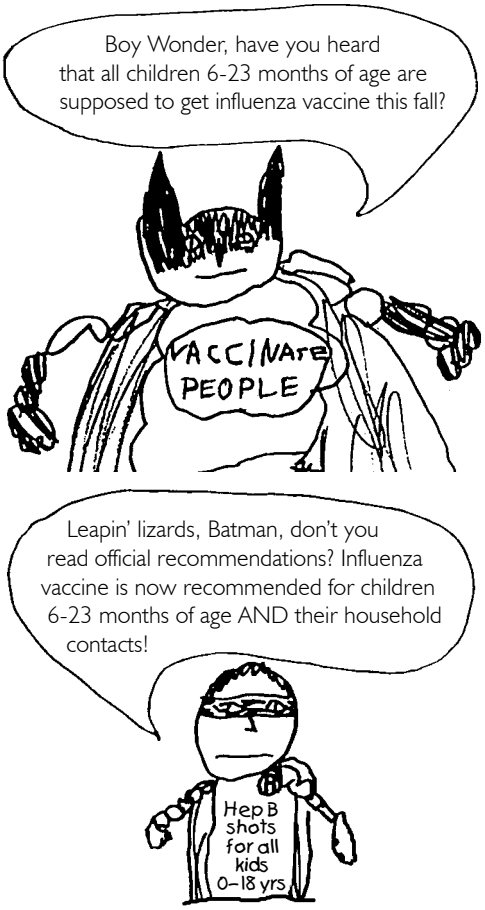
Volume 14 – Number 3 October 2004

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; Andrew T. Kroger, MD, MPH; Eric E. Mast, MD; and Linda A. Moyer, RN, of the Centers for Disease Control and Prevention (CDC) for answering the following questions for our readers. Dr. Atkinson is a medical epidemiologist, and Dr. Kroger is a medical officer, both at CDC's National Immunization Program. Dr. Mast is acting director, and Ms. Moyer is an epidemiologist, both at CDC's Division of Viral Hepatitis.

Immunization questions?

- Email nipinfo@cdc.gov
- Call CDC's 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, and Andrew T. Kroger, MD, MPH

Some of my patients refuse influenza vaccination because they insist they "got the flu" after receiving the vaccine in the past. What can I tell them?

There are several reasons why this misconception persists: (1) Less than 1% of people who are vaccinated with the injectable vaccine develop flu-like symptoms, such as mild fever and muscle aches, after vaccination. These side effects are not the same as having influenza, but people confuse the symptoms. (2) Protective immunity doesn't develop until 1–2 weeks after vaccination. Some people who get vaccinated later in the season (December or later) may get influenza shortly afterward. These late vaccinees may develop influenza because they were exposed to someone with the virus before they became immune. It is not the result of the vaccination. (3) To many people "the flu" is any illness with fever and cold symptoms. If they get any viral illness, they may blame it on the influenza vaccine or think they got "the flu" despite being vaccinated. Influenza vaccine only protects against certain influenza viruses, not all viruses. (4) The influenza vaccine is not 100% effective, especially in older persons. The vaccine is effective in protecting 90% of healthy young

(continued on page 19)

NEEDLE TIPS

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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.

IOM Report: No Association Between Autism and MMR Vaccine and Thimerosal-containing Vaccines

Excerpted from a National Academies press release, dated May 18, 2004, about the IOM report "Immunization Safety Review: Vaccines and Autism."

Based on a thorough review of clinical and epidemiological studies, neither the mercury-based vaccine preservative thimerosal nor the measles-mumps-rubella (MMR) vaccine are associated with autism, says a new report from the Institute of Medicine (IOM) of the National Academies. Furthermore, the hypotheses regarding how the MMR vaccine and thimerosal could trigger autism lack supporting evidence and are theoretical only. Further research to find the cause of autism should be directed toward other lines of inquiry that are supported by current knowledge and evidence and offer more promise for providing an answer, said the committee that wrote the report.

"The overwhelming evidence from several well-designed studies indicates that childhood vaccines are not associated with autism."

"The overwhelming evidence from several well-designed studies indicates that childhood vaccines are not associated with autism," said committee chair Marie McCormick, Sumner and Esther Feldberg Professor of Maternal and Child Health, Harvard School of Public Health, Boston. "We strongly support ongoing research to discover the cause or causes of this devastating disorder. Resources would be used most effectively if they were directed toward those avenues of inquiry that offer the greatest promise for answers. Without supporting evidence, the vaccine hypothesis does not hold such promise."

The report updates two earlier IOM reports, published in 2001, on possible links between autism and the MMR vaccine and thimerosal. At that time, the committee determined that the evidence did not show an association between the MMR vaccine and autism, but there was not enough evidence to determine whether thimerosal was associated with neuro-developmental disorders such as autism. Given that mercury is known to have a toxic effect on the nervous system and that prenatal exposures to another form of mercury have been shown to adversely affect early childhood development, the committee concluded in 2001 that it was possible to hypothesize that thimerosal might trigger neurodevelopmental problems. The committee revisited these issues because several studies exploring the epidemiology and biological mechanisms of possible links between vaccines and autism have been undertaken during the past three years. . . .

Five large epidemiological studies conducted in the United States, the United Kingdom, Denmark, and Sweden since 2001 consistently provided evidence that there is no association between thimerosal-containing vaccines and autism. Similarly, 14 large epidemiological studies consistently showed no association between the MMR vaccine and autism. The committee also reviewed five studies that reported links between thimerosal and autism and two that indicated a connection between the MMR vaccine and the disorder. However, limitations in how these studies were conducted and how the data were analyzed led the committee to conclude that they did not provide evidence supporting an association between vaccines and autism. . . .

Thimerosal is an organic mercury compound that is still used as a preservative in some adult vaccines. It began to be removed from vaccines for children in 1999, and as of mid-2000, vaccines that are recommended for universal use in infants and young children are available in forms that have no or only trace amounts of thimerosal.

"Further research to find the cause of autism should be directed toward other lines of inquiry that are supported by current knowledge and evidence and offer more promise for providing an answer."

This study is the eighth and final in a series on vaccine safety sponsored by the Centers for Disease Control and Prevention and the National Institute of Allergy and Infectious Diseases. The Institute of Medicine is a private, nonprofit institution that provides health policy advice under a congressional charter granted to the National Academy of Sciences.

A pre-publication version of "Immunization Safety Review: Vaccines and Autism" is available online at http://books.nap.edu/catalog/10997.html?onpi_newsdoc05182004 You can also purchase a copy from the National Academies Press by calling (202) 334-3313 or (800) 624-6242.

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 $30. Your first order of a 250-card box comes with a 30-day money-back guarantee.

Discounts for larger orders:

2 boxes (500 cards)..... $55
3 boxes (750 cards)..... $75
4 boxes (1000 cards)..... $90

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 September 20, 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 and are open to the public. The next meetings will be held on October 27–28, 2004, and February 23–24, 2005. For more information, visit www.cdc.gov/nip/acip

ACIP statements

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

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

Recently published ACIP statements:

- Prevention and Control of Influenza (5/28/04)

Current VIS dates

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

DTaP/DT/DTP	7/30/01	hepatitis A	8/4/04
hepatitis B	7/11/01	influenza (LAIV)	5/24/04
Hib	12/16/98	influenza (TIV)	5/24/04
MMR	1/15/03	meningococcal	7/28/03
PCV	9/30/02	PPV	7/29/97
polio	1/1/00	rabies	11/4/03
Td	6/10/94	typhoid	5/19/04
varicella	12/16/98	yellow fever	3/14/03

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

Vaccine supply news

On September 17, CDC published "Notice to Readers: Pneumococcal Conjugate Vaccine Shortage Resolved" in the *MMWR*. Production problems of the 7-valent pneumococcal conjugate vaccine (PCV7), marketed as Prevnar and manufactured by Wyeth Vaccines, began in February 2004 and led to a recommendation to withhold both the 4th and later the 3rd dose. Since that time, production problems have been resolved to allow a return to the full, 4-dose series. Health care providers should prioritize catch-up vaccination for the following groups: (1) children <5 years of age at high risk for invasive pneumococcal disease (e.g., sickle cell disease, immune system disorder), (2) healthy children <24 months of age who have not received any doses of PCV7, and (3) healthy children <12 months of age who have not yet received 3 doses. For more information about the resolution of this shortage and how to schedule catch-up vaccination for PCV7, go to www.cdc.gov/mmwr/preview/mmwrhtml/mm5336a8.htm

Influenza vaccine news

On May 28, the ACIP recommendations were published in *MMWR* (Vol. 53, No. RR-6). The recommendations discuss (1) influenza vaccine for children aged 6–23 months, (2) vaccination of health care workers with live, attenuated influenza vaccine (LAIV), (3) personnel who may administer LAIV, (4) the 2004-05 trivalent inactivated vaccine virus strains (A/Fujian [H3N2], A/New Caledonia [H1N1], and B/Shanghai), and (5) the assessment of vaccine supply and timing of influenza vaccination. A link to this report and other information regarding influenza can be found at www.cdc.gov/flu

Looking for your state health department immunization and hepatitis consultants?

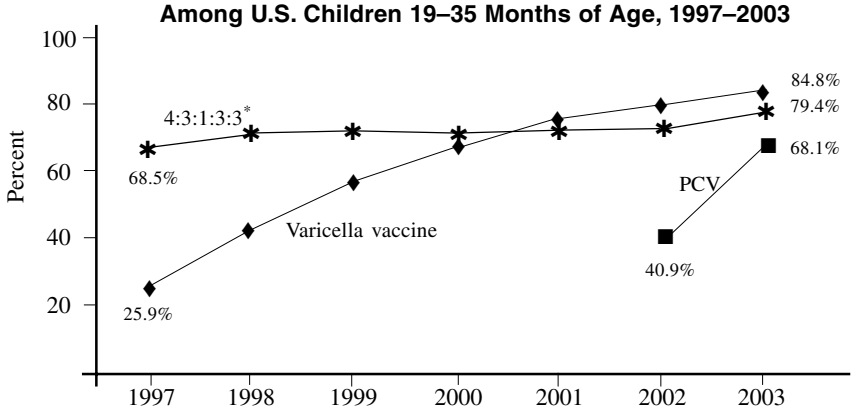
For phone numbers of people to contact at your state (or federal project) health department for help on immunization issues, the Vaccines For Children program, or hepatitis A, B, or C, visit:

www.immunize.org/coordinators

NIS data for 2003

On July 30, CDC published "National, State, and Urban Area Vaccination Coverage Among Children Aged 19–35 Months—United States, 2003" in the *MMWR*, Vol. 53 (29). The National Immunization Survey (NIS) provides estimates of vaccination coverage for each of the 50 states and 28 selected urban areas. Substantial increases over 2002 rates were noted for the two most recently recommended vaccines—varicella (+4.2%) and pneumococcal conjugate (+27.2%). Overall coverage for a 4:3:1:3:3 series (see explanation* below) was the highest ever recorded—79.4%. These increases are graphically displayed below. Current state rates can be viewed in the table to the right. To read the complete report, go to www.cdc.gov/ nip/menus/stats_surv.htm#nis

Varicella, PCV, and 4:3:1:3:3* Series Vaccination Rates Among U.S. Children 19–35 Months of Age, 1997–2003



**4:3:1:3:3 = ≥4 doses of DTP/DT/DTaP, ≥3 doses of polio vaccine, ≥1 dose of measles-containing vaccine, ≥3 doses of Hib vaccine, and ≥3 doses of hepatitis B vaccine*

Source: National Immunization Survey, 1997–2003

2003 Rates for 19–35 Month Olds

The estimated rates* below are for children ages 19–35 months. To view more findings and compare the 2003 rates with previous years' rates, go to www.cdc.gov/nip/menus/stats_surv.htm#nis

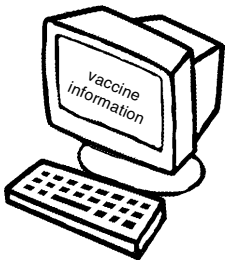
State	≥3 PCV	≥1 Varicella	4:3:1:3:3†
U.S.	68.1	84.8	79.4
AL	69.1	91.3	80.4
AK	76.0	81.1	79.7
AZ	63.0	81.5	76.9
AR	50.5	88.3	76.5
CA	72.7	89.7	77.4
CO	56.8	78.9	67.5
CT	86.4	93.2	94.0
DE	62.1	81.5	76.3
DC	67.4	88.8	76.2
FL	57.9	87.6	81.0
GA	62.4	90.5	76.6
HI	77.7	89.6	82.0
ID	71.0	72.8	78.1
IL	67.4	77.8	82.9
IN	72.6	73.1	79.0
IA	60.5	71.6	81.1
KS	66.9	74.7	75.7
KY	74.9	91.6	81.0
LA	57.9	83.3	69.9
ME	75.1	81.0	78.6
MD	69.9	90.4	81.3
MA	90.9	89.1	90.7
MI	53.8	88.8	81.5
MN	72.9	78.2	83.9
MS	62.9	88.5	83.6
MO	69.9	83.9	83.3
MT	65.6	74.6	80.0
NE	67.8	75.3	80.4
NV	39.6	78.1	75.7
NH	79.4	83.3	86.5
NJ	72.1	76.8	75.0
NM	63.5	84.7	75.2
NY	76.8	87.3	78.6
NC	72.1	86.0	86.7
ND	60.5	71.8	80.4
OH	65.0	81.5	82.3
OK	41.8	83.9	70.5
OR	70.2	87.0	76.5
PA	81.4	85.9	86.2
RI	89.7	90.7	85.2
SC	75.7	86.0	84.3
SD	37.3	68.4	80.9
TN	68.3	87.8	78.8
TX	59.8	87.6	74.8
UT	65.9	79.0	78.8
VT	76.5	71.2	83.6
VA	80.9	87.0	84.0
WA	68.2	66.6	75.3
WV	59.3	76.5	74.6
WI	74.3	84.4	81.2
WY	66.2	68.6	75.8

*From the 2003 National Immunization Survey. *MMWR,* 7/30/04, Vol. 53, No. 29, pp. 658–661.

†Comprises ≥4 doses of DTP/DT/DTaP, ≥3 doses of polio, ≥1 dose of measles-containing vaccine, ≥3 doses of Hib, and ≥3 doses of hepatitis B vaccine.

Reliable Sources of Immunization Information: Where to go to find answers!

Websites



Allied Vaccine Group
www.vaccine.org
The Allied Vaccine Group is composed of select organizations dedicated to presenting valid scientific information about vaccines.

CDC's Division of Viral Hepatitis
www.cdc.gov/hepatitis
The Division of Viral Hepatitis is part of the Centers for Disease Control and Prevention. This website provides a substantial amount of information on the prevention of viral hepatitis.

CDC's National Immunization Program
www.cdc.gov/nip
The National Immunization Program provides leadership for the planning, coordination, and implementation of immunization activities nationwide.

Childhood Immunization Support Program (CISP)
www.cispimmunize.org
Created by the American Academy of Pediatrics, this is an immunization website for parents and health professionals.

Immunization Action Coalition (IAC)
www.immunize.org & www.vaccineinformation.org
IAC is a nonprofit organization that promotes immunization for all people against vaccine-preventable diseases. These websites offer educational pieces, photos, and video clips for parents, health professionals, the media, and the public.

Nat'l Network for Immunization Information (NNii)
www.immunizationinfo.org
NNii provides current, science-based, extensively reviewed information to health professionals, the media, policy makers, and the public.

Nat'l Vaccine Program Office (NVPO)
www.hhs.gov/nvpo
NVPO is a federal program that provides pertinent information about childhood, adolescent, and adult immunization policy.

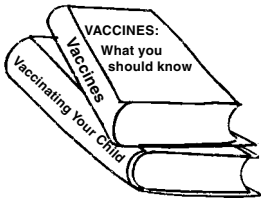
Vaccine Education Center at Children's Hospital of Philadelphia (CHOP)
www.vaccine.chop.edu
The goal of the Vaccine Education Center is to accurately communicate the facts about each childhood vaccine, including how vaccines are made, how and why vaccines work, who recommends them, and more.

Phone Numbers

CDC's Immunization Information Hotline
A toll-free number for consumers and health professionals who have questions about vaccine-preventable diseases.
English: (800) 232-2522; Spanish: (800) 232-0233;
TTY: (800) 243-7889 (teleypewriter)

CDC's Hepatitis Hotline
A toll-free number for consumers and health professionals about viral hepatitis. Get information by recording, fax, or voice in English or Spanish. (888) 443-7232 (888-4HEPCDC)

Books for Parents



Vaccines: What you should know, 3rd edition
By Paul Offit, MD, and Louis Bell, MD, John Wiley & Sons, Inc., 2003. To purchase, visit your local bookstore, call John Wiley & Sons, Inc. at (877) 762-2974, or visit www.wiley.com

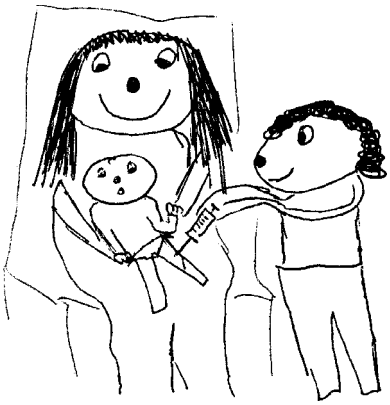
Vaccinating Your Child: Questions and Answers for the Concerned Parent, 2nd edition
By Sharon Humiston, MD, MPH, and Cynthia Good, Peachtree Publishers, 2003. To purchase, visit your local bookstore, call Peachtree Publishers at (800) 241-0113, or visit www.peachtree-online.com

Parents Guide to Childhood Immunization
A 94-page booklet from CDC's National Immunization Program at www.cdc.gov/nip/publications/Parents-Guide/default.htm
Call (800) 232-2522 or complete the online order form at www.cdc.gov/nip/publications

Videos

"Vaccines and Your Baby" and "Vaccines: Separating Fact from Fear"
Both videos are for parents of young children and are free from the Vaccine Education Center at The Children's Hospital of Philadelphia.
To order, call (215) 590-1000 or (215) 590-9990; or order online at www.vaccine.chop.edu/orders_parents.html

www.immunize.org/catg.d/p4012.pdf • Item #P4012 (8/04)



Vaccinations may hurt a little . . . but disease can hurt a lot!

After the Shots . . .

What to do if your child has discomfort

Your child may need extra love and care after getting vaccinated. Some vaccinations that protect children from serious diseases also can cause discomfort for a while. Here are answers to questions many parents have after their children have been vaccinated. If this sheet doesn't answer your questions, call your clinic or health care provider.

Clinic or health care provider phone number: _____

Call your clinic right away if you answer "yes" to any of the following questions:

- Does your child have a temperature about which your health care provider has told you to be concerned?
- Is your child pale or limp?
- Has your child been crying for more than 3 hours and just won't quit?
- Does your child have a strange cry that isn't normal (a high-pitched cry)?
- Is your child's body shaking, twitching, or jerking?
- Does your child have marked decrease in activity or decrease in responsiveness?

Check the back of this page for information on the proper dosage of medication you can give your child to reduce pain or fever.

I think my child has a fever. What should I do?

Check your child's temperature to find out if there is a fever. Do not use a mercury thermometer. If your child is younger than 3 years of age, taking a temperature with a rectal digital thermometer provides the best reading. Once your child is 4 or 5 years of age, you may prefer taking a temperature by mouth with an oral digital thermometer. Tympanic thermometers, which measure temperature inside the ear, are another option for older babies and children. If your child is older than 3 months of age, you can also take an underarm (axillary) temperature, although it is not as accurate.

Here are some things you can do to help reduce fever:

- Give your child plenty to drink.
- Clothe your child lightly. Do not cover or wrap your child tightly.
- Give your child a fever-reducing medication such as acetaminophen (e.g., Tylenol®) or ibuprofen (e.g., Advil®, Motrin®). **Do not give aspirin.** Recheck your child's temperature after 1 hour.
- Sponge your child in 1–2 inches of lukewarm water.
- If your child's temperature is _____°F (_____°C) or higher or, if you have questions, call your clinic or health care provider.

My child has been fussy since getting vaccinated. What should I do?

After vaccination, children may be fussy due to pain or fever. You may want to give your child a medication such as acetaminophen (e.g., Tylenol®) or ibuprofen (e.g., Advil®, Motrin®) to reduce pain and fever. **Do not give aspirin.** If your child is fussy for more than 24 hours, call your clinic or health care provider.

My child's leg or arm is swollen, hot, and red. What should I do?

- Apply a clean, cool, wet washcloth over the sore area for comfort.
- For pain, give a medication such as acetaminophen (e.g., Tylenol®) or ibuprofen (e.g., Advil®, Motrin®). **Do not give aspirin.**
- If the redness or tenderness increases after 24 hours, call your clinic or health care provider.

My child seems really sick. Should I call my health care provider?

If you are worried **at all** about how your child looks or feels, call your clinic or health care provider!

www.immunize.org/catg.d/p4015.pdf • Item #P4015 (9/04)

Medications and Dosages to Reduce Pain and Fever

Important notes:

1. Ask your health care provider or pharmacist which formulation is best for your child.
2. Give dose based on your child's weight. If you don't know the weight, give dose based on your child's age. Do not give more medication than recommended.
3. If you have questions about dosing or any other concern, call your clinic or health care provider.
4. Always use a proper measuring device. For example:

- When giving infant drops, use only the dosing device (dropper or syringe) enclosed in the package.

- When giving children's suspension or liquid, use the dosage cup enclosed in the package. If you misplace the dosage cup, consult your health care provider or pharmacist for advice. (Kitchen spoons are not accurate measures.)

5. **WARNING:** If you're also giving your child over-the-counter (OTC) medications such as cold preparations, be aware that these may contain pain or fever reducers such as acetaminophen or ibuprofen. Be sure to read all OTC medication labels carefully to ensure your child is not receiving more acetaminophen or ibuprofen than recommended.

Acetaminophen Dosing Information (Tylenol® or another brand)

Give every 4–6 hours, as needed, no more than 5 times in 24 hours (unless directed to do otherwise by your health care provider).

Weight of child	Age of child	Infant drops 0.8 mL = 80 mg	Children's liquid or suspension 1 tsp (5 mL) = 160 mg	Children's tablets 1 tablet = 80 mg	Junior strength 1 tablet = 160 mg
6–11 lbs (2.7–5 kg)	0–3 mos	Advised dose*: _____			
12–17 lbs (5.5–7.7 kg)	4–11 mos	Advised dose*: _____	Advised dose*: _____		
18–23 lbs (8.2–10.5 kg)	12–23 mos	Advised dose*: _____	Advised dose*: _____		
24–35 lbs (10.9–15.9 kg)	2–3 yrs	1.6 mL	1 teaspoon (160 mg)	2 tablets	
36–47 lbs (16.4–21.4 kg)	4–5 yrs		1½ teaspoons (240 mg)	3 tablets	
48–59 lbs (21.8–26.8 kg)	6–8 yrs		2 teaspoons (320 mg)	4 tablets	2 tablets
60–71 lbs (27.3–32.3 kg)	9–10 yrs		2½ teaspoons (400 mg)	5 tablets	2½ tablets
72–95 lbs (32.7–43.2 kg)	11 yrs		3 teaspoons (480 mg)	6 tablets	3 tablets

*Ask your health care provider

Ibuprofen Dosing Information (Advil®, Motrin® or another brand)

Give every 6–8 hours, as needed, no more than 4 times in 24 hours (unless directed to do otherwise by your health care provider).

Weight of child	Age of child	Infant drops 1.25 mL = 50 mg	Children's liquid or suspension 1 tsp (5 mL) = 100 mg	Children's tablets 1 tablet = 50 mg	Junior strength 1 tablet = 100 mg
under 11 lbs (5 kg)	under 6 mos	Advised dose*: _____			
12–17 lbs (5.5–7.7 kg)	6–11 mos	1.25 mL			
18–23 lbs (8.2–10.5 kg)	12–23 mos	1.875 mL			
24–35 lbs (10.9–15.9 kg)	2–3 yrs		1 teaspoon (100 mg)	2 tablets	
36–47 lbs (16.4–21.4 kg)	4–5 yrs		1½ teaspoons (150 mg)	3 tablets	
48–59 lbs (21.8–26.8 kg)	6–8 yrs		2 teaspoons (200 mg)	4 tablets	2 tablets
60–71 lbs (27.3–32.3 kg)	9–10 yrs		2½ teaspoons (250 mg)	5 tablets	2½ tablets
72–95 lbs (32.7–43.2 kg)	11 yrs		3 teaspoons (300 mg)	6 tablets	3 tablets

*Ask your health care provider

What should I do if I think I've been exposed to HAV?

If you think you have been exposed to HAV, consult your health professional or health department. You might need immune globulin, which if given in time, can immediately protect you after being exposed to HAV. You might also want to receive the hepatitis A vaccine at this time, for future protection.

If you do become ill with hepatitis A, you will need to get information from your health professional on how to take care of yourself. Your household and sexual contacts might need immune globulin so they do not get hepatitis A.

If I've been vaccinated against hepatitis B, will this protect me from HAV?

No. Hepatitis B vaccine will not protect you from HAV infection. However, there is a vaccine that is available to protect adults against both hepatitis A and hepatitis B.

Will hepatitis A vaccine protect me against hepatitis B or hepatitis C?

No. Hepatitis A, B, and C are different viruses. Hepatitis B virus (HBV) and HAV infections can be prevented by vaccination; unfortunately, there is no vaccine to prevent infection with hepatitis C virus at this time.

Everyone needs vaccinations!

If you can't afford shots or don't know where to get them, call (800) 232-2522, or call your local or state health department.

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

www.immunize.org/catg.d/p4080a.pdf • Item #P4080 (9/04)

Hepatitis A is a serious liver disease

Vaccination can protect you

What is hepatitis A?

Hepatitis A is a serious liver disease caused by infection with the hepatitis A virus (HAV).

How is HAV spread?

HAV is usually spread from getting particles of fecal material into your mouth that might be too small to be seen. This happens through household or sexual contact with an infected person or by eating HAV-contaminated food or drinking HAV-contaminated water. Casual contact, such as in a school or work setting, does not spread HAV.

What are the symptoms of hepatitis A?

Infected persons can have no symptoms at all or be extremely ill. Only 30% of children less than six years of age develop symptoms, while 70% of older children and adults develop symptoms.

If a person does develop symptoms, they might include fever, tiredness, loss of appetite, nausea, abdominal pain, dark urine, and/or jaundice (yellowing of the eyes and skin). These symptoms can last up to six months. With or without symptoms, people with HAV infection can spread the infection to others.

How serious is hepatitis A?

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

How can HAV infection be prevented?

A safe and effective vaccine to prevent HAV infection has been available in the U.S. since 1995. Good hand washing might also help stop the spread of HAV. Always wash your hands with soap and water after using the toilet, changing a diaper, and before preparing or eating food.

Who should get hepatitis A vaccine?

If you fall into any of the following groups, you should consult with your health professional about getting vaccinated against HAV:

- men who have sex with men
- users of street drugs (injecting and non-injecting)
- children, two years of age and older, who live in areas with historically increased rates of hepatitis A (for information about these areas, contact your local health department)
- people who travel or work in any area of the world except the U.S., Canada, Western Europe, Japan, New Zealand, and Australia
- people with chronic liver disease, including hepatitis C
- people working with live hepatitis A virus
- people with clotting factor disorders, such as hemophilia

What if I don't fit into any of these groups, but still want to be protected against HAV infection?

If you want to receive hepatitis A vaccine, there is no medical reason it cannot be given (a child must be two years of age or older). The cost of the vaccine might not be covered by your health insurance, so you might have to pay for it yourself.

How can I protect myself against HAV when traveling?

Get vaccinated against HAV before traveling to any area of the world except the U.S., Canada, Western Europe, Japan, New Zealand, and Australia. Discuss this with your health professional in advance of your departure, as it takes about four weeks for immunity to begin after the first dose of hepatitis A vaccine. If you don't have at least four weeks advance notice when traveling, check with your health professional about receiving a shot called immune globulin. This preparation provides short-term protection against HAV infection.

How long does hepatitis A vaccine protect you?

Research suggests that protection will last for at least 20 years.

How safe is hepatitis A vaccine? Does it have any side effects?

Many studies have shown that hepatitis A vaccine is very safe. 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 tiredness. These symptoms, if they occur, last for only a short time.

How effective is hepatitis A vaccine?

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

How many shots are needed?

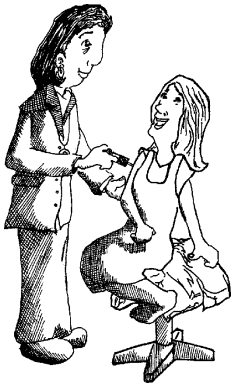
Children and adults need two doses of hepatitis A vaccine, spaced at least six months apart. At least 94% of people will be protected after the first dose, but a second dose is necessary to assure long-term protection.

How's your state doing?

Current U.S. immunization information by state

State	Does a meningococcal mandate exist for colleges/universities?[1]		Does a mandate exist for residents in long-term care facilities?[1,2]						Pharmacist authorized to vaccinate?[1,3]
			Influenza vaccination			Pneumococcal vaccination			
	Education required	Vaccination required	Mandate?[2]	Mandatory vaccination?	Must be offered?	Mandate?[2]	Mandatory vaccination?	Must be offered?	
AL			yes		yes	yes		yes	yes
AK									yes
AZ			yes		yes	yes		yes	
AR	yes		yes		yes	yes		yes	yes
CA	yes		yes		yes	yes		yes	yes
CO	yes								yes
CT	yes	yes	yes	yes		yes	yes		
DE	yes	yes	yes	yes		yes	yes		yes
DC									
FL	yes	yes	yes	yes		yes	yes		
GA	yes		yes		yes	yes		yes	yes
HI									yes
ID									yes
IL	yes		yes	yes		yes	yes		yes
IN	yes		yes	yes		yes	yes		yes
IA	yes								yes
KS									yes
KY	yes		yes		yes	yes		yes	yes
LA									yes
ME	yes		yes		yes	yes		yes	
MD	yes	yes	yes	yes		yes	yes		yes
MA		yes							yes
MI									yes
MN	yes								yes
MS	yes								yes
MO	yes								yes
MT									yes
NE	yes								yes
NV									yes
NH			yes		yes	yes		yes	
NJ	yes	yes	yes		yes	yes		yes	yes
NM									yes
NY	yes		yes		yes	yes		yes	
NC	yes		yes	yes		yes	yes		yes
ND									yes
OH	yes								yes
OK	yes	yes	yes		yes	yes		yes	yes
OR									yes
PA	yes	yes	yes	yes		yes	yes		yes
RI	yes		yes		yes	yes		yes	
SC	yes								yes
SD			yes		yes	yes		yes	yes
TN	yes		yes	yes		yes	yes		yes
TX	yes		yes		yes	yes		yes	yes
UT			yes		yes	yes		yes	yes
VT									
VA	yes	yes	yes		yes	yes		yes	yes
WA	yes		yes		yes	yes		yes	yes
WV									
WI	yes								yes
WY									yes

1. Immunization Action Coalition (IAC) data; updates appear on the IAC website throughout the year at www.immunize.org/laws
2. A requirement exists either by statute or regulation for (1) residents to be vaccinated or (2) the facility to offer vaccination to all residents.
3. Information provided by the American Pharmacists Association.



Vaccinations for Adults

You're **NEVER** too old to get immunized!

Getting immunized is a lifelong, life-protecting job. Don't leave your health professional's office without making sure you've had all the vaccinations you need.

Vaccine ▼ Age ►	19–49 years	50–64 years	65 years & older
Influenza	You need a dose yearly if you have a chronic health problem, are a health care worker, or have close contact with certain individuals.*	You need a dose every fall (or winter).	
Pneumococcal	You need 1–2 doses if you have certain chronic medical conditions.*		You need 1 dose at age 65 (or later); you may also need a 2nd dose.*
Tetanus, **diphtheria** (Td)	If you haven't had at least 3 tetanus and diphtheria-containing shots sometime in your life, you need to get them now. Start with dose #1, followed by dose #2 in 1 month, and dose #3 in 6 months. You need a booster dose every 10 years. Consult your health professional if you have a deep or dirty wound.		
Hepatitis B (HepB)	You may need to complete a 3-dose series (dose #1 now, followed by dose #2 in 1 month, and dose #3 usually given 5 months later). Ask your health professional whether you need this vaccine.		
Hepatitis A (HepA)	You may need 2 doses spaced 6–18 months apart. Ask your health professional whether you need this vaccine.		
Measles, mumps, rubella (MMR)	You need at least 1 dose of MMR if born in 1957 or later. You may also need a 2nd dose.*		
Varicella (Chickenpox)	If you've never had chickenpox, you should get vaccinated now (2 doses, 1–2 months apart).		
Meningococcal	If you are a young adult going to college, ask your health professional about your risk of meningococcal disease and if you need to get vaccinated.		

*Consult your health professional to determine your level of risk for infection and your need for this vaccine.

Do you travel outside the United States? If so, you may need additional vaccines, including hepatitis A and meningococcal vaccines. The Centers for Disease Control and Prevention (CDC) operates an international traveler's immunization hotline. Call (877) 394-8747 or visit CDC's website at www.cdc.gov/travel for information about your destination. You may also consult a travel clinic or your health professional.

www.immunize.org/catg.d/p4030a.pdf • Item #P4030 (8/04)

Summary of Recommendations for Adult Immunization

Adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP)* by the Immunization Action Coalition, July 2004

Vaccine name and route	For whom it is recommended	Schedule for routine and "catch-up" administration	Precautions and contraindications (mild illness is not a contraindication)
Influenza Trivalent inactivated influenza vaccine (TIV) *Give IM* Live attenuated influenza vaccine (LAIV) *Give intranasally*	• All adults who are 50yrs of age or older. • People 6m–50yrs of age with medical problems (e.g., heart disease, lung disease, diabetes, renal dysfunction, hemoglobinopathies, immunosuppression) and/or people living in chronic-care facilities. • People (≥6m of age) working or living with at-risk people. • Women who will be pregnant during the influenza season. • All health care workers and other persons who provide direct care to at-risk people. • Household contacts and out-of-home caregivers of children ages 0–23m. • Travelers at risk for complications of influenza who go to areas where influenza activity exists or who may be among people from areas of the world where there is current influenza activity (e.g., on organized tours). • Persons who provide essential community services. • Students or other persons in institutional settings (e.g., those who reside in dormitories). • Anyone wishing to reduce the likelihood of becoming ill with influenza. **Special Notes on the use of influenza vaccines** • Inactivated influenza vaccine may be given to any person ≥6 months of age for whom the vaccine is not contraindicated. Live attenuated influenza vaccine may be given to healthy, non-pregnant persons 5–49 years of age for whom the vaccine is not contraindicated. • Use of inactivated influenza vaccine is preferred for persons in close contact with severely immunosuppressed persons during periods when the immunocompromised person requires a protective environment (e.g., persons with bone marrow transplants).	• Given every year. • October through November is the *optimal* time to receive annual influenza vaccination to maximize protection. • Influenza vaccine may be given at any time during the influenza season (typically December through March) or at other times when the risk of influenza exists. • May give with all other vaccines.	• Previous anaphylactic reaction to this vaccine, to any of its components, or to eggs. • Moderate or severe acute illness. • Do not give live attenuated influenza vaccine to persons ≥50 years of age, pregnant women, or to persons who have: asthma, reactive airway disease or other chronic disorder of the pulmonary or cardiovascular systems; an underlying medical condition, including metabolic diseases such as diabetes, renal dysfunction, and hemoglobinopathies; a known or suspected immune deficiency disease or who are receiving immunosuppressive therapy; a history of Guillain-Barré syndrome. • See Special Notes in columns 2–3 regarding who may not receive LAIV.
Pneumococcal polysaccharide (PPV23) *Give IM or SC*	• Adults who are 65yrs of age or older. • People 2–64yrs of age who have chronic illness or other risk factors, including chronic cardiac or pulmonary diseases, chronic liver disease, alcoholism, diabetes mellitus, CSF leaks, candidate for or recipient of cochlear implant, as well as people living in special environments or social settings (including Alaska Natives and certain American Indian populations). Those at highest risk of fatal pneumococcal infection are people with anatomic asplenia, functional asplenia, or sickle cell disease; immunocompromised persons including those with HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome; persons receiving immunosuppressive chemotherapy (including corticosteroids); and those who received an organ or bone marrow transplant. Pregnant women with high-risk conditions should be vaccinated if not done previously.	• Routinely given as a one-time dose; administer if previous vaccination history is unknown. • One-time revaccination is recommended 5yrs later for people at highest risk of fatal pneumococcal infection or rapid antibody loss (e.g., renal disease) and for people ≥65yrs of age if the 1st dose was given prior to age 65 and ≥5yrs have elapsed since previous dose. • May give with all other vaccines.	• Previous anaphylactic reaction to this vaccine or to any of its components. • Moderate or severe acute illness. **Note:** Pregnancy and breastfeeding are not contraindications to the use of this vaccine.
Hepatitis B (Hep B) *Give IM* Brands may be used interchangeably.	• All adolescents. • High-risk adults, including household contacts and sex partners of HBsAg-positive persons; users of illicit injectable drugs; heterosexuals with more than one sex partner in 6 months; men who have sex with men; people with recently diagnosed STDs; patients receiving hemodialysis and patients with renal disease that may result in dialysis; recipients of certain blood products; health care workers and public safety workers who are exposed to blood; clients and staff of institutions for the developmentally disabled; inmates of long-term correctional facilities; and certain international travelers. **Note:** Prior serologic testing may be recommended depending on the specific level of risk and/or likelihood of previous exposure. **Note:** In 1997, the NIH Consensus Development Conference, a panel of national experts, recommended that hepatitis B vaccination be given to all anti-HCV positive persons. **Ed. note:** Provide serologic screening for immigrants from endemic areas. When HBsAg-positive persons are identified, offer appropriate disease management. In addition, screen their sex partners and household members and, if found susceptible, vaccinate.	• Three doses are needed on a 0, 1, 6m schedule. • Alternative timing options for vaccination include 0, 2, 4m and 0, 1, 4m. • There must be 4wks between doses #1 and #2, and 8wks between doses #2 and #3. Overall there must be at least 16wks between doses #1 and #3. • **Schedule for those who have fallen behind:** If the series is delayed between doses, DO NOT start the series over. Continue from where you left off. • May give with all other vaccines. For Twinrix™ (hepatitis A and B combination vaccine [GSK]), three doses are needed on a 0, 1, 6m schedule.	• Previous anaphylactic reaction to this vaccine or to any of its components. • Moderate or severe acute illness. **Note:** Pregnancy and breastfeeding are not contraindications to the use of this vaccine.
Hepatitis A (Hep A) *Give IM* Brands may be used interchangeably.	• People who travel outside of the U.S. (except for Western Europe, New Zealand, Australia, Canada, and Japan). • People with chronic liver disease, including people with hepatitis C; people with hepatitis B who have chronic liver disease; illicit drug users; men who have sex with men; people with clotting-factor disorders; people who work with hepatitis A virus in experimental lab settings (not routine medical laboratories); and food handlers when health authorities or private employers determine vaccination to be cost effective. **Note:** Prevaccination testing is likely to be cost effective for persons >40yrs of age as well as for younger persons in certain groups with a high prevalence of hepatitis A virus infection.	• Two doses are needed. • The minimum interval between dose #1 and #2 is 6m. • If dose #2 is delayed, do not repeat dose #1. Just give dose #2. • May give with all other vaccines.	• Previous anaphylactic reaction to this vaccine or to any of its components. • Moderate or severe acute illness. • Safety during pregnancy has not been determined, so benefits must be weighed against potential risk. **Note:** Breastfeeding is not a contraindication to the use of this vaccine.

Summary of Recommendations for Adult Immunization (continued)

Vaccine name and route	For whom it is recommended	Schedule for routine and "catch-up" administration	Precautions and contraindications (mild illness is not a contraindication)
Td (Tetanus, diphtheria) *Give IM*	• All adolescents and adults. • After the primary series has been completed, a booster dose is recommended every 10yrs. Make sure your patients have received a primary series of 3 doses. • A booster dose as early as 5yrs later may be needed for the purpose of wound management, so consult ACIP recommendations.* • Use Td, not tetanus toxoid (TT), for all indications.	• Give booster dose every 10yrs after the primary series has been completed. • For those who are unvaccinated or behind, complete the primary series (spaced at 0, 1–2m, 6–12m intervals). Don't restart the series, no matter how long since the previous dose. • May give with all other vaccines.	• Previous anaphylactic or neurologic reaction to this vaccine or to any of its components. • Moderate or severe acute illness. **Note:** Pregnancy and breastfeeding are not contraindications to the use of this vaccine.
MMR (Measles, mumps, rubella) *Give SC*	• Adults born in 1957 or later who are ≥18yrs of age (including those born outside the U.S.) should receive at least one dose of MMR if there is no serologic proof of immunity or documentation of a dose given on or after the first birthday. • Adults in high-risk groups, such as health care workers, students entering colleges and other post–high school educational institutions, and international travelers, should receive a total of two doses. • Adults born before 1957 are usually considered immune but proof of immunity may be desirable for health care workers. • All women of childbearing age (i.e., adolescent girls and premenopausal adult women) who do not have acceptable evidence of rubella immunity or vaccination. • Special attention should be given to immunizing women born outside the United States in 1957 or later.	• One or two doses are needed. • If dose #2 is recommended, give it no sooner than 4wks after dose #1. • May give with all other vaccines. • If varicella vaccine and MMR are both needed and are not administered on the same day, space them at least 4wks apart. • If a pregnant woman is found to be rubella-susceptible, administer MMR postpartum.	• Previous anaphylactic reaction to this vaccine or to any of its components. • Pregnancy or possibility of pregnancy within 4 weeks (use contraception). • Persons immunocompromised because of cancer, leukemia, lymphoma, immunosuppressive drug therapy, including high-dose steroids or radiation therapy. **Note:** HIV positivity is NOT a contraindication to MMR except for those who are severely immunocompromised. • 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. • Moderate or severe acute illness. **Note:** Breastfeeding is not a contraindication to the use of this vaccine. **Note:** MMR is not contraindicated if a tuberculin skin test (i.e., PPD) was recently applied. If PPD and MMR not given on same day, delay PPD for 4–6wks after MMR.
Varicella (Var) (Chickenpox) *Give SC*	All susceptible adults and adolescents should be vaccinated. It is especially important to ensure vaccination of the following groups: susceptible persons who have close contact with persons at high risk for serious complications (e.g., health care workers and family contacts of immunocompromised persons) and susceptible persons who are at high risk of exposure (e.g., teachers of young children, day care employees, residents and staff in institutional settings such as colleges and correctional institutions, military personnel, adolescents and adults living with children, non-pregnant women of childbearing age, and international travelers who do not have evidence of immunity). **Note:** People with reliable histories of chickenpox (such as self or parental report of disease) can be assumed to be immune. For adults who have no reliable history, serologic testing may be cost effective since most adults with a negative or uncertain history of varicella are immune.	• Two doses are needed. • Dose #2 is given 4–8wks after dose #1. • May give with all other vaccines. • If varicella vaccine and MMR are both needed and are not administered on the same day, space them at least 4wks apart. • If the second dose is delayed, do not repeat dose #1. Just give dose #2.	• Previous anaphylactic reaction to this vaccine or to any of its components. • Pregnancy or possibility of pregnancy within 4 weeks (use contraception). • Persons immunocompromised because of malignancies and primary or acquired cellular immunodeficiency including HIV/AIDS. (See *MMWR* 1999, Vol. 48, No. RR-6.) **Note:** For those on high-dose immunosuppressive therapy, consult ACIP recommendations regarding delay time.* • 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. • Moderate or severe acute illness. **Note:** Breastfeeding is not a contraindication to the use of this vaccine. **Note:** Manufacturer recommends that salicylates be avoided for 6wks after receiving varicella vaccine because of a theoretical risk of Reye's syndrome.
Polio (IPV) *Give IM or SC*	Not routinely recommended for persons 18yrs of age and older. **Note:** Adults living in the U.S. who never received or completed a primary series of polio vaccine need not be vaccinated unless they intend to travel to areas where exposure to wild-type virus is likely. Previously vaccinated adults can receive one booster dose if traveling to polio endemic areas.	• Refer to ACIP recommendations* regarding unique situations, schedules, and dosing information. • May give with all other vaccines.	• Previous anaphylactic or neurologic reaction to this vaccine or to any of its components. • Moderate or severe acute illness. **Note:** Pregnancy and breastfeeding are not contraindications to the use of this vaccine.
Meningococcal *Give SC*	Vaccinate people with risk factors. Discuss disease risk and vaccine availability with college students. Consult ACIP statement* on meningococcal disease (6/30/00) for details.		

* For specific ACIP immunization recommendations, refer to the statements, which are published in *MMWR*. To obtain a complete set of ACIP statements, call (800) 232-2522, or to access individual statements, visit CDC's website: www.cdc.gov/nip/publications/ACIP-list.htm or visit IAC's website: www.immunize.org/acip

This table is revised yearly because of the changing nature of U.S. immunization recommendations. Visit the Immunization Action Coalition's website at www.immunize.org/adultrules to make sure you have the most current version. We extend our thanks to William Atkinson, MD, MPH, from CDC's National Immunization Program, and Linda Moyer, RN, from the Division of Viral Hepatitis, at CDC's National Center for Infectious Diseases for their assistance. This table is published by the Immunization Action Coalition, 1573 Selby Avenue, St. Paul, MN 55104, (651) 647-9009. Email: admin@immunize.org

Standing Orders for Administering Influenza Vaccine to Adults

Purpose: To reduce morbidity and mortality from influenza 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 influenza vaccination based on the following criteria:
   a. Age 50 years or older
   b. Age less than 50 years with any of the following conditions:
      • chronic disorder of the pulmonary or cardiovascular system, including asthma
      • chronic metabolic disease (e.g., diabetes mellitus), renal dysfunction, hemoglobinopathy, or immunosuppression (e.g., caused by medications, HIV) that has required regular medical follow-up or hospitalization during the preceding year
      • will be pregnant during the influenza season
   c. Residence in a nursing home or other chronic-care facility that houses persons of any age who have chronic medical conditions
   d. In an occupation or living situation that puts one in proximity to persons at high risk, including:
      • a health care worker, caregiver, or household member in contact with person(s) at high risk of developing complications from influenza
      • a household contact or out-of-home caretaker of a child 0–23 months of age
   e. Wish to reduce the likelihood of becoming ill with influenza
2. Screen all patients for contraindications and precautions to influenza vaccine:
   a. **Contraindications:** serious reaction (e.g., anaphylaxis) after ingesting eggs or after receiving a previous dose of influenza vaccine or an influenza vaccine component. For a list of vaccine components, go to www.cdc.gov/nip/publications/pink/appendices/a/excipient.pdf Do not give live attenuated influenza vaccine (LAIV) to pregnant women or immunosuppressed persons. Use of inactivated influenza vaccine is preferred over LAIV for close contacts of severely immunosuppressed persons during periods when the immunocompromised person requires a protective environment.
   b. **Precautions:** 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 speakers with a VIS in their native language if available; these can be found at www.immunize.org/vis
4. Administer 0.5 mL inactivated influenza vaccine IM (22–25g, 1–1½" needle) in the deltoid muscle. Alternatively, healthy persons 5–49 years of age without contraindications may be given 0.5 mL of LAIV; 0.25 mL is sprayed into each nostril while the patient is in an upright position.
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 vaccination date 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 influenza vaccine to the federal Vaccine Adverse Event Reporting System (VAERS) at www.vaers.org or (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 _____ until rescinded or until _____ (date).
(name of practice or clinic)

Medical Director's signature: _____ Effective date: _____

Give these people influenza vaccine!

WHY? This year, influenza is again expected to kill more than 36,000 people in the United States.

The Centers for Disease Control and Prevention (CDC) recommends that persons in the following groups receive influenza vaccine. Check the list below and make sure you offer influenza vaccine to all who need or want it.

☐ **ALL children age 6–23 months**

☐ **ALL persons 50 years of age and older**

☐ **Persons with certain high-risk medical conditions**
Any person (6 months of age or older) who is at increased risk for complications from influenza because of underlying medical conditions, including

- ✔ residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions
- ✔ adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma
- ✔ adults and children who have required regular medical follow-up or hospitalization during the past year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression
- ✔ children and adolescents (age 6 months to 18 years) who are receiving long-term aspirin therapy and therefore might be at risk for developing Reye's syndrome after influenza illness
- ✔ all women who will be pregnant during the influenza season

☐ **Household contacts of all high-risk persons listed above**

☐ **Household contacts of all children 0–23 months of age and out-of-home caregivers**

☐ **ANY person who wishes to reduce the likelihood of becoming ill with influenza (if the person has no contraindications to the vaccine and is at least 6 months of age)**

☐ **Health care workers**
Health care workers and others in close contact with persons in high-risk groups should be vaccinated to decrease the risk of transmitting infection to persons for whom influenza could be a serious, life-threatening disease. Those who should be vaccinated include the following:

- ✔ physicians, nurses, receptionists, and other personnel who have contact with patients in hospital or outpatient settings, including medical emergency response workers
- ✔ employees of nursing homes and chronic-care facilities who have contact with patients or residents
- ✔ employees of assisted living and other residences for persons in high-risk groups
- ✔ persons who provide home care to people in high-risk groups

☐ **Other groups to consider:**

- ✔ travelers at high risk for influenza complications who were not vaccinated in the previous fall or winter and who plan to travel to the Southern Hemisphere between April and September, to the tropics, or with a large tourist group at any time of the year
- ✔ persons who provide essential community services (e.g., firefighters, police)
- ✔ students or other persons in institutional settings (e.g., those who reside in dormitories)

Persons who should not be vaccinated:
Consult the current recommendations from CDC for guidance on contraindications and precautions for use of trivalent inactivated influenza vaccine and live attenuated intranasal influenza vaccine.

Note: The live attenuated intranasal influenza vaccine (FluMist™) should only be used in healthy, nonpregnant persons 5–49 years of age.

Source: "Prevention and Control of Influenza—Recommendations of ACIP," MMWR, May 28, 2004, Vol. 53, No. RR-6.

www.immunize.org/catg.d/2013flu.pdf • Item #P2013 (06/04)

Unprotected people . . .

Toddler's death spurs parents to action

In December 2003, Colorado experienced its worst influenza epidemic in years. Among the influenza-related fatalities that month was Terese Cover, who died from pneumonia weeks before her second birthday. As part of their healing process, Vira and Dennis Cover, Terese's parents, established a foundation in their daughter's name, the Elizabeth Terese Cover Foundation for Influenza Research and Vaccination.

As of May 31, 2004, preliminary data reported to CDC by 40 states indicated there were 152 influenza-associated deaths among U.S. residents less than 18 years of age during the 2003–04 influenza season.[1] Children ages 6–23 months accounted for 30% of these deaths (CDC, unpublished data, 2004). These data are preliminary and are subject to change as CDC continues its review process. Still, it is safe to say that providing influenza vaccine to this vulnerable population has the potential to reduce child mortality.

The following article was published as "Flu victim inspires mission of hope" in the Denver Post *on January 23, 2004. It was written by Karen Augé and is reprinted with permission of the* Denver Post, *which holds the copyright.*

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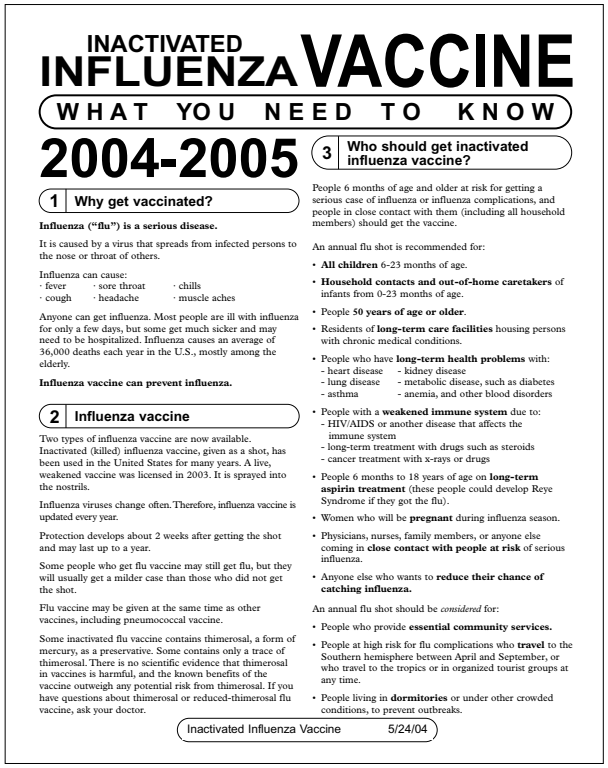
To read more articles and case reports about people who have suffered or died from vaccine-preventable diseases, visit IAC's web section

www.immunize.org/stories

It includes 66 reports about 15 diseases.

Influenza Vaccine Information Statements (VISs)

For a ready-to-copy 8½" x 11" version of this VIS, go to www.immunize.org/vis/2flu.pdf



INACTIVATED
INFLUENZA VACCINE
WHAT YOU NEED TO KNOW
2004-2005

1 Why get vaccinated?

Influenza ("flu") is a serious disease.

It is caused by a virus that spreads from infected persons to the nose or throat of others.

Influenza can cause:
· fever · sore throat · chills
· cough · headache · muscle aches

Anyone can get influenza. Most people are ill with influenza for only a few days, but some get much sicker and may need to be hospitalized. Influenza causes an average of 36,000 deaths each year in the U.S., mostly among the elderly.

Influenza vaccine can prevent influenza.

2 Influenza vaccine

Two types of influenza vaccine are now available. Inactivated (killed) influenza vaccine, given as a shot, has been used in the United States for many years. A live, weakened vaccine was licensed in 2003. It is sprayed into the nostrils.

Influenza viruses change often. Therefore, influenza vaccine is updated every year.

Protection develops about 2 weeks after getting the shot and may last up to a year.

Some people who get flu vaccine may still get flu, but they will usually get a milder case than those who did not get the shot.

Flu vaccine may be given at the same time as other vaccines, including pneumococcal vaccine.

Some inactivated flu vaccine contains thimerosal, a form of mercury, as a preservative. Some contains only a trace of thimerosal. There is no scientific evidence that thimerosal in vaccines is harmful, and the known benefits of the vaccine outweigh any potential risk from thimerosal. If you have questions about thimerosal or reduced-thimerosal flu vaccine, ask your doctor.

3 Who should get inactivated influenza vaccine?

People 6 months of age and older at risk for getting a serious case of influenza or influenza complications, and people in close contact with them (including all household members) should get the vaccine.

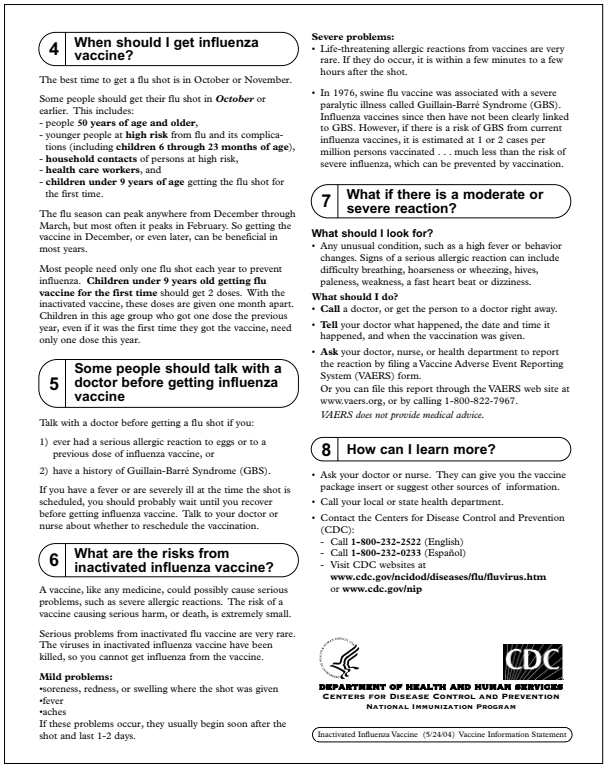
An annual flu shot is recommended for:

- **All children** 6-23 months of age.
- **Household contacts and out-of-home caretakers** of infants from 0-23 months of age.
- People **50 years of age or older**.
- Residents of **long-term care facilities** housing persons with chronic medical conditions.
- People who have **long-term health problems** with:
  - heart disease - kidney disease
  - lung disease - metabolic disease, such as diabetes
  - asthma - anemia, and other blood disorders
- People with a **weakened immune system** due to:
  - HIV/AIDS or another disease that affects the immune system
  - long-term treatment with drugs such as steroids
  - cancer treatment with x-rays or drugs
- People 6 months to 18 years of age on **long-term aspirin treatment** (these people could develop Reye Syndrome if they got the flu).
- Women who will be **pregnant** during influenza season.
- Physicians, nurses, family members, or anyone else coming in **close contact with people at risk** of serious influenza.
- Anyone else who wants to **reduce their chance of catching influenza.**

An annual flu shot should be *considered* for:

- People who provide **essential community services.**
- People at high risk for flu complications who **travel** to the Southern hemisphere between April and September, or who travel to the tropics or in organized tourist groups at any time.
- People living in **dormitories** or under other crowded conditions, to prevent outbreaks.

Inactivated Influenza Vaccine 5/24/04



4 When should I get influenza vaccine?

The best time to get a flu shot is in October or November.

Some people should get their flu shot in ***October*** or earlier. This includes:
- people **50 years of age and older**,
- younger people at **high risk** from flu and its complications (including **children 6 through 23 months of age**),
- **household contacts** of persons at high risk,
- **health care workers**, and
- **children under 9 years of age** getting the flu shot for the first time.

The flu season can peak anywhere from December through March, but most often it peaks in February. So getting the vaccine in December, or even later, can be beneficial in most years.

Most people need only one flu shot each year to prevent influenza. **Children under 9 years old getting flu vaccine for the first time** should get 2 doses. With the inactivated vaccine, these doses are given one month apart. Children in this age group who got one dose the previous year, even if it was the first time they got the vaccine, need only one dose this year.

5 Some people should talk with a doctor before getting influenza vaccine

Talk with a doctor before getting a flu shot if you:

1) ever had a serious allergic reaction to eggs or to a previous dose of influenza vaccine, or

2) have a history of Guillain-Barré Syndrome (GBS).

If you have a fever or are severely ill at the time the shot is scheduled, you should probably wait until you recover before getting influenza vaccine. Talk to your doctor or nurse about whether to reschedule the vaccination.

6 What are the risks from inactivated influenza vaccine?

A vaccine, like any medicine, could possibly cause serious problems, such as severe allergic reactions. The risk of a vaccine causing serious harm, or death, is extremely small.

Serious problems from inactivated flu vaccine are very rare. The viruses in inactivated influenza vaccine have been killed, so you cannot get influenza from the vaccine.

Mild problems:
•soreness, redness, or swelling where the shot was given
•fever
•aches
If these problems occur, they usually begin soon after the shot and last 1-2 days.

Severe problems:
- Life-threatening allergic reactions from vaccines are very rare. If they do occur, it is within a few minutes to a few hours after the shot.
- In 1976, swine flu vaccine was associated with a severe paralytic illness called Guillain-Barré Syndrome (GBS). Influenza vaccines since then have not been clearly linked to GBS. However, if there is a risk of GBS from current influenza vaccines, it is estimated at 1 or 2 cases per million persons vaccinated . . . much less than the risk of severe influenza, which can be prevented by vaccination.

7 What if there is a moderate or severe reaction?

What should I look for?
- Any unusual condition, such as a high fever or behavior changes. Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness.

What should I do?
- **Call** a doctor, or get the person to a doctor right away.
- **Tell** your doctor what happened, the date and time it happened, and when the vaccination was given.
- **Ask** your doctor, nurse, or health department to report the reaction by filing a Vaccine Adverse Event Reporting System (VAERS) form.
  Or you can file this report through the VAERS web site at www.vaers.org, or by calling 1-800-822-7967.
  VAERS does not provide medical advice.

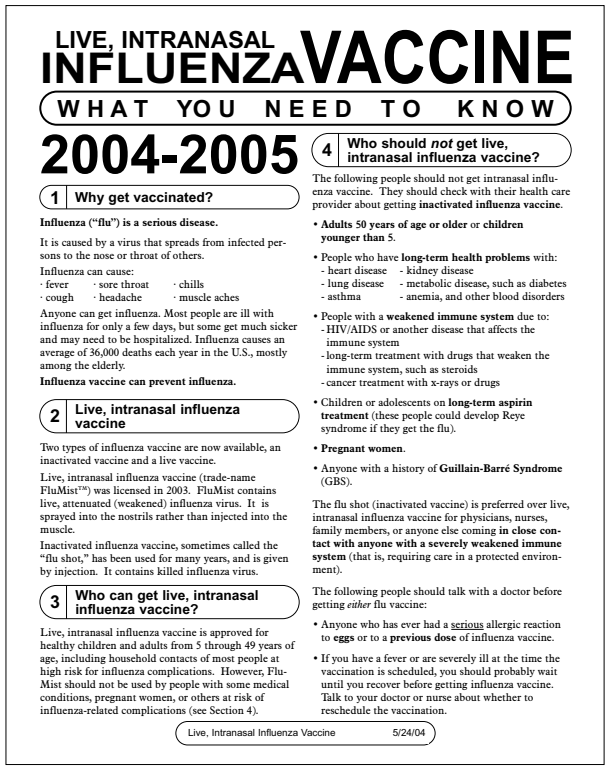
8 How can I learn more?

- Ask your doctor or nurse. They can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-2522** (English)
  - Call **1-800-232-0233** (Español)
  - Visit CDC websites at **www.cdc.gov/ncidod/diseases/flu/fluvirus.htm** or **www.cdc.gov/nip**

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL IMMUNIZATION PROGRAM

Inactivated Influenza Vaccine (5/24/04) Vaccine Information Statement

For a ready-to-copy 8½" x 11" version of this VIS, go to www.immunize.org/vis/liveflu.pdf



LIVE, INTRANASAL
INFLUENZA VACCINE
WHAT YOU NEED TO KNOW
2004-2005

1 Why get vaccinated?

Influenza ("flu") is a serious disease.

It is caused by a virus that spreads from infected persons to the nose or throat of others.

Influenza can cause:
· fever · sore throat · chills
· cough · headache · muscle aches

Anyone can get influenza. Most people are ill with influenza for only a few days, but some get much sicker and may need to be hospitalized. Influenza causes an average of 36,000 deaths each year in the U.S., mostly among the elderly.

Influenza vaccine can prevent influenza.

2 Live, intranasal influenza vaccine

Two types of influenza vaccine are now available, an inactivated vaccine and a live vaccine.

Live, intranasal influenza vaccine (trade-name FluMist™) was licensed in 2003. FluMist contains live, attenuated (weakened) influenza virus. It is sprayed into the nostrils rather than injected into the muscle.

Inactivated influenza vaccine, sometimes called the "flu shot," has been used for many years, and is given by injection. It contains killed influenza virus.

3 Who can get live, intranasal influenza vaccine?

Live, intranasal influenza vaccine is approved for healthy children and adults from 5 through 49 years of age, including household contacts of most people at high risk for influenza complications. However, FluMist should not be used by people with some medical conditions, pregnant women, or others at risk of influenza-related complications (see Section 4).

4 Who should *not* get live, intranasal influenza vaccine?

The following people should not get intranasal influenza vaccine. They should check with their health care provider about getting **inactivated influenza vaccine**.

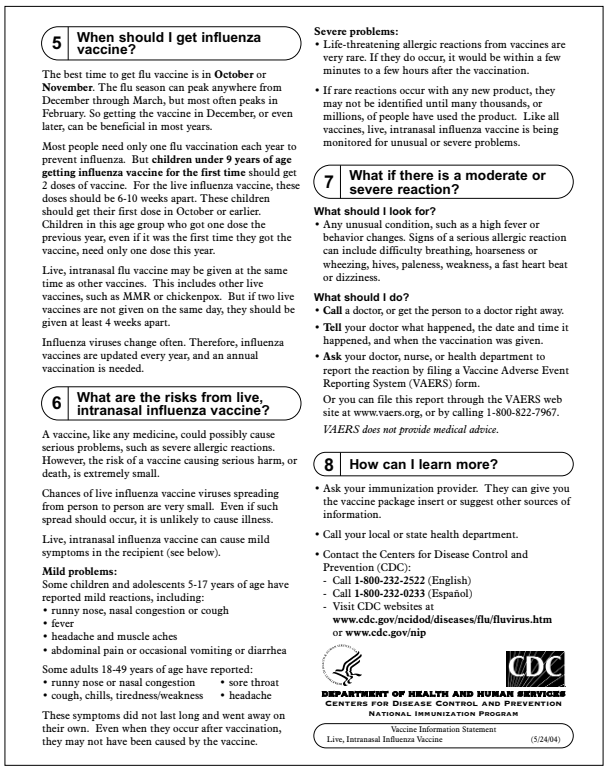
- **Adults 50 years of age or older** or **children younger than** 5.
- People who have **long-term health problems** with:
  - heart disease - kidney disease
  - lung disease - metabolic disease, such as diabetes
  - asthma - anemia, and other blood disorders
- People with a **weakened immune system** due to:
  - HIV/AIDS or another disease that affects the immune system
  - long-term treatment with drugs that weaken the immune system, such as steroids
  - cancer treatment with x-rays or drugs
- Children or adolescents on **long-term aspirin treatment** (these people could develop Reye syndrome if they get the flu).
- **Pregnant women**.
- Anyone with a history of **Guillain-Barré Syndrome** (GBS).

The flu shot (inactivated vaccine) is preferred over live, intranasal influenza vaccine for physicians, nurses, family members, or anyone else coming **in close contact with anyone with a severely weakened immune system** (that is, requiring care in a protected environment).

The following people should talk with a doctor before getting *either* flu vaccine:

- Anyone who has ever had a serious allergic reaction to **eggs** or to a **previous dose** of influenza vaccine.
- If you have a fever or are severely ill at the time the vaccination is scheduled, you should probably wait until you recover before getting influenza vaccine. Talk to your doctor or nurse about whether to reschedule the vaccination.

Live, Intranasal Influenza Vaccine 5/24/04



5 When should I get influenza vaccine?

The best time to get flu vaccine is in **October** or **November**. The flu season can peak anywhere from December through March, but most often peaks in February. So getting the vaccine in December, or even later, can be beneficial in most years.

Most people need only one flu vaccination each year to prevent influenza. But **children under 9 years of age getting influenza vaccine for the first time** should get 2 doses of vaccine. For the live influenza vaccine, these doses should be 6-10 weeks apart. These children should get their first dose in October or earlier. Children in this age group who got one dose the previous year, even if it was the first time they got the vaccine, need only one dose this year.

Live, intranasal flu vaccine may be given at the same time as other vaccines. This includes other live vaccines, such as MMR or chickenpox. But if two live vaccines are not given on the same day, they should be given at least 4 weeks apart.

Influenza viruses change often. Therefore, influenza vaccines are updated every year, and an annual vaccination is needed.

6 What are the risks from live, intranasal influenza vaccine?

A vaccine, like any medicine, could possibly cause serious problems, such as severe allergic reactions. However, the risk of a vaccine causing serious harm, or death, is extremely small.

Chances of live influenza vaccine viruses spreading from person to person are very small. Even if such spread should occur, it is unlikely to cause illness.

Live, intranasal influenza vaccine can cause mild symptoms in the recipient (see below).

Mild problems:
Some children and adolescents 5-17 years of age have reported mild reactions, including:
• runny nose, nasal congestion or cough
• fever
• headache and muscle aches
• abdominal pain or occasional vomiting or diarrhea

Some adults 18-49 years of age have reported:
• runny nose or nasal congestion • sore throat
• cough, chills, tiredness/weakness • headache

These symptoms did not last long and went away on their own. Even when they occur after vaccination, they may not have been caused by the vaccine.

Severe problems:
• Life-threatening allergic reactions from vaccines are very rare. If they do occur, it would be within a few minutes to a few hours after the vaccination.
• If rare reactions occur with any new product, they may not be identified until many thousands, or millions, of people have used the product. Like all vaccines, live, intranasal influenza vaccine is being monitored for unusual or severe problems.

7 What if there is a moderate or severe reaction?

What should I look for?
• Any unusual condition, such as a high fever or behavior changes. Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness.

What should I do?
• **Call** a doctor, or get the person to a doctor right away.
• **Tell** your doctor what happened, the date and time it happened, and when the vaccination was given.
• **Ask** your doctor, nurse, or health department to report the reaction by filing a Vaccine Adverse Event Reporting System (VAERS) form.
Or you can file this report through the VAERS web site at www.vaers.org, or by calling 1-800-822-7967.
VAERS does not provide medical advice.

8 How can I learn more?

• Ask your immunization provider. They can give you the vaccine package insert or suggest other sources of information.
• Call your local or state health department.
• Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-2522** (English)
  - Call **1-800-232-0233** (Español)
  - Visit CDC websites at **www.cdc.gov/ncidod/diseases/flu/fluvirus.htm** or **www.cdc.gov/nip**

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL IMMUNIZATION PROGRAM

Vaccine Information Statement
Live, Intranasal Influenza Vaccine (5/24/04)

IAC's "Ask the Experts" team from CDC

William L. Atkinson, MD, MPH

Andrew T. Kroger, MD, MPH

Linda A. Moyer, RN

Eric E. Mast, MD

adult vaccinees from illness when the vaccine strain is similar to the circulating strain. However, the vaccine is only 30%–40% effective in preventing illness among frail elderly persons (although among elderly persons, the vaccine is 50%–60% effective in preventing hospitalization and 80% effective in preventing death).

Which health care workers should be vaccinated against influenza?
It is important to vaccinate all hospital and outpatient-care personnel who have direct contact with patients. In addition to physicians and nurses, vaccination in hospital settings also includes full-time and part-time employees in radiology, laboratories, pharmacy, human resources, facilities management (housekeeping), food services, and laundry. Vaccinate volunteers as well. Others who should be vaccinated are emergency response workers, employees of nursing homes and assisted living programs, and providers of home care.

I am a 30-year-old health care worker. Can I be vaccinated with the live attenuated intranasal influenza vaccine (LAIV)?
Yes, you can be vaccinated with LAIV, provided you do not have a medical contraindication (e.g., chronic medical condition, pregnant) or have close contact with a severely immunosuppressed person who requires care in a protective environment (e.g., a bone marrow transplant patient). Otherwise, you should be vaccinated with trivalent inactivated influenza vaccine (TIV).

Now that we are routinely vaccinating all pediatric patients 6–23 months of age, it may be difficult to assure that first-time vaccinees younger than 9 years old receive two doses of influenza vaccine. Any suggestions?
ACIP has suggested these patients may be given their first dose of vaccine in September or earlier. We also suggest using reminder and recall systems to contact patients in need of a second dose.

A five-year-old child received her second MMR a week ago. How long should she wait before receiving LAIV?
LAIV can be administered simultaneously with another live vaccine (e.g., MMR, varicella), but if not given at the same time, ACIP recommends waiting four weeks before administering the second live vaccine.

What type of thermometer is good for measuring temperatures in a vaccine storage unit?
The National Immunization Program recommends a certified calibrated thermometer in each compartment (refrigerator and freezer). While all thermometers are calibrated during manufacturing, certified calibrated thermometers undergo a second individual calibration against a reference standard from an appropriate agency. They are then given a certificate indicating successful completion of this process. The certificate is provided with the instrument when purchased and is different from the manufacturer's warranty.

Can we buy these types of thermometers at a hardware store?
No. You will need to purchase them through a scientific supply company or other specialized vendor. Your state immunization program may be able to refer you to some suppliers. Be sure to look for a thermometer with a "traceable certificate," usually to a National Institute of Standards and Technology (NIST) or American Society for Testing and Materials (ASTM) standard. These thermometers may cost a bit more than the average hardware store thermometer, but it is better to invest in a more reliable model than to risk damaging thousands of dollars worth of vaccine because of inaccurate readings.

How often should temperatures be checked and recorded on our vaccine storage unit's log?
It is important that you check and record the temperatures of both the refrigerator and freezer units at the beginning and end of the day. You should also record the room temperature on your log.

We are carefully logging our vaccine storage unit's temperatures each day. Is there anything else that could go wrong?
Congratulations on all your hard work. You would be surprised at the number of people who, just like you, do a careful job of recording temperatures and then fail to act on them when they go out of range. Always take immediate action when you notice an out-of-range temperature. You may need to move the vaccines temporarily to a more reliable storage unit and determine the source of the problem. It may be something quite fixable (e.g., excessive lint or dust on the coils) and you will be back in business after you determine that the temperature is back in range after a few hours. Above all, don't chart it and not act on it!

Can we store vaccine in the same unit where we store employees' lunches?
No, don't use the same unit. Frequent opening of the refrigerator's door to retrieve food items can adversely affect the internal temperature of the unit and potentially damage the vaccines.

There is a vent in our refrigerator that brings in cold air from the freezer. Vaccines stored near this vent are colder to the touch. Could this be a problem?
Yes. Vaccines that are in the refrigerator should be moved away from this vent as the cold air from the freezer can cause your vaccines to freeze. Inactivated vaccines must be kept at 35–46° F (2–8° C).

(continued on page 20)

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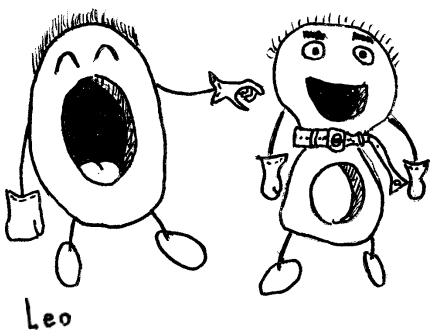

NEEDLE TIPS correction policy

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

Hepatitis A and B

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

Is it acceptable to give four doses of hepatitis B vaccine to infants?

Yes. A dose of monovalent hepatitis B vaccine is recommended for all newborns before hospital discharge. For subsequent doses, many practices use combination vaccine that contains hepatitis B vaccine (i.e., Pediarix or Comvax). Neither product can be given at birth. Since both have a 3-dose schedule, this means the infant will receive a total of four doses of hepatitis B vaccine. The practice of administering four doses of hepatitis B vaccine does not increase vaccine reactogenicity, and results in higher final antibody titers that should correlate with longer duration of detectable antibody. The federal Vaccines for Children (VFC) program provides up to four doses of hepatitis B vaccine for VFC-eligible children. You may still use monovalent hepatitis B vaccine in a 3-dose series.

Can administering hepatitis B vaccine with a needle that's too short cause non-response or other problems for an individual?

Yes. Hepatitis B vaccine needs to be administered into the muscle for maximum effectiveness. If a needle is too short, the vaccine might be deposited subcutaneously, causing a lower immunogenic response.

For all intramuscular injections, the needle should be long enough to reach the muscle mass and prevent vaccine from seeping into subcutaneous tissue. However, it should not be so long that it could involve underlying nerves and blood vessels or bone. Consider these criteria when selecting needle size and injection site: the person's age, the volume of material to be administered, the size of the muscle, and the depth below the muscle surface into which the material is to be injected. For the majority of infants, a 7/8 to 1 inch, 22–25 gauge needle is sufficient to penetrate to the infant's thigh muscle. For toddlers and older children, the needle size can range from 22–25 gauge and from 7/8 to 1¼ inches. For adults the suggested needle size is 1 to 2 inches and 22–25 gauge.

If a person is a non-responder (anti-HBs <10 mIU/mL) to the first hepatitis B vaccination series, how much time needs to elapse before the person can be revaccinated?

At least 4 weeks, as you cannot determine whether the person is a non-responder until anti-HBs is measured at a minimum of 4 weeks following the last dose of the first vaccination series.

Which travelers should be offered hepatitis A vaccine?

Hepatitis A vaccine is recommended for ALL susceptible persons 2 years of age and older who travel to or will work in countries outside the United States, EXCEPT Western Europe, New Zealand, Australia, Canada, and Japan. Data are not available regarding the risk of hepatitis A virus (HAV) infection for persons traveling to developed areas of the Caribbean, although vaccine should be considered if travel to areas that have questionable sanitation is anticipated. For optimal protection, the first dose of vaccine should be given at least 4 weeks prior to travel. Therefore, the first dose of hepatitis A vaccine should be administered as soon as travel to a high-risk area is planned. Persons traveling to at-risk areas less than 4 weeks after the initial dose of hepatitis A vaccine should also be given immune globulin (IG; 0.02mL/kg), but at a different injection site. A second vaccine dose is necessary for long-term protection. Travelers who are allergic to a vaccine component or who choose not to be vaccinated should receive a single dose of IG (0.02mL/kg), which provides effective protection against HAV infection for up to 3 months. Travelers whose travel period exceeds 2 months should be administered IG at 0.06mL/kg, which must be repeated if the travel period exceeds 5 months. Travelers less than 2 years of age should be given IG, because the vaccine is currently not licensed for use in this age group.

If a person has had HAV infection, should they still receive the vaccine if planning international travel?

No, as long as there are medical records that document that the person was previously infected with HAV (i.e., positive test for antibody to HAV). If there is any doubt that the person actually was infected with HAV, hepatitis A vaccine or IG should be given. The vaccine or IG will not harm a person who is already immune.

If a person was born and grew up in a country where HAV infection is endemic (e.g., Vietnam, Mexico) and then moved to the U.S. at age 20, should that person receive hepatitis A vaccine before returning to visit his/her homeland?

It depends on whether that person has a history of HAV infection. Unless there are medical records that document prior HAV infection, serologic testing for immunity is the only way to determine if vaccination is necessary. For persons from countries with high rates of HAV infection, such as Vietnam and Mexico, serologic testing might be done to prevent unnecessary vaccination. The cost effectiveness of serologic testing, however, should be balanced against the possibility of delaying needed vaccination while awaiting test results.

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.

Hepatitis A and B lab tests

Hepatitis A lab nomenclature

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

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

Hepatitis B lab nomenclature

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

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

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

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

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

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

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

Talking points to use with vaccine-hesitant parents

Use the statistics below as talking points with vaccine-hesitant parents. They show that vaccines are effective, but that vaccine-preventable diseases still exist and are closer than you think.

Talking Point #1: Vaccines work!

Compare the maximum number of U.S. cases of vaccine-preventable diseases in the past with the number in 2003

Disease	Max. cases reported[1]	Year max. reported[1]	Reported cases 2003[2]	Percent decrease
Diphtheria	175,885	1920–1922	1	99.9%
Pertussis	147,271	1925	11,647	92.1%
Tetanus (lockjaw)	1,314	1926	20	98.5%
Polio (wild virus)	16,316	1951–1954	0	100%
Measles	503,282	1958–1962	56	99.9%
Mumps	152,209	1968	231	99.8%
Rubella	47,745	1968	7	99.9%
Hib	20,000	1985	259	98.7%
Hepatitis B	26,612*	1985	7,526	71.7%

* The estimated mean number of new infections in the 1980s was 259,000, although the reported number of cases is much lower. Source: "Disease Burden from Viral Hepatitis A, B, and C in the United States" www.cdc.gov/hepatitis

Talking Point #2: Vaccine-preventable diseases still exist!

Thanks primarily to vaccines, many diseases, including measles, diphtheria, and hepatitis B, are declining in the United States. Unfortunately, millions of people in the world still die from vaccine-preventable diseases. In 2002 alone, approximately 612,000 people died from measles; 294,000 from pertussis; and 600,000 from hepatitis B.[3]

Talking Point #3: These contagious diseases are closer than you think!

- Measles and pertussis are classified as highly communicable diseases. They are easily spread through the air when an infected person sneezes or coughs. Outbreaks occur everywhere, even in industrialized countries.
- In 2002, 1,571 people in Italy developed measles, 594 were hospitalized, and 4 died.[4]
- U.S. tourists in Italy had the potential to contract measles and infect you, your child, or members of your community when they returned to the U.S.
- In 2003, 11,647 people in the U.S. developed pertussis and 18 people died.[2,5]
- Some states continue to experience many cases of pertussis. If your family lives in or visits one of these states, your child can contract pertussis.
- Hepatitis B virus infection usually requires contact with an infected person's blood.
- Hepatitis B virus can be transmitted by a bite.
- The U.S. has low rates of hepatitis B compared with other countries; still 7,526 new cases were reported in the U.S. in 2003.[2]
- Symptoms of chronic hepatitis B often don't show up for decades; frequently parents of a child who has become infected are unaware of their child's condition.
- When hepatitis B symptoms do become apparent, it's frequently when chronic hepatitis B is far advanced.

Don't take chances with your child's health — vaccinate!

1. "Achievements in Public Health, 1900–1999: Impact of Vaccines Universally Recommended for Children—United States, 1900–1998." *MMWR* 1999, Vol. 48, No. 12.
2. CDC. Summary of Notifiable Diseases, United States, 2003. *MMWR* 2004, Vol 53, No. 30.
3. The Global Alliance for Vaccines and Immunization (www.vaccinealliance.org).
4. "Measles Epidemic Attributed to Inadequate Vaccination Coverage—Campania, Italy, 2002." *MMWR,* 2003, Vol. 52, No. 43.
5. "Pertussis Surveillance Report—8/6/04." Unpublished report. CDC/NIP, Epidemiology and Surveillance Division, Bacterial Vaccine Preventable Disease Branch.

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 150 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!

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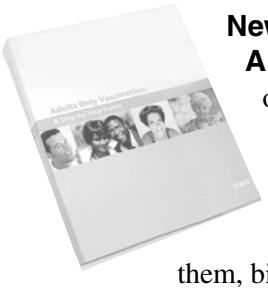

New! "Adults Only Vaccination: A Step-by-Step Guide." 157 pages of comprehensive, practical information on ALL aspects of adult immunization. Presents clear, authoritative material on administering adult vaccines, educating patients about them, billing for them, and much more. Indispensable for any setting 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. $30.

Adult Immunization Record Cards. The card lists the vaccines adults get, making it easy to discuss your patients' vaccination needs with them. At the end of a visit, give the card to the patient as a permanent reminder of their immunization status. Rip-proof, smudge-proof, and waterproof, the card fits into a wallet for lifelong use. $30 for a 250-card box; see page 23 for larger quantity discounts.

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

Essential Immunization Resources from IAC

We've changed the contents of this page. To reduce paper, printing, and shipping costs, we no longer list or sell individual copies of our educational print materials. We encourage readers to download IAC print materials from our website. They are CDC-reviewed, ready-to-copy, and available for immediate use.

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

In addition, we've invested in a high-quality CD-ROM creator and are producing CDs with the most current versions of more than 150 of IAC's print materials. (See page 22 for complete information.) We are offering the CD as a special thank-you to IAC partners who contribute $75 or more. To receive the CD, please read the section below left, I Want to Support IAC.

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

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Essential Immunization Resources

CD of IAC print materials

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Your annual contribution makes you a vital IAC partner

Deborah L. Wexler, MD
IAC Executive Director

Dear Colleague,

Since IAC began 14 years ago, our goal has been to be your partner in optimizing vaccination delivery. To that end, we distribute three print publications and two email news services; we also operate four websites. If you're new to these resources, read on:

Every Monday, our *IAC Express* email news service goes out to 18,000 subscribers. If you're not one of them, you're missing out on breaking news about FDA vaccine approvals, ACIP and AAP vaccine recommendations, changes in VISs, and much more. To start your free subscription, visit www.immunize.org/express

Every month, our *HEP Express* listserv brings current information to people who have a special interest in viral hepatitis prevention and treatment. For a free subscription, go to: www.hepprograms.org/hepexpress

IAC's four websites provide you with everything from patient-education materials in up to 31 languages to links to pertinent article abstracts from professional journals. To access our main website, go to: www.immunize.org

Additional IAC websites are www.vaccineinformation.org; www.hepprograms.org; and www.izcoalitions.org

These print, email, and web-based resources are free to you. As part of our partnership with you, however, we need you and every other *Needle Tips* reader to become a financial partner by making annual contributions.

Your contribution to IAC is tax deductible. If you contribute $75 or more, we have a gift for you—our CD-ROM of essential immunization information (to learn more, see pages 22 and 23). If you've never contributed to IAC, or if it's been more than a year since you have, *please support IAC with your generous contribution today!*

Lastly, don't be a silent partner! We'd love to hear from you. We need your suggestions about how IAC can better help you. Please email your ideas to me at deborah@immunize.org

Deborah L. Wexler MD

Deborah L. Wexler, MD
Executive Director

Every year, get vaccinated against influenza and give to IAC!

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

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October 2004

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