liver failure or liver cancer. About 5,000 people in the U.S. die each year from HBV-related illness.

Hepatitis B vaccine is recommended for all infants, children, and teens. It is also recommended for adults at increased risk for infection, including health care workers likely to have blood exposure, certain travelers, dialysis patients, men who have sex with men, people who have more than one sex partner in six months, people who inject illegal drugs, and household members and sexual contacts of persons with chronic HBV infection.

Hepatitis A

Hepatitis A is a viral infection of the liver that can cause fever, yellowing of the skin and the whites of the eyes, loss of appetite, nausea, and abdominal pain. It is usually spread by the fecal-oral route after close personal contact with an infected person (e.g., a household member or sexual partner). You can also become infected by eating contaminated food or drinking contaminated water. CDC estimates that about 90,000 new cases occur each year in the U.S.

Hepatitis A vaccine is recommended for some international travelers (including those traveling to Mexico), persons in communities with a history of high hepatitis A rates and periodic outbreaks, men who have sex with men, street drug users, recipients of certain blood products, and individuals with chronic liver disease.

Meningococcal disease

Meningococcal disease is caused by bacteria that infect the blood or membranes surrounding the brain and spinal cord. It can lead to brain damage, hearing loss, loss of limbs, and death. The bacteria are spread through airborne respiratory droplets or direct contact. Certain adults should be vaccinated, including those who are planning to travel to an area of the world where the disease is common or who have certain health conditions (e.g., a damaged or absent spleen). College freshmen, particularly those who live in dormitories, have a slightly increased risk of the disease and should consider vaccination.

Everyone needs vaccinations!

If you need more information, can't afford shots, or don't know where to get them, contact your local or state health department, or call the National Immunization Hotline at (800) 232-2522. You can also get more information on the Web at

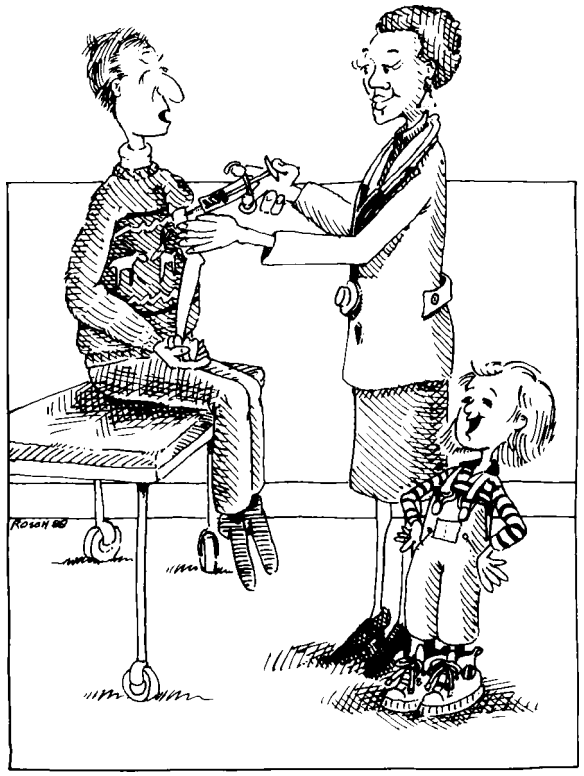
www.immunize.org
www.vaccineinformation.org
www.cdc.gov/nip
www.cdc.gov/hepatitis

Immunization Action Coalition
1573 Selby Avenue, Suite 234
St. Paul, MN 55104
phone: (651) 647-9009
fax: (651) 647-9131

www.immunize.org/catg.d/p4035.pdf • Item #P4035 (4/04)

Immunization...

Not Just Kids' Stuff



Lots of people think “shots” or immunizations are just for kids. They’re not! As an adult, you need to be protected against measles, mumps, rubella, tetanus, diphtheria, pneumococcal disease, influenza, and varicella. You may also need protection against hepatitis A and B. Your best protection against these diseases? Immunization.

Many people think diseases like diphtheria, mumps, and measles have been wiped out. This is not the case. During 1995, at least 39 percent of all reported measles cases in the United States occurred in persons 20 years of age or older.

If you were never immunized or never had these vaccine-preventable diseases, you are at risk. If you were immunized as a child, you may need updating because some immunizations lose their effectiveness over time. To find out what shots you may need or where to get immunizations, contact your doctor or local health department.

Remember...immunizations are not just kids’ stuff!

Measles

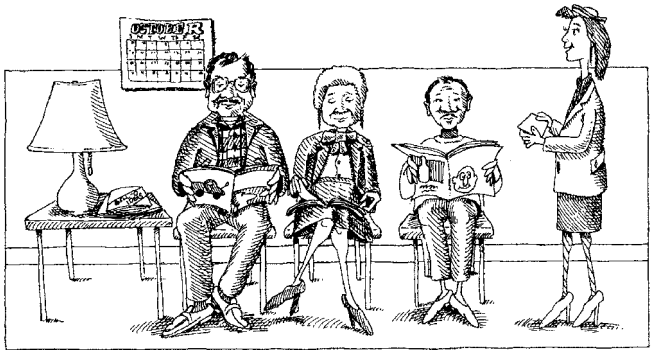
Though the number of cases of measles is at a record low, adults account for about one-third of cases. Measles is caused by a virus that is spread through the air or through direct contact with an infected person. Symptoms of measles usually include a high fever, rash, runny nose, red eyes, and cough.

Measles can lead to serious complications such as pneumonia and encephalitis (inflammation of the brain). A pregnant woman who contracts measles is at increased risk for miscarriage or premature labor.

The measles vaccine is routinely administered as part of the combination measles, mumps, and rubella (MMR) shot. Two doses generally provide lifelong protection.

Mumps

Mumps is caused by a virus that is spread by direct contact with an infected person or through the air. The use of MMR vaccine accounts for the dramatic decline in the incidence of mumps in the U.S. However, one in five adults is estimated to be susceptible to mumps (meaning they have neither had mumps nor been vaccinated against it). Adults who develop disease are more likely to have serious complications than



are children. Mumps vaccine is recommended for children, teens, and susceptible adults and is routinely given as part of the MMR shot.

Rubella

Rubella virus is spread by contact with an infected person or with articles they have used. Up to 50% of persons infected with rubella may not have symptoms. Pregnant women who get rubella, especially during the first three months of pregnancy, may miscarry or their babies may be born with birth defects or even die.

Many immigrants to the U.S. were never vaccinated. If you are unsure if you are immune to rubella, consult your health care provider. Rubella vaccine is routinely given as part of the MMR shot.

Tetanus and diphtheria

Tetanus, also known as lockjaw, is caused by bacteria that enter the body through a break in the skin (often a puncture wound or other injury). Tetanus causes painful muscle contractions, especially in the jaw. In recent years, fewer than 50 cases of tetanus have occurred annually in the U.S. Adults over 60 years of age are at highest risk for tetanus and complications of tetanus, including death.

Diphtheria bacteria are spread from one person to another in the droplets released when an infected person coughs or sneezes. Symptoms of diphtheria include sore throat, fever, and swollen neck glands. As the disease progresses, a membrane forms in the throat that obstructs breathing and may cause death. While the disease is rare in the U.S., it still occurs in other parts of the world.

Adults should have completed a primary series of three shots that protect against tetanus and diphtheria. They then need a tetanus-and-diphtheria (Td) combination shot every 10 years thereafter.

Polio

The risk of getting polio is very small in the U.S. today because of the widespread use of polio vaccines. Adult immunization is usually not recommended unless you are traveling to a part of the world where polio still occurs. Polio virus is usually spread by the fecal-oral route.

Influenza

A very contagious disease that affects at least 10% of the population annually, influenza kills an average of 36,000 people in the U.S. each year. More than 90% of those who die are over 65 years of age. The symptoms of influenza include fever, chills, headache, sore throat, dry cough, runny nose, and body aches. Influenza is spread by direct contact with an infected person or through contact with the airborne virus.

Influenza vaccine is strongly recommended every fall for all people age 50 and over, for people 6 months of age and older who have chronic diseases, and for their close contacts. In addition, anyone who wants to reduce the risk of becoming ill with influenza can be vaccinated. Vaccination against influenza can be given at any time during the autumn or winter but is best when it is given in October to November, before the influenza season begins.

Pneumococcal disease

Pneumococcal disease is caused by bacteria that can lead to life-threatening infections, such as pneumonia, bacteremia, and meningitis. It is spread when someone comes in contact with the airborne droplets of an infected person. Influenza and pneumonia together account for nearly 66,000 deaths each year in the U.S. Up to 20,000 of these are estimated to be due to pneumococcal disease. A single dose of adult pneumococcal vaccination is recommended for all people age 65 and over, as well as for people of any age with certain chronic illnesses.

Standing Orders for Administering Pneumococcal Vaccine to Adults

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

Policy: Under these standing orders, eligible nurses may vaccinate patients who meet the criteria below.

Procedure:

1. Identify adults in need of vaccination with pneumococcal polysaccharide vaccine (PPV) based on the following criteria:
   a. Age 65 years or older
   b. Age 18–64 years with any of the following conditions:
      - chronic cardiovascular disease (e.g., congestive heart failure, cardiomyopathies)
      - chronic pulmonary disease (e.g., emphysema or chronic obstructive pulmonary disease [not asthma])
      - diabetes mellitus, alcoholism, chronic liver disease (cirrhosis), or cerebrospinal fluid (CSF) leaks
      - functional or anatomic asplenia (e.g., sickle cell disease, splenectomy)
      - immunosuppressive conditions (e.g., HIV infection, leukemia, congenital immunodeficiency, Hodgkin's disease, lymphoma, multiple myeloma, generalized malignancy)
      - immunosuppressive chemotherapy (e.g., alkylating agents, antimetabolites, long-term systemic corticosteroids)
      - organ or bone marrow transplantation
      - chronic renal failure or nephrotic syndrome
      - candidate for or recipient of cochlear implant
2. Screen all patients for contraindications and precautions to PPV vaccine.
   a. **Contraindications:** a history of a serious reaction (e.g., anaphylaxis) after a previous dose of PPV or to a vaccine component. For a list of vaccine components, go to www.cdc.gov/nip/publications/pink/appendices/a/excipient.pdf
   b. **Precautions:** a moderate or severe acute illness with or without fever
3. Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Although not required by federal law, it is prudent to document in the patient's medical record or office log, the publication date of the VIS and the date it was given to the patient. Provide non-English speaking patients with a copy of the VIS in their native language, if available; these can be found at www.immunize.org/vis
4. Administer 0.5 mL PPV vaccine either IM (22–25g, 1–2" needle) or SC (23–25g, 5/8–3/4" needle).
5. Document each patient's vaccine administration information and follow up in the following places:
   a. **Medical chart:** Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. If vaccine was not given, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).
   b. **Personal immunization record card:** Record the date of vaccination and the name/location of the administering clinic.
6. Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications.
7. Report all adverse reactions to PPV to the federal Vaccine Adverse Event Reporting System (VAERS) at www.vaers.org or by calling (800) 822-7967. VAERS report forms are available at www.vaers.org

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

Medical Director's signature: _____ Effective date: _____

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

www.immunize.org/catg.d/p3075.pdf • Item #P3075 (12/03)

Vaccines and Related Products Distributed in the United States, 2004

Vaccine/Biologic	Brand name	Manufacturer	Type	How supplied
Diphtheria, Tetanus, acellular Pertussis	Infanrix	GlaxoSmithKline	Inactivated	single-dose vial or syringe
Diphtheria, Tetanus, acellular Pertussis	Tripedia	Aventis Pasteur	Inactivated	single-dose vial
Diphtheria, Tetanus, acellular Pertussis	Daptacel	Aventis Pasteur	Inactivated	single-dose vial
Diphtheria, Tetanus, acellular Pertussis + Hib	TriHIBit	Aventis Pasteur	Inactivated	single-dose vial
Diphtheria, Tetanus, acellular Pertussis + Hep B + IPV	Pediarix	GlaxoSmithKline	Inactivated	single-dose vial or syringe
Diphtheria, Tetanus (DT; pediatric <7 yrs)	generic	Aventis Pasteur	Inactivated	10-dose vial
Diphtheria, Tetanus (DT; ped <7yrs, preservative-free)	generic	Aventis Pasteur	Inactivated	single-dose vial
Tetanus, diphtheria, adsorbed (Td; ≥7 yrs)	generic	Aventis Pasteur	Inactivated	single-dose syringe and 10-dose vial
Tetanus, diphtheria, adsorbed (Td; ≥7 yrs)	generic	Mass. Biologic Labs[1]	Inactivated	15-dose vial
Tetanus toxoid (TT; ≥7 yrs), adsorbed	generic	Aventis Pasteur	Inactivated	10-dose vial
Tetanus toxoid (TT; adult booster use only)	generic	Aventis Pasteur	Inactivated	15-dose vial
Tetanus immune globulin (TIG)	BayTet	Bayer	Human immunoglobulin	single-dose syringe
Haemophilus influenzae type b (PRP-T)	ActHIB	Aventis Pasteur	Inactivated	single-dose vial
Haemophilus influenzae type b (HbOC)	HibTITER	Wyeth	Inactivated	single-dose vial
Haemophilus influenzae type b (PRP-OMP)	PedvaxHIB	Merck	Inactivated	single-dose vial
Haemophilus influenzae type b (PRP-OMP) + Hep B	Comvax	Merck	Inactivated	single-dose vial
Hepatitis A: ped/adol & adult formulations	Havrix	GlaxoSmithKline	Inactivated	single-dose vial or syringe
Hepatitis A: ped/adol & adult formulations	Vaqta	Merck	Inactivated	single-dose vial or syringe
Hepatitis A immune globulin	BayGam	Bayer	Human immunoglobulin	2 mL and 10 mL vials
Hepatitis B: ped/adol & adult formulations	Engerix-B	GlaxoSmithKline	Inactivated	single-dose vial or syringe
Hepatitis B: ped/adol & adult formulations	Recombivax HB	Merck	Inactivated	single-dose vial
Hepatitis B: dialysis formulation	Recombivax HB	Merck	Inactivated	single-dose vial
Hepatitis B immune globulin (HBIG)	BayHep B	Bayer	Human immunoglobulin	1 mL syringe, 1 mL or 5 mL vial
Hepatitis B immune globulin (HBIG): ped formulation	BayHep B	Bayer	Human immunoglobulin	single-dose 0.5 mL neonatal syringe
Hepatitis B immune globulin (HBIG)	Nabi-HB	Nabi	Human immunoglobulin	single-dose vial
Hepatitis A & B: adult formulation	Twinrix	GlaxoSmithKline	Inactivated	single-dose vial or syringe
Influenza (live attenuated influenza vaccine [LAIV])	FluMist	MedImmune	Live, intranasal	10 single-use sprayers
Influenza (trivalent inactivated influenza vaccine [TIV])	Fluvirin	Chiron	Inactivated	single-dose syringe and 10-dose vial
Influenza (TIV)	Fluzone	Aventis Pasteur	Inactivated	single-dose syringe and 10-dose vial
Influenza: (TIV; ped 6–35 mos; preservative-free)	Fluzone	Aventis Pasteur	Inactivated	single-dose syringe (0.25 & 0.5 mL)
Measles, Mumps, Rubella (MMR)	M-M-R II	Merck	Live attenuated	single-dose vial
Measles	Attenuvax	Merck	Live attenuated	single-dose vial
Mumps	Mumpsvax	Merck	Live attenuated	single-dose vial
Rubella	Meruvax II	Merck	Live attenuated	single-dose vial
Meningococcal polysaccharide (A/C/Y/W-135)	Menomune	Aventis Pasteur	Inactivated	single- and 10-dose vial
Pneumococcal conjugate, 7-valent	Prevnar	Wyeth	Inactivated	single-dose vial
Pneumococcal polysaccharide, 23-valent	Pneumovax 23	Merck	Inactivated	single-dose vial or 5-dose vial
Polio (IPV)	IPOL	Aventis Pasteur	Inactivated	single-dose syringe and 10-dose vial
Varicella	Varivax	Merck	Live attenuated	single-dose vial
Varicella-zoster immune globulin (VZIG)	generic	Mass. Biologic Labs[2]	Human immunoglobulin	125-unit and 625-unit vials
Anthrax, adsorbed	BioThrax	BioPort	Inactivated	multi-dose vial
Japanese encephalitis	JE-VAX	Aventis Pasteur	Inactivated	single- and 10-dose vial
Rabies	Imovax	Aventis Pasteur	Inactivated	single-dose vial
Rabies	RabAvert	Chiron	Inactivated	single-dose vial
Rabies immune globulin (RIG)	Imogam Rabies-HT	Aventis Pasteur	Human immunoglobulin	2 mL and 10 mL vials
Rabies immune globulin (RIG)	BayRab	Bayer	Human immunoglobulin	2 mL and 10 mL vials
Typhoid Vi polysaccharide	Typhim Vi	Aventis Pasteur	Inactivated	single-dose syringe and 20-dose vial
Typhoid, live oral Ty21a	Vivotif	Berna	Live attenuated	4-capsule package
Yellow fever	YF-Vax	Aventis Pasteur	Live attenuated	single- and 5-dose vial

[1]Distributed by General Injectables & Vaccines, Inc. (800) 270-2273

[2]Distributed by FFF Enterprises (800) 843-7477

This product listing is current as of March 2004.

Vaccine Company Contact Information

Aventis Pasteur Inc. (www.us.aventispasteur.com) ..... (800) 822-2463
Bayer Corporation (www.bayerbiologicalsusa.com) ..... (800) 288-8370
Berna Products Corporation (www.bernaproducts.com) ..... (800) 533-5899
BioPort Corporation (www.bioport.com) ..... (877) 246-8472
Chiron Corporation:
- for influenza vaccine: (www.chiron.com) ..... (800) 200-4278
- for rabies vaccine: (www.rabavert.com or www.chiron.com) ..... (800) 244-7668

GlaxoSmithKline (www.gskvaccines.com) ..... (866) 475-8222
MedImmune Vaccines, Inc. (www.medimmune.com) ..... (800) 358-7443
Merck & Co., Inc. (www.merckvaccines.com) ..... (800) 637-2579
Nabi Biopharmaceuticals (www.nabi.com) ..... (800) 327-7106
Wyeth Vaccines (www.vaccineworld.com) ..... (800) 572-8221

www.immunize.org/catg.d/2019prod.pdf • Item #P2019 (3/04)

WHAT IS HEPATITIS B?

Hepatitis B is a sexually transmitted disease caused by a virus (HBV) that attacks the liver. The virus is found in the blood and semen of infected men and is spread in the same manner as HIV. HBV is easier to catch than HIV because it is more than 100 times more concentrated in an infected person's blood and can exist on surfaces outside the body.

WHAT IS HEPATITIS A?

Hepatitis A is a liver disease caused by a virus (HAV). The virus is found in the feces (shit) of an infected person. It is easily spread by household or sexual contact with an infected person.

EVERYONE NEEDS VACCINATIONS!

If you can't afford vaccinations,
call your local health department or visit
www.hepclinics.com and www.hepprograms.org/msm

IMMUNIZATION ACTION COALITION
1573 SELBY AVE., SUITE 234
ST. PAUL, MN 55104
(651) 647-9009
WWW.IMMUNIZE.ORG
WWW.VACCINEINFORMATION.ORG
WWW.HEPPROGRAMS.ORG

www.immunize.org/catg.d/p4115.pdf • Item #P4115 (4/04)

PROTECT YOURSELF AGAINST HEPATITIS A AND HEPATITIS B...

a guide for gay and bisexual men

Men who have sex with men (MSM) are at increased risk of becoming infected with both the hepatitis B virus (HBV) and the hepatitis A virus (HAV). Although these viruses can be transmitted in different ways, both can be spread through sexual activity.

Hepatitis is a serious disease that can be fatal. Fortunately, both hepatitis B and hepatitis A can be prevented by safe and effective vaccines. Unfortunately, many men at risk remain unprotected.

HOW GREAT IS MY RISK OF GETTING HBV OR HAV INFECTION?

About 5% of people in the U.S. will get infected with HBV sometime during their lives. MSM are 10 to 15 times more likely to acquire HBV infection than the general population.

In 2001 an estimated 93,000 persons in the U.S. were infected with HAV. Persons who engage in anal pleasuring activities such as rimming and fingering are at increased risk.

HOW ARE HBV AND HAV SPREAD?

An HBV-infected man can spread the virus to another person by

- having unprotected anal or vaginal sex
- sharing needles for drugs, piercing, or tattooing
- coming in contact with the infected person's open sores or blood
- sharing toothbrushes, razors, nail clippers, etc.
- biting another person

HBV can also be spread by living in a household with a chronically infected person.

HAV is usually transmitted from particles of fecal material too small to be seen, for example, by eating or drinking contaminated food or water or during sex.

WHAT ARE THE SYMPTOMS OF HEPATITIS B AND HEPATITIS A?

The symptoms of both diseases are similar: extreme tiredness, nausea, fever, dark urine, bloated and tender belly, and yellowish-tinged skin and eyes. Infected persons can have no symptoms at all or be extremely ill. However, people who are infected with either HBV or HAV can spread the disease to others, whether they have symptoms or not.

DO PEOPLE FULLY RECOVER FROM HBV AND HAV INFECTIONS?

Most adults recover from HBV infection after several months and are no longer contagious. Unfortunately, about 2%-6% of adults who become infected with HBV will carry the virus in their bodies for years and remain infectious. Chronically infected people usually do not have symptoms, but are at increased risk for eventual liver failure (cirrhosis) and liver cancer and need ongoing medical care. About 1.25 million people in the U.S. (and 350 million in the world) are chronically infected.

Although HAV does not result in chronic infection, infected people can become very sick and sometimes die.

HOW SERIOUS ARE HBV AND HAV INFECTIONS?

HBV infection can cause serious liver disease, including liver failure and liver cancer. More than 5,000 people in the U.S. die every year from hepatitis B-related liver disease.

There are approximately 100 deaths each year in the U.S. from hepatitis A. About 15% of people with hepatitis A require hospitalization. Adults who become ill are often out of work for several weeks.

Becoming infected with HBV or HAV can have a major impact on a person's life. A person might be too sick to work or go to the gym for months, and should not drink alcohol. HAV and HBV infection can have serious consequences for people with HIV, as their immune systems might be compromised.

HOW CAN I PROTECT MYSELF FROM HBV INFECTION?

- Get the hepatitis B shots
- Practice safer sex
- Tell your friends at risk to get vaccinated against hepatitis B

HOW CAN I PROTECT MYSELF FROM HAV INFECTION?

- Get the hepatitis A shots
- Tell your friends at risk to get vaccinated against hepatitis A

HOW DO I KNOW IF I HAVE OR HAVE HAD HBV OR HAV INFECTION?

The only way to know for sure is to have your blood tested.

SHOULD I HAVE MY BLOOD TESTED BEFORE GETTING VACCINATED?

Discuss this with your doctor to decide if it is appropriate to perform blood tests first. If you have already been infected with HAV or HBV, getting the vaccines will not help or hurt you.

HOW MANY SHOTS DO I NEED TO BE PROTECTED AGAINST HBV AND HAV INFECTIONS?

The hepatitis B vaccine series consists of three doses spaced out over approximately 6 months.

The hepatitis A series consists of two doses given 6-18 months apart. If you started either series but didn't get all the doses, you should continue where you left off.

A combined hepatitis A and hepatitis B vaccine has been developed for adults who need protection against both HAV and HBV infections. This vaccine consists of three doses given over a 6-month period.

ARE THESE SHOTS SAFE? DO THEY HAVE ANY SIDE EFFECTS?

Both hepatitis A and hepatitis B vaccines have been proven to be safe. Globally, more than one billion hepatitis B vaccine doses have been given. Since 1995, more than seven million doses of hepatitis A vaccine have been given in the U.S. with no reports of serious health problems linked to the vaccine. Side effects might include soreness at the injection site, headache, and fatigue.

ARE THESE SHOTS EFFECTIVE?

Yes. After three doses of hepatitis B vaccine, at least 90% of healthy young adults develop immunity to HBV infection. Immune-compromised people might not respond as well to hepatitis B vaccine. They should be tested 1-2 months after the third dose of vaccine to see if they responded.

Almost 100% of people are protected from HAV infection after getting two doses of hepatitis A vaccine.

WILL HEPATITIS A OR HEPATITIS B VACCINE PROTECT ME FROM HEPATITIS C?

No. Hepatitis A, B, and C are all different viruses. The hepatitis C virus is spread through body fluids, and although it can be transmitted through sexual contact, it is most commonly acquired through injection drug use. Unfortunately, there is no hepatitis C vaccine at this time.

ARE THESE SHOTS RECOMMENDED FOR TRAVELERS?

Both HAV and HBV infection are common in many parts of the world. People traveling to any area of the world except the United States, Canada, Western Europe, Japan, New Zealand, and Australia should get vaccinated against HAV. Hepatitis B vaccine is recommended for many travelers also. Discuss this with your doctor.

WHERE CAN I RECEIVE THESE SHOTS?

Talk to your health care professional or your local public health department.

Clinics offering free or low-cost hepatitis A and hepatitis B vaccines for gay and bisexual men are listed at www.hepclinics.com and www.hepprograms.org/msm

First do no harm. Protect your patients by getting vaccinated against influenza!

Did you get vaccinated against influenza last fall? ☐ Yes ☐ No
Did you make sure your staff and coworkers did? ☐ Yes ☐ No

If you answered "no" to either question, you may have harmed the health of your most vulnerable patients. Though health care workers encounter high-risk patients throughout the influenza season, only about one in three of us protects patients by getting immunized. That means two out of three of us contribute to the likelihood of spreading a vaccine-preventable disease that kills 36,000 persons each year in the United States and hospitalizes more than 114,000. None of us went into health care as a profession with the goal of spreading a potentially fatal disease, but spread it we do. Whether we work in medical practices, hospitals, long-term care facilities, home-care sites, or other health settings, unvaccinated health care workers are a recognized cause of influenza outbreaks. Here are two documented instances of outbreaks resulting from influenza virus transmission between health care workers and patients:

- In a neonatal intensive care unit (NICU), 19 infants were infected, six were symptomatic, and one died. Health care workers were the likely source of the spread. Only 15% of NICU staff had been immunized. (Infect Control Hosp Epidemiol. 2000;21[7]:449–54)
- Four cases of influenza A virus infection were reported among patients in a solid organ transplant unit. All were in single rooms, and three had not been visited by relatives between admission and influenza infection. Three nurses among 27 health care workers in the unit also developed influenza. (Transplantation. 2001;72[3]:535–7)

Clearly, influenza kills patients, and unvaccinated health care workers may contribute to this. How has this happened? One reason for the dismally low influenza vaccination rate among health care workers is our inattention to facts about the disease. Many of us have not really absorbed these truths: influenza is a serious disease, we can transmit it to high-risk patients in a variety of settings, and we belong to an occupational group for whom annual influenza vaccination is recommended. Another reason is that we make influenza immunization inconvenient or impossible for ourselves. Many of us don't provide on-site influenza vaccination for staff, and if we do, we often provide these services at inconvenient times and locations. We *must* overcome these obstacles to full vaccination of health care workers—*our patients' lives depend on it.*

If you haven't already established a vaccination program in your health care setting, you should act immediately to start one. Here are some steps you can take now:

Persuade top management to commit to an annual employee vaccination program.

Among the benefits of such programs are better infection control, reduced absenteeism among employees, and better delivery of health care to the patients you serve.

Give a multidisciplinary team responsibility for developing the program.

Make certain employees from all departments are represented in planning and implementing the vaccination program. Don't forget to include housekeeping, dietary, maintenance staff, and others.

Make the vaccination program convenient for all employees.

Take the vaccination services to the employees at their workstations (e.g., by means of a rolling cart). Offer vaccination services at convenient times, including nights and weekends. Administer vaccine under a standing orders protocol. A sample protocol is available from the Immunization Action Coalition at www.immunize.org/catg.d/p3074.pdf

Offer vaccines free of charge to all staff—full-time, part-time, and volunteers.

When the cost barrier is removed, more employees will comply. In addition, many employees will conclude that an employer who pays for vaccination is authentically dedicated to employee and patient health and safety.

Develop campaigns to educate employees.

Use employee newsletters, blast emails, and staff bulletin boards to get the vaccine message out. Make the case for the influenza vaccine's safety and efficacy. Educate employees about their potential to infect patients. Emphasize that major medical organizations—such as CDC, AAP, AAFP, AMA, and other respected groups—recommend annual vaccination of health care workers. Dispel any misinformation employees might have that has been keeping them from getting vaccinated.

Educate health care workers to be advocates for influenza vaccination!

LEAD BY EXAMPLE! A well-vaccinated health care staff demonstrates the importance of vaccination against influenza and attests to the staff's commitment to preserving the health of patients. If health care providers themselves do not get vaccinated, how can we expect patients to?

MOTIVATE! Remember: the strongest motivator for a patient to be vaccinated is a recommendation from their health care provider.

SAVE LIVES! Though the influenza vaccine is safe and effective, the sad fact is many of your patients aren't using it. If you don't lead by example, *you may be part of the problem.*

For more information:

The information on this page is adapted from "Influenza Immunization Among Health Care Workers: A Call to Action," developed by representatives from 24 of the nation's leading professional health and labor organizations, under the direction of the National Foundation for Infectious Diseases. To obtain a copy, go to www.nfid.org

Produced in 2002 by the Massachusetts Medical Society, MassPRO, and the Massachusetts Department of Public Health, the 32-page "Employee Flu Immunization Campaign Kit" includes step-by-step instructions, worksheets, promotional materials, and tips for conducting a successful employee influenza immunization campaign. To access a ready-to-copy (PDF) version of the kit, go to www.massmed.org/pages/flu_kit.pdf

The February 2004 issue of the journal "Infectious Diseases in Children" includes a monograph, "Importance of Vaccinating Health Care Workers Against Influenza." To access the monograph, go to http://idinchildren.com Click on "Monographs" in the left column.

Does MMR vaccine cause autism?

Examine the evidence!

A paper by Dr. Andrew Wakefield et al. was published in The Lancet *in 1998 suggesting that MMR vaccine could contribute to the development of autism. This paper caused many parents to refuse MMR for their children. Subsequent studies have shown no relationship between MMR vaccination and development of autism.*

The following list of studies published in peer-reviewed journals is provided so that parents and practitioners can weigh the evidence about MMR and autism themselves. To access an up-to-date web page on this topic, which includes links to all abstracts, go to: www.immunize.org/mmrautism

16 studies that refute a connection between MMR vaccine and the development of autism

1. *Age at First Measles-Mumps-Rubella Vaccination in Children with Autism and School-Matched Control Subjects: A Population-Based Study in Metropolitan Atlanta.* DeStefano F et al. Pediatrics 2004; Vol. 113(2): 259-66 ◆ Subjects: 624 children with autism and 1,824 controls
2. *Prevalence of Autism and Parentally Reported Triggers in a North East London Population*. Lingam R et al. Arch Dis Child 2003; 88(8):666-70 ◆ Subjects: 567 children with autistic spectrum disorder
3. *Neurologic Disorders after Measles-Mumps-Rubella Vaccination*. Makela A et al. Pediatrics 2002; 110:957-63 ◆ Subjects: 535,544 children vaccinated between November 1982 and June 1986 in Finland
4. *A Population-Based Study of Measles, Mumps, and Rubella Vaccination and Autism*. Madsen KM et al. N Engl J Med 2002; 347(19):1477-82 ◆ Subjects: All 537,303 children born 1/91–12/98 in Denmark
5. *Relation of Childhood Gastrointestinal Disorders to Autism: Nested Case Control Study Using Data from the UK General Practice Research Database*. Black C et al. BMJ 2002; 325:419-21 ◆ Subjects: 96 children diagnosed with autism and 449 controls
6. *Measles, Mumps, and Rubella Vaccination and Bowel Problems or Developmental Regression in Children with Autism: Population Study.* Taylor B et al. BMJ 2002; 324(7334):393-6 ◆ Subjects: 278 children with core autism and 195 with atypical autism
7. *No Evidence for a New Variant of Measles-Mumps-Rubella-Induced Autism*. Fombonne E et al. Pediatrics 2001;108(4):E58 ◆ Subjects: 262 autistic children (pre- and post-MMR samples)
8. *Measles-Mumps-Rubella and Other Measles-Containing Vaccines Do Not Increase the Risk for Inflammatory Bowel Disease: A Case-Control Study from the Vaccine Safety Datalink Project*. Davis RL et al. Arch Pediatr Adolesc Med 2001;155(3):354-9 ◆ Subjects: 155 persons with IBD with up to 5 controls each
9. *Time Trends in Autism and in MMR Immunization Coverage in California*. Dales L et al. JAMA 2001; 285(9):1183-5 ◆ Subjects: Children born in 1980-94 who were enrolled in California kindergartens (survey samples of 600–1,900 children each year).
10. *Mumps, Measles, and Rubella Vaccine and the Incidence of Autism Recorded by General Practitioners: A Time Trend Analysis*. Kaye JA et al. BMJ 2001; 322:460-63 ◆ Subjects: 305 children with autism
11. *Further Evidence of the Absence of Measles Virus Genome Sequence in Full Thickness Intestinal Specimens from Patients with Crohn's Disease*. Afzal MA, et al. J Med Virol 2000; 62(3):377-82 ◆ Subjects: Specimens from patients with Crohn's disease
12. *Autism and Measles, Mumps, and Rubella Vaccine: No Epidemiological Evidence for a Causal Association*. Taylor B et al. Lancet 1999;353 (9169):2026-9 ◆ Subjects: 498 children with autism
13. *Absence of Detectable Measles Virus Genome Sequence in Inflammatory Bowel Disease Tissues and Peripheral Blood Lymphocytes.* Afzal MA et al. J Med Virol 1998; 55(3):243-9 ◆ Subjects: 93 colonoscopic biopsies and 31 peripheral blood lymphocyte preparations
14. *No Evidence for Measles, Mumps, and Rubella Vaccine-Associated Inflammatory Bowel Disease or Autism in a 14-year Prospective Study*. Peltola H et al. Lancet 1998; 351:1327-8 ◆ Subjects: 3,000,000 doses of MMR vaccine
15. *Exposure to Measles in Utero and Crohn's Disease: Danish Register Study*. Nielsen LL et al. BMJ 1998; 316(7126):196-7 ◆ Subjects: 472 women with measles
16. *Immunocytochemical Evidence of Listeria, Escherichia coli, and Streptococcus Antigens in Crohn's Disease*. Liu Y et al. Gastroenterology 1995; 108(5):1396-1404 ◆ Subjects: Intestines and mesenteric lymph node specimens from 21 persons from families with a high frequency of Crohn's disease

3 studies that suggest a connection between MMR vaccine and the development of autism

1. *Potential Viral Pathogenic Mechanism for a New Variant Inflammatory Bowel Disease*. Uhlmann V et al. Mol Pathol 2002; 55(2):84-90 ◆ Subjects: 91 patients with a confirmed diagnosis of ileal lymphonodular hyperplasia and enterocolitis and 70 controls
   ★ Read about limitations of this study: www.cdc.gov/nip/vacsafe/concerns/autism/letter-02-15-02.pdf
2. *Ileal-Lymphoid-Nodular Hyperplasia, Non-Specific Colitis, and Pervasive Developmental Disorder in Children*. Wakefield AJ et al. Lancet 1998; 351(9103):637-41 ◆ Subjects: 12 children with chronic entercolitis and regressive developmental disorder
   ★ Read about limitations of this study: www.immunize.org/catg.d/p2065.pdf
   ★ "A Statement by the Editors of the Lancet," 2/23/04, regarding this paper and an undisclosed potential conflict of interest: http://image.thelancet.com/extras/statement20Feb2004web.pdf
   ★ "Retraction of an Interpretation," The Lancet, March 6, 2004. Go to www.thelancet.com and register (no charge) to access this article.
3. *Evidence of Persistent Measles Virus Infection in Crohn's Disease*. Wakefield AJ et al. J Med Virol 1993; 39(4):345-53 ◆ Subjects: Electron microscopy specimens from Crohn's disease and control patients
   ★ The validity of this finding has been called into question when it could not be reproduced by other researchers (Nielsen et al., Jones et al., Feeney et al., Hermon-Taylor, Liu et al., Haga, Iizuka, Afzal).

Summary of Rules for Childhood and Adolescent Immunization*

Adapted from ACIP, AAP, and AAFP by
Immunization Action Coalition, March 2004

Vaccine	Ages usually given and other guidelines	If child falls behind	Precautions and contraindications
Hepatitis B *Give IM*	• Vaccinate all children 0 through 18yrs of age. • Vaccinate all newborns with monovalent vaccine prior to hospital discharge. Give dose #2 at 1–4m and dose #3 at 6–18m (the last dose in the infant series should not be given earlier than age 24wks). After the first dose, the series may be completed with single-antigen vaccine or up to 3 doses of Comvax (2m, 4m, 12–15m of age) or Pediarix (2m, 4m, 6m of age). Although not the preferred schedule, dose #1 can be given as late as age 2m of age if the mother has written documentation of HBsAg-negative status at the time of child's birth. • **If mother is HBsAg-positive:** give the newborn HBIG + dose #1 within 12hrs of birth, #2 at 1–2m, and #3 at 6m of age. • **If mother's HBsAg status is unknown:** give the newborn dose #1 within 12hrs of birth, #2 at 1–2m, and #3 at 6m of age. If mother is subsequently found to be HBsAg positive, give infant HBIG within 7d of birth. • May give with all other vaccines.	• Do not restart series, no matter how long since previous dose. • 3-dose series can be started at any age. • Minimum spacing for children and teens: 4wks between #1 & #2, and 8wks between #2 & #3. Overall there must be ≥16wks between #1 & #3 (e.g., 0-, 2-, 4m; 0-, 1-, 4m).	**Special Notes on Hepatitis B Vaccine** **Dosing of hepatitis B vaccines:** Vaccine brands are interchangeable for 3-dose schedules. For persons 0 through 19yrs of age, give 0.5 mL of either Engerix-B or Recombivax HB. **Alternative dosing schedule for unvaccinated adolescents age 11 through 15yrs:** Give 2 doses Recombivax HB 1.0mL (adult formulation) spaced 4–6m apart. (Engerix-B is not licensed for a 2-dose schedule.) **For premature infants:** Consult *2003 AAP Red Book* (p. 66–68) as hep B vaccination recommendations for premies may differ from routine infant schedule.
DTaP (Diphtheria, tetanus, acellular pertussis) *Give IM*	• Give at 2m, 4m, 6m, 15–18m, 4–6yrs of age. • May give dose #1 as early as 6wks of age. • May give #4 as early as 12m of age if 6m have elapsed since #3 and the child is unlikely to return at age 15–18m. • Do not give DTaP to children ≥7yrs of age (give Td). • May give with all other vaccines. • It is preferable but not mandatory to use the same DTaP product for all doses.	• #2 & #3 may be given 4wks after previous dose. • #4 may be given 6m after #3. • If #4 is given before 4th birthday, wait at least 6m for #5 (4–6yrs of age). • If #4 is given after 4th birthday, #5 is not needed.	**Contraindication for DTaP only:** Previous encephalopathy within 7d after DTP/DTaP. **Precautions for DTaP:** The following are precautions, not contraindications. When these conditions are present, the individual child's disease risk should be carefully assessed. In situations when the benefit outweighs the risk (e.g., community pertussis outbreak), vaccination should be considered. • Temperature ≥105°F (40.5°C) within 48hrs after previous dose. • Continuous crying lasting ≥3hrs within 48hrs after previous dose. • Previous convulsion within 3d after immunization. • Pale or limp episode or collapse within 48hrs after previous dose. • Unstable progressive neurologic problem (defer until stable).
DT *Give IM*	• Give to children <7yrs of age if child had a serious reaction to "P" in DTaP/DTP or if parents refuse the pertussis component. • May give with all other vaccines.		
Td *Give IM*	• Use Td, not tetanus toxoid (TT), for persons ≥7yrs of age for all indications. • A booster dose is recommended for children 11–12yrs of age if 5yrs have elapsed since last dose. Then boost every 10yrs. • May give with all other vaccines.	• For unvaccinated patients: give dose #1 now, give 2nd dose 4wks later, give 3rd dose 6m after #2, then give booster every 10yrs.	
MMR (Measles, mumps, rubella) *Give SC*	• Give #1 at 12–15m of age. Give #2 at 4–6yrs of age. • Make sure that all children and teens over 4–6yrs of age have received both doses of MMR. • If a dose was given before 12m of age, it doesn't count as the first dose, so give #1 at 12–15m of age with a minimum interval of 4wks between the invalid dose and dose #1. • May give with all other vaccines. • If MMR and Var (and/or yellow fever vaccine) are not given on the same day, space them ≥28d apart. • 2 doses of MMR are recommended for all children ≤18yrs of age. • Do not withhold vaccine from children of pregnant women.	• Dose should be given whenever it is noted that a child is behind. Exception: If MMR and Var (and/or yellow fever vaccine) are not given on the same day, space them ≥28d apart. • Dose #2 can be given at any time if at least 28d have elapsed since dose #1 and both doses are administered after 1yr of age.	• Pregnancy or possibility of pregnancy within 4 weeks. • If blood, plasma, and/or immune globulin were given in past 11m, see ACIP statement *General Recommendations on Immunization*† regarding time to wait before vaccinating. • HIV is NOT a contraindication unless severely immunocompromised. • Immunocompromised persons (e.g., because of cancer, leukemia, lymphoma). **Note:** For patients on high-dose immunosuppressive therapy, consult ACIP recommendations† regarding delay time. **Note:** MMR is not contraindicated if a PPD test was recently applied. If PPD and MMR not given on same day, delay PPD for 4–6wks after MMR.
Varicella (Var) (Chickenpox) *Give SC*	• Give at 12–18m of age. • Vaccinate all children ≥12m of age including all adolescents who have not had chickenpox. • May use as postexposure prophylaxis if given within 3–5d. • May give with all other vaccines. • If Var and MMR (and/or yellow fever vaccine) are not given on the same day, space them ≥28d apart. • Do not withhold vaccine from children of pregnant women.	• Do not give to children <12m of age. • Susceptible children <13yrs of age should receive 1 dose. • Susceptible persons ≥13yrs of age should receive 2 doses 4–8wks apart.	• Pregnancy or possibility of pregnancy within 4 weeks. • If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP statement *General Recommendations on Immunization*† regarding time to wait before vaccinating. • Persons immunocompromised because of high doses of systemic steroids, cancer, leukemia, lymphoma, or immunodeficiency. **Note:** For patients with humoral immunodeficiency, HIV infection, or leukemia, or for patients on high doses of systemic steroids, see ACIP recommendations.† • For children taking salicylates, see ACIP recommendations.†

Do not give any vaccine if patient (1) has had an anaphylactic reaction to a prior dose of the vaccine or any of its components or (2) has a moderate or severe acute illness. (Minor illness is not a reason to postpone vaccination.)

Summary of Rules for Childhood and Adolescent Immunization* (continued)

Vaccine	Ages usually given and other guidelines	If child falls behind	Precautions and contraindications
Polio (IPV) *Give SC or IM*	• Give at 2m, 4m, 6–18m, and 4–6yrs of age. • May give #1 as early as 6wks of age. • Not routinely recommended for those ≥18yrs of age (except certain travelers). • May give with all other vaccines.	• All doses should be separated by at least 4wks. • If #3 of an all-IPV series is given at ≥4yrs of age, dose #4 is not needed.	Do not give any vaccine if patient (1) has had an anaphylactic reaction to a prior dose of the vaccine or any of its components or (2) has a moderate or severe acute illness. (Minor illness is not a reason to postpone vaccination.)
Hib (*Haemophilus influenzae* type b) *Give IM*	• HibTITER (HbOC) & ActHib (PRP-T): give at 2m, 4m, 6m, 12–15m (booster dose). • PedvaxHIB or Comvax (containing PRP-OMP): give at 2m, 4m, 12–15m. • Dose #1 of Hib vaccine may be given as early as 6wks of age but no earlier. • The last dose (booster dose) is given no earlier than 12m of age and a minimum of 8wks after the previous dose. • May give with all other vaccines. • Hib vaccines are interchangeable; however, if different brands of Hib vaccines are administered, a total of three doses are necessary to complete the primary series in infants. • Any Hib vaccine may be used for the booster dose. • Hib is not routinely given to children ≥5yrs of age.	**Rules for all Hib vaccines:** • If #1 was given at 12–14m, give a booster dose in 8wks. • Give only 1 dose to unvaccinated children ≥15m and <5yrs of age. **Rules for HibTITER and ActHib:** • #2 and #3 may be given 4 wks after previous dose. • If #1 was given at 7–11m, only 3 doses are needed; #2 is given 4–8wks after #1, then boost at 12–15m (and must be ≥8wks after dose #2). **Rules for PedvaxHIB and Comvax:** • #2 may be given 4wks after dose #1	
Hepatitis A *Give IM*	• Vaccinate children ≥2yrs old who live in areas with historically elevated rates of hepatitis A, as well as children who have specific risk factors. (See ACIP statement† and column to right for details.) • Children who travel outside of the U.S. (except to W. Europe, New Zealand, Australia, Canada, or Japan). • Dose #2 is given a minimum of 6m after dose #1. • Dose #1 may not be given earlier than 2yrs of age. • May give with all other vaccines.	• Do not restart series, no matter how long since previous dose. • Hepatitis A vaccine brands are interchangeable. • Consult your local/state public health authority for information regarding your city, county, or state hepatitis A rates. States with historically elevated rates (average ≥10 cases per 100,000 population from 1987-1997) include the following: AL, AZ, AK, CA, CO, ID, MO, MT, NV, NM, OK, OR, SD, TX, UT, WA, and WY.	
Influenza *Give IM or intranasally*	• Vaccinate all children ages 6–23 months. • Vaccinate children ≥24m of age with risk factors as defined by ACIP.† • Use trivalent inactivated influenza vaccine (TIV) for children 6–59m, and either TIV or live attenuated influenza vaccine (LAIV) for children ≥5yrs of age who have no contraindications. • Give 2 doses to first-time vaccinees <9yrs of age, separated by ≥4wks for TIV or ≥6wks for LAIV. • Give 0.25 mL dose (TIV) to infants 6–35m and 0.5 mL dose if age ≥3yrs. • May give with all other vaccines.	• If previously unvaccinated child <9 yrs does not receive 2nd dose during initial vaccination season, give only 1 dose the following season . **Special Note on Live Attenuated Influenza Vaccine (LAIV)** Do not give LAIV to children <5 yrs of age, children ≥5yrs of age with a chronic disease that constitutes an increased risk when exposed to wild influenza virus (e.g., asthma, heart and renal disease, diabetes), or children who are or who may have close contact with severely immunosuppressed persons (i.e., patients with hematopoietic stem cell transplants).	
Pneumococcal — **PCV** *Give IM*	• Give at 2m, 4m, 6m, and 12–15m of age. • Dose #1 may be given as early as 6wks of age. • For unvaccinated high-risk children (defined below) 24–59m of age, give 2 doses ≥8wks apart. If PPV not previously given, administer PPV ≥8wks after final dose of PCV. • For unvaccinated moderate-risk children (defined below) 24–59m of age, consider giving 1 dose. • May give 1 dose to unvaccinated healthy children 24–59m. • PCV is not routinely given to children ≥5yrs of age. • May give with all other vaccines.	• Minimum interval between doses for infants <12m of age is 4wks, for ≥12m of age is 8wks. • For infants 7–11m of age: If unvaccinated, give dose #1 now, give 2nd dose 4–8wks later, and boost at 12–15m. If infant has had 1 or 2 previous doses, give next dose now, and boost at 12–15m. • For children 12–23m: If not previously vaccinated or only one previous dose before 12m, give 2 doses ≥8wks apart. If child had 2 doses before 12m, give booster dose ≥8wks after previous dose.	
	High-risk children: Those with sickle cell disease; anatomic/functional asplenia; chronic cardiac, pulmonary, or renal disease; diabetes mellitus; CSF leak; HIV infection; or immunosuppression. **Moderate-risk children:** Children age 24–35m; children age 24–59m who attend group day care centers or are of Alaska Native, American Indian, or African American descent.		
Pneumococcal — **PPV** *IM or SC*	Give PPV to high-risk children ≥2yrs of age as recommended in the ACIP statement *Prevention of Pneumococcal Disease* (4/4/97).†		
Meningococcal *Give SC*	Vaccinate children ≥2yrs of age with risk factors. Discuss disease risk and vaccine availability with college students. Consult ACIP statement on meningococcal disease (6/30/00) for details.†		

* Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated (except Trihibit, which may only be used as the 4th dose of the series). The following combination vaccines are currently licensed: Hib-HepB (Comvax), DTaP-HepB-IPV (Pediarix), DTaP-Hib (Trihibit), and HepA-HepB (Twinrix). Rules for use of combination vaccines consist of those applicable to each of the components.

† For more complete information, see the ACIP statements, which are published in the *MMWR.* To obtain them, visit www.cdc.gov/nip/publications/ACIP-list.htm or visit the Immunization Action Coalition's (IAC) website at www.immunize.org/acip For recommendations of the American Academy of Pediatrics (AAP), consult AAP's *2003 Red Book* and the journal *Pediatrics,* or visit www.immunize.org/aap To view the AAFP/AAP/CDC Recommended Childhood and Adolescent Immunization Schedule—U.S., visit www.immunize.org/cdc/child-schedule.pdf

This table is published annually by the Immunization Action Coalition, 1573 Selby Ave., St. Paul, MN 55104, (651) 647-9009. The most recent edition is found on IAC's website at www.immunize.org/childrules IAC extends thanks to William Atkinson, MD, MPH, and Linda Moyer, RN, of the Centers for Disease Control and Prevention for their assistance.

IAC's "Ask the Experts" team from CDC

William L. Atkinson, MD, MPH

Linda A. Moyer, RN

Eric E. Mast, MD

or anatomic asplenia, have HIV infection or other immunocompromising conditions, have or will have a cochlear implant, or have a chronic illness. This does not include children whose only risk factor is day care attendance, or an ethnic or environmental risk factor.

If an employee has 2 documented MMRs but has negative titers for one or more of these diseases, should I give an additional MMR dose?

The Advisory Committee on Immunization Practices (ACIP) does not routinely recommend more than two doses of MMR. A negative serology after two documented doses of MMR probably represents a false negative (i.e., antibody titer too low to detect with commercial tests). However, it is theoretically possible to have true 2-dose vaccine failure. If a person is found to have a negative serology after two documented doses of MMR, it may be prudent to administer one additional dose of MMR. You should also cease doing postvaccination serologic testing if an employee has two documented doses of MMR, which is the ACIP definition of "immune." See www.cdc.gov/mmwr/PDF/rr/rr4708.pdf for more information.

Should all pregnant women have serology screening for rubella and varicella?

No. Serologic testing for varicella should be considered only for women who do not have evidence of immunity (reliable history of chickenpox or documented vaccination). Rubella serologic testing is only necessary for women who cannot provide written documentation of rubella vaccination. Once a person has been found to be seropositive, it is not necessary to test again in the future.

I heard that ACIP recently revised its recommendations for use of the intranasal live attenuated influenza vaccine (LAIV) in health care workers (HCWs). What did they decide?

At the February 2004 meeting, ACIP voted to recommend that HCWs for whom LAIV is not contraindicated be allowed to receive it with the exception of those who are in contact with patients who are severely immunosuppressed (i.e., persons with bone marrow transplants in protective isolation). These HCWs should receive trivalent inactivated influenza vaccine (TIV) instead. HCWs who have close contact with persons having lesser degrees of immunosuppression (e.g., persons with diabetes, persons with asthma taking corticosteroids, or persons infected with HIV) may receive either TIV or LAIV, provided there is no other contraindication. The final wording of this will be published in the ACIP statement "Prevention of Influenza" in May 2004.

We had a real panic situation last December when we ran out of influenza vaccine. What can we do to avoid this next season?

It is never too early to begin planning for this fall's influenza vaccination program. The most important thing you can do right now is order your vaccine from your usual source. Some manufacturers have already announced they will stop taking preorders in mid-May. You may need to increase your vaccine order. For influenza season 2004-2005, ACIP will recommend vaccination of all children 6 through 23 months of age. Be sure to include vaccine for your facility's health care workers as part of your overall campaign.

If an expired dose of vaccine is administered, when should it be repeated?

Expired doses are problematic because, obviously, vaccines don't turn off the day the expiration date is past, and so a dose of vaccine may still retain potency past its expiration date. Therefore, the issue is that we do not want the expired dose potentially interfering with virus replication in the repeat dose. This is only an issue with live virus vaccines. If a dose of live virus vaccine is mishandled or administered after its expiration date, wait 4 weeks (28 days) before repeating the dose. For inactivated vaccines, interference with virus replication is not an issue. Therefore, an invalid dose of inactivated vaccine should be repeated at the earliest convenience. Bring patients in as soon as you can get them in.

NEWS FLASH! Recommended Childhood Immunization Schedule, Jul.–Dec. 2004, U.S., will be published in* MMWR *on April 30.

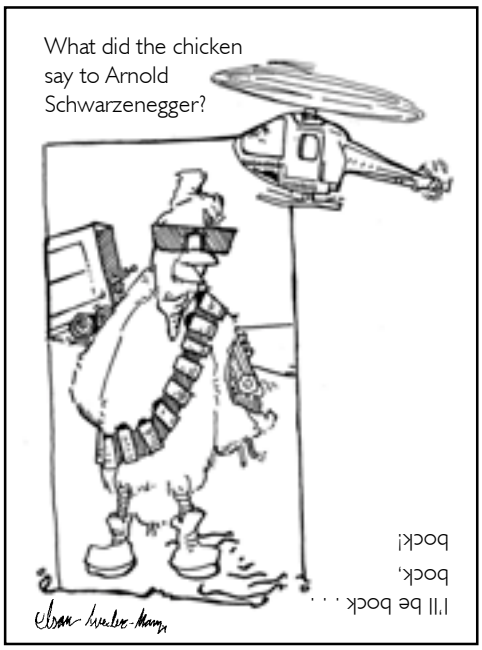
When a 3-month-old infant presents having had no prior immunizations, would you start the accelerated schedule?

The accelerated schedule should be used when the child is more than a month behind schedule, until you get them caught up. You can give the child the first set of recommended vaccines at three months and then bring him or her back at four months and give the second set of vaccinations. At this point the child will be caught up and can return to the usual schedule. As long as you observe those minimum intervals and ages, this is fine to do. Once you have them back on schedule, stick with the recommended ages and intervals on the recommended childhood schedule. It is also important to educate the parents and talk to them about the importance of bringing the child in on time.

If someone has received chemotherapy, do they need their vaccines repeated?

No, chemotherapy does not eliminate a person's immune memory. The only time you need to revaccinate someone is following a hematopoietic stem cell (bone marrow) transplant.

(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. See the box at the bottom of page 1 for sign-up information.

We have a large quantity of vaccines, and space is always an issue. Since you cannot put vaccines in the vegetable bins, can we remove them and then put vaccines in that space?

Vaccines should not be stored in vegetable bins or the space occupied by vegetable bins because this area is commonly closer to the motor of the unit and temperatures may be less stable. We recommend that you remove the vegetable bins and put bottles of water in that space to help maintain a constant temperature in your refrigerator. Vaccines should be placed in the center of the refrigerator, away from the walls and floor of the unit in open containers so air can circulate around the vaccines. You also do not want the top shelf in the refrigerator too close to the vents that come from the freezer because this can expose your vaccines to freezing temperatures.

Why is it recommended that we keep temperature logs for 3 years?

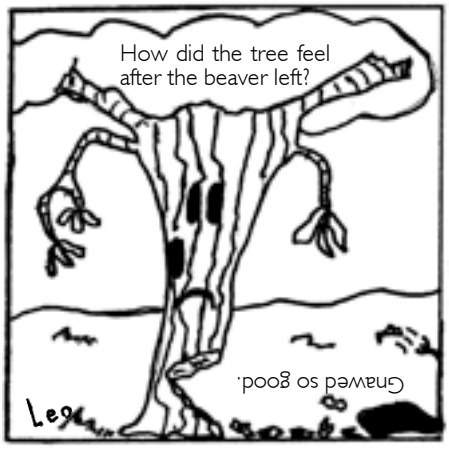
It is important that you keep your temperature logs for at least 3 years. As the refrigerator ages, you can track recurring problems. If temperatures have been documented out of range, you can determine how long this has been happening and take appropriate action.

If a child is diagnosed with pneumococcal disease, do they still need to receive the pneumococcal conjugate vaccine?

Yes. When the child recovers you should vaccinate as appropriate for their age. There are several different serotypes of *Streptococcus pneumoniae* that cause disease in children. A child who has had pneumococcal disease has only developed antibody against one serotype.

If a child who should have received two doses of influenza vaccine this year received only one dose, will the child need one or two doses next year?

The child will only need one dose next year. The first dose the child already received is a "priming" dose, which is only necessary the first time the child is vaccinated. The second dose, regardless of when it is given, will provide protection.



Hepatitis A and B

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

What is the possibility of maternal transmission of hepatitis B virus (HBV) when breast-feeding an infant if the mother is HBsAg-positive and has cracked or bleeding nipples?

Although HBsAg can be detected in breast milk, there is no evidence that HBV can be transmitted by breast-feeding. In studies done before hepatitis B vaccine was available, similar rates of mother-to-infant transmission were found among breast-fed and formula-fed infants. These findings indicate that the risk of transmission from breast-feeding is negligible, if any, compared with the high risk of infant exposure to maternal blood and body fluids at birth. More recent studies have shown that among infants receiving postexposure prophylaxis to prevent perinatal HBV infection, there is no increased risk of infection among breast-fed infants.

Babies born to HBV-infected mothers should be immunized with hepatitis B vaccine and hepatitis B immune globulin (HBIG), which will substantially reduce the risk of perinatal transmission. In addition, immunization should protect the infant from modes of postnatal HBV transmission, including possible exposure to HBV from cracked or bleeding nipples during breast-feeding. To prevent cracked and bleeding nipples, all mothers who breast-feed should be instructed on proper nipple care.

I am confused about the volume of hepatitis B vaccine dose to give an adolescent. Is it 0.5ml or 1.0ml?

The answer depends on the patient's age, the brand of vaccine used, and the number of doses in the vaccination series. If you are using the Engerix-B pediatric/adolescent formulation (0–19 years), administer three 0.5ml doses.

If using the Recombivax HB pediatric/adolescent formulation (0–19 years), administer three 0.5ml doses. The Recombivax HB adult formulation is also licensed for use in adolescents 11–15 years of age as a two-dose series. With the two-dose series, the volume is 1.0ml for each dose.

IAC offers a handy resource with charts detailing the correct dosages and schedules for monovalent hepatitis B and hepatitis A vaccines and combination products that include hepatitis A and hepatitis B vaccines. Go to: www.immunize.org/catg.d/2081ab.pdf

More of my patients are getting tattoos and body piercings (and not just the teens!). Should they be concerned about contracting a bloodborne infection like HBV?

Tattooing and body piercing have the potential to transmit bloodborne infections, including hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV), if instruments contaminated with blood are either not sterilized or disinfected or are used inappropriately between clients.

CDC recommends that instruments intended to penetrate the skin be used once, then disposed of or thoroughly cleaned and sterilized between clients. Personal service workers who do tattooing or body piercing should be educated about how bloodborne infections are transmitted and what precautions to take to prevent transmission of bloodborne infections in their settings.

Persons considering getting a tattoo or having a body part pierced should ask staff at the establishment what procedures they use to prevent the spread of bloodborne infections. They also may call the local health department to find out what sterilization procedures are required by law or ordinance for tattooing and body piercing establishments.

IAC has created a web page with links to relevant articles from medical journals and publications from national sources such as CDC, HCV Advocate, the Alliance of Professional Tattooists, and the Association of Professional Piercers. Feel free to refer patients who are considering one or both of these forms of body art to www.immunize.org/tattoos

Do you have patients who are HBsAg-positive?

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

FDA currently licenses three medications for use in the United States.

1. interferon alfa-2b, recombinant (administered subcutaneously)
2. lamivudine (administered orally)
3. adefovir dipivoxil (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.

Sign up for HEP EXPRESS!

HEP EXPRESS, an email newsletter published every 4 weeks, is filled with important information about the prevention and treatment of hepatitis A, B, and C. To subscribe, go to:

www.hepprograms.org/hepexpress

I am an RN at a health care facility where we are exposed to blood and body fluids on a daily basis. We have provided hepatitis B vaccine to our employees for 10 years. We started performing titers 1–2 months after the last dose of vaccine only within the last 4 years. (Our employee health manual gives previously vaccinated employees the option of requesting a titer.) Several employees who had been vaccinated more than 4 years ago requested titers. Some of these titers returned too low (<10mIU/ml). How should we treat these employees as we don't know if they responded to the initial vaccine series?

Postvaccination serologic testing of health care workers for anti-HBs is only recommended 1 to 2 months after completion of the primary series. Responders (anti-HBs level ≥10 mIU/ml) are protected against hepatitis B. Periodic anti-HBs testing and booster doses of vaccine are not recommended.

Because your employees were not tested 1–2 months after completing the primary series, it is not known if they had previously responded to hepatitis B vaccination. The preferred approach to managing these persons is to base interventions on the results of serologic testing performed at the time of percutaneous or permucosal exposure to blood or body fluids. The Advisory Committee on Immunization Practices and the Hospital Infection Control Practices Advisory Committee have published guidelines for the management of HCWs after percutaneous or permucosal exposures. These guidelines include postexposure anti-HBs testing of those who were vaccinated but not tested for response after the primary series. To obtain a copy of the CDC guidelines "Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis," visit www.cdc.gov/mmwr/PDF/rr/rr5011.pdf

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.

Why is it recommended that men who have sex with men (MSM) be vaccinated against hepatitis A?

Hepatitis A disproportionately affects MSM. About 10% of all new hepatitis A virus (HAV) infections in the United States are among MSM. Although the overall incidence of hepatitis A has declined in the United States over the past decade, frequent outbreaks continue to be reported among MSM.

Measures typically used to prevent the transmission of other STDs (e.g., use of condoms) do not prevent HAV transmission, and maintenance of good personal hygiene has not been successful in interrupting outbreaks of HAV infection. Vaccination is the most effective means of preventing HAV transmission among persons at risk for sexual transmission of this virus.

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 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.

National Viral Hepatitis Roundtable

MISSION STATEMENT

The National Viral Hepatitis Roundtable (NVHR) is dedicated to developing, implementing, and maintaining a national strategy to eliminate viral hepatitis in the United States.

To learn more about NVHR, visit www.nvhr.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:

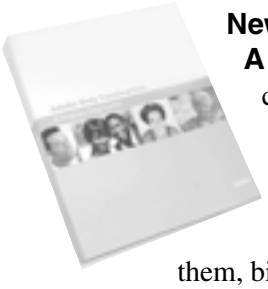
A year's worth of *NEEDLE TIPS.* IAC's flagship print publication, *NEEDLE TIPS* has a worldwide readership of more than 130,000 health professionals. Read it, and you'll know why it's a trusted source of accurate and timely immunization information.

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:



New! Adults Only Vaccination: A Step-by-Step Guide. 157 pages of comprehensive, practical information on ALL aspects of adult immunization. Presents clear, authoritative material on administering adult vaccines, educating patients about them, billing for them, and much more. Indispensable for any setting where adults are immunized, such as long-term care residences, family planning clinics, adult medical practices, college health services, and more. $75; includes the 2 videos below and other useful resources.

New Video! How to Protect Your Vaccine Supply. Developed by CDC in 2004, this 25-minute video offers practical information on vaccine handling and storage. Order from IAC for $15 (or you can get one free copy from CDC at https://www2.cdc.gov/nchstp_od/PIWeb/niporderform.asp)

Video! Immunization Techniques: Safe, Effective, Caring. Developed by the California Immunization Program in 2001, this 35-minute video 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. $25.

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. $25 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.

New! Essential Immunization Resources from IAC

Dear *NEEDLE TIPS* reader,

If you've been a cover-to-cover reader of *NEEDLE TIPS,* you've probably noticed we've changed the contents of this page. Most noticeably, we no longer list or sell individual copies of our print materials. We took this step because of skyrocketing paper costs and substantial increases in copying and mailing expenses. Our readers will continue to be able to download all of our print materials from our website at www.immunize.org/free These materials are still copyright-free and ready for your immediate use.

Now, onto an exciting new development: We've invested in a high-quality CD creator, and will be producing up-to-the-minute CDs containing **all** IAC print materials in ready-to-print format in English, as well as any translations available in Spanish. In addition, the CD will also include **all** the federal Vaccine Information Statements (VISs) available in English and Spanish. We're offering this Essential Immunization Resource as a special thank-you to IAC partners who choose to contribute $75 or more.

Please note that any donor, regardless of the size of the donation, will be mailed a set of our 15 most popular print pieces, such as the "Summary of Rules for Childhood and Adolescent Immunization" and "Screening Questionnaire for Childhood and Teen Immunization."

Watch this page in future issues as we continue to expand our selection of Essential Immunization Resources. Because of the many requests we've received, we're considering adding resources such as screening questionnaires in pads, laminated copies of essential provider pieces, and quick-reference pocket guides.

We hope these changes will better meet your needs for high-quality, user-friendly immunization tools. As always, we value your feedback. Email us at admin@immunize.org or call (651) 647-9009.

Diane C. Peterson
Associate Director for Immunization Projects

How You Can Support the Coalition!

I want to support the Immunization Action Coalition!
I am a ❑ new ❑ renewing contributor.

Here is my contribution: (I will receive 2 issues of NEEDLE TIPS.)

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

❑ I'm supporting the Coalition at a $75 level or higher, so please send me a new CD of all IAC print materials in English and available translations in Spanish as well as VISs in English & Spanish.

❑ I don't need a CD, thanks!

Total contribution: $_____

Essential Immunization Resources

CD of IAC print materials

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	
___	V2010	How to Protect Your Vaccine Supply (details p. 5) ..... $15 (One copy available free from CDC by calling (800) 232-2522)	_____
___	V2020	Immunization Techniques: Safe, Effective, Caring (details p. 5) ... $25	_____
		Brand new! Adult Vaccination Guide	
___	R2070	Adults Only Vaccination: A Step-by-Step Guide (details p. 3, includes the two videos listed above) $75	_____
		Record cards and slides	
___	R2005	Adult immunization record card: 250 cards/box; 1 box–$25; 2 boxes–$45; 3 boxes–$60; 4 boxes–$70 (details p. 3) ..... $	_____
___	R2006	Adult immunization record card w/smallpox: 250 cards/box; 1 box–$40; 2 boxes–$75; 3 boxes–$105; 4 boxes–$130 ..... $	_____
___	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 $_____

Payment, Shipping, and Handling Information

Prepay by credit card or check (in U.S. dollars; make check payable to Immunization Action Coalition). Purchase orders accepted. Our Federal ID# is 41-1768237. No charge for shipping within the United States. We ship by fourth-class mail; expect delivery in three weeks or less.

Complete this form; include with order. Mail-in order: Mail form in enclosed envelope to Immunization Action Coalition, 1573 Selby Ave., Ste. 234, St. Paul, MN 55104. **Fax order:** Fax form to **(651) 647-9131** (credit card/purchase orders only). Questions? Call (651) 647-9009.

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)

Need a quick, ready-to-print copy of one of our pieces? All print materials and translations are available free online at www.immunize.org/free

Become IAC's partner in eliminating vaccine-preventable diseases!

Many of you have told us how much you rely on IAC. You turn to us throughout your day, much as you would to a trusted work partner. Now, we're turning to you and your organization for financial partnership. We need you to help us continue helping you.

Deborah L. Wexler, MD
IAC Executive Director

Dear Colleague,

When you think about what's really necessary to deliver immunization services, what comes to mind? Effective vaccines? Well-trained staff? Another requirement is accurate information. *Sound immunization information—which is what IAC provides—is imperative to eliminate vaccine-preventable diseases.*

In today's economy, with nonprofits receiving less support than in the past, IAC is finding it increasingly difficult to continue making information services widely available. In response, we've made major changes to reduce our printing and mailing expenses:

- We've drastically reduced the number of print materials we mail to donors, and instead are making our materials available more economically on a CD (see pages 22 and 23 for more information).
- We have also cut our circulation by 50% and are saving on printing and mailing costs by sending *NEEDLE TIPS* to fewer of your colleagues than last year. *I'm sorry to say that many of you will not receive the next issue unless we hear from you.*

These savings, though significant, are not enough to offset the drop in contributions. *We need financial support from readers of NEEDLE TIPS to sustain our work.*

If IAC is to continue providing you and the broad immunization community with reliable print and electronic information, we need your support. Please become our partner in eliminating vaccine-preventable diseases—*make a generous contribution to IAC today!*

Deborah L. Wexler MD

Deborah L. Wexler, MD
Executive Director

Help increase immunization action—contribute to IAC today!

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.
- GlaxoSmithKline
- Wyeth Vaccines
- MedImmune
- Aventis Pasteur
- Bayer Biologicals
- Chiron Vaccines
- Baxter Healthcare
- American Pharmacists Association

A special thank you to the Lillian O. Bell Estate and 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 2004

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 the Coalition 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 donate online at www.immunize.org/join

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

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

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

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

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