

# VACCINATE ADULTS!

A bulletin for adult medicine specialists from the Immunization Action Coalition

Highlighting the latest developments in routine adult immunization and chronic hepatitis B virus infection.

## Ask the Experts

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

### Immunization questions

by William L. Atkinson, MD, MPH

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

You can get a single copy at no charge from the National Immunization Program by calling (800) 232-2522, or you can purchase one or more copies (\$15 each) from IAC. Visit [www.immunize.org/vachandling](http://www.immunize.org/vachandling) or call (651) 647-9009 for details. CDC is also releasing a CD version that contains a digitized copy of the video as well as other resources, such as emergency planning for equipment failure, vaccine shipment, preparation, and disposal procedures. The CD will be available in the next several months.

### Immunization questions?

- Email [nipinfo@cdc.gov](mailto: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](http://www.immunize.org/coordinators))

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

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

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

The Advisory Committee on Immunization Practices (ACIP) does not routinely recommend more than two doses of MMR. A negative serology after two documented doses of MMR probably represents a false negative (i.e., antibody titer too low to detect with commercial tests). However, it is theoretically possible to have true 2-dose vaccine failure. If a person is found to have a negative

serology after two documented doses of MMR, it may be prudent to administer one additional dose of MMR. You should also cease doing postvaccination serologic testing if an employee has two documented doses of MMR, which is the ACIP definition of "immune." See [www.cdc.gov/mmwr/PDF/tr/rr4708.pdf](http://www.cdc.gov/mmwr/PDF/tr/rr4708.pdf) for more information.

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

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

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

It is never too early to begin planning for this fall's influenza vaccination program. The most important thing you can do right now is order your vaccine from your usual source. Some manufacturers

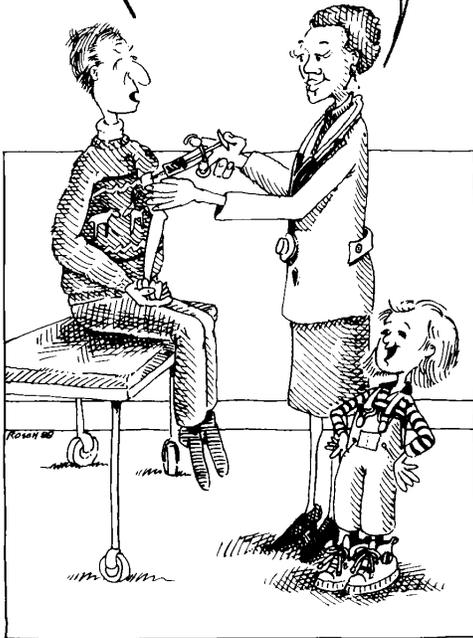
(continued on page 10)

### Sign up for IAC EXPRESS!

To subscribe, send an email message to [express@immunize.org](mailto:express@immunize.org) and place the word SUBSCRIBE in the "Subject:" field. Each week, expect an email with timely immunization and viral hepatitis news.

Lately, whenever I come in, you review my vaccination status. What gives?

Now that we have the brand new how-to guide "Adults Only Vaccination," we nurses are trying to get every adult fully immunized. The guide has EVERYTHING about handling, storing, and administering vaccines! For details, see page 3.



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## VACCINATE ADULTS!

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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.

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# Vaccine Highlights

## Latest recommendations and schedules

*Editor's note: The information on these pages is current as of April 19, 2004.*

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

### Influenza news

On February 24–25, ACIP met and deliberated on the use of influenza vaccines for the 2004–2005 influenza season. Several important changes were adopted including a recommendation for vaccination of all children 6–23 months of age and all pregnant women, regardless of their stage of pregnancy. The committee voted to recommend that use of the live attenuated influenza vaccine (LAIV) should not be restricted in health care workers except those workers with contact with severely immunosuppressed persons (i.e., bone marrow transplant patients in protective isolation). These persons and their close contacts, including health care workers, should receive trivalent inacti-

vated influenza vaccine (TIV) and not LAIV. No such restriction applies to persons who are not severely immunosuppressed, including persons with diabetes, persons with asthma taking corticosteroids, or persons infected with HIV. These changes will be included in the annual "Recommendations of the ACIP: Prevention and Control of Influenza," which will be published in *MMWR* in May 2004.

In February, the National Foundation for Infectious Diseases issued a four-page report, "Influenza Immunization Among Health Care Workers: A Call to Action." The report has the support of 24 health care organizations, including AAFP, AAP, and AMA. The document urges, among other key points, that measures be taken to ensure health care workers are provided convenient access to influenza vaccine and that employers of health care workers commit programs and resources toward institutionalizing immunization in the workplace. In this issue of *Vaccinate Adults* (page 4), we summarize the key strategies within the report.

### Viral hepatitis news

On Dec. 7–9, 2003, the National Viral Hepatitis Roundtable (NVHR) held its inaugural meeting in Washington, DC, to lay the groundwork to develop a national strategy to eliminate viral hepatitis from the U.S. Approximately 140 individuals representing 120 organizations attended the meeting. For more information about NVHR, visit [www.nvhr.org](http://www.nvhr.org)

#### Brand New Video!

### "How To Protect Your Vaccine Supply"

*(Centers for Disease Control & Prevention, 2004, 25min)*

This video is an introduction to basic procedures for proper vaccine storage and handling.

Inattention to storage conditions can lead to damaged vaccine, reduced protection, and substantial financial costs. \$15/copy.

Order online at [www.immunize.org/vachandling](http://www.immunize.org/vachandling), use order form on p. 11, or call (651) 647-9009.

Get 1 free copy from CDC by calling (800) 232-2522.

#### Another Great Video!

### "Immunization Techniques: Safe, Effective Caring"

*(California Dept. of Health Services, 2001, 35min)*

Best kept secret in immunization training!

This video offers a "hands-on" program that teaches best practices for giving IM and SC vaccines to adults and children.

Order online at [www.immunize.org/iztech](http://www.immunize.org/iztech), use order form on page 11, or call (651) 647-9009.

**Be sure your staff are using proper technique for vaccinations!**

**DISCLAIMER:** *VACCINATE ADULTS!* is available to all readers free of charge. Some of the information in this issue is supplied to us by the Centers for Disease Control and Prevention in Atlanta, Georgia, and some information is supplied by third-party sources. The Immunization Action Coalition (IAC) has used its best efforts to accurately publish all of this information, but IAC cannot guarantee that the original information as supplied by others is correct or complete, or that it has been accurately published. Some of the information in this issue is created or compiled by IAC. All of the information in this issue is of a time-critical nature, and we cannot guarantee that some of the information is not now outdated, inaccurate, or incomplete. IAC cannot guarantee that reliance on the information in this issue will cause no injury. Before you rely on the information in this issue, you should first independently verify its current accuracy and completeness. IAC is not licensed to practice medicine or pharmacology, and the providing of the information in this issue does not constitute such practice. Any claim against IAC must be submitted to binding arbitration under the auspices of the American Arbitration Association in St. Paul, Minnesota.

## 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](http://www.immunize.org/guide). To order by fax or mail, use the order form on page 11.

Questions? Email [admin@immunize.org](mailto: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](http://www.immunize.org/adultizcards/pictures.htm)

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

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

To order, visit [www.immunize.org/adultizcards](http://www.immunize.org/adultizcards), or use the order form on page 11.

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

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

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

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

- In a neonatal intensive care unit (NICU), 19 infants were infected, six were symptomatic, and one died. Health care workers were the likely source of the spread. Only 15% of NICU staff had been immunized. (Infect Control Hosp Epidemiol. 2000;21[7]:449–54)

- Four cases of influenza A virus infection were reported among patients in a solid organ transplant unit. All were in single rooms, and three had not been visited by relatives between admission and influenza infection. Three nurses among 27 health care workers in the unit also developed influenza. (Transplantation. 2001;72[3]:535–7)

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

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

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

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

## **Give a multidisciplinary team responsibility for developing the program.**

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

## **Make the vaccination program convenient for all employees.**

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

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

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

## **Develop campaigns to educate employees.**

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

workers. Dispel any misinformation employees might have that has been keeping them from getting vaccinated.

## **Educate health care workers to be advocates for influenza vaccination!**

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

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

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

## **For more information:**

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

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

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

## Chickenpox

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

## Hepatitis B

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

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

## Hepatitis A

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

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

## Meningococcal disease

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

## Everyone needs vaccinations!

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

[www.immunize.org](http://www.immunize.org)  
[www.vaccineinformation.org](http://www.vaccineinformation.org)  
[www.cdc.gov/nip](http://www.cdc.gov/nip)  
[www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

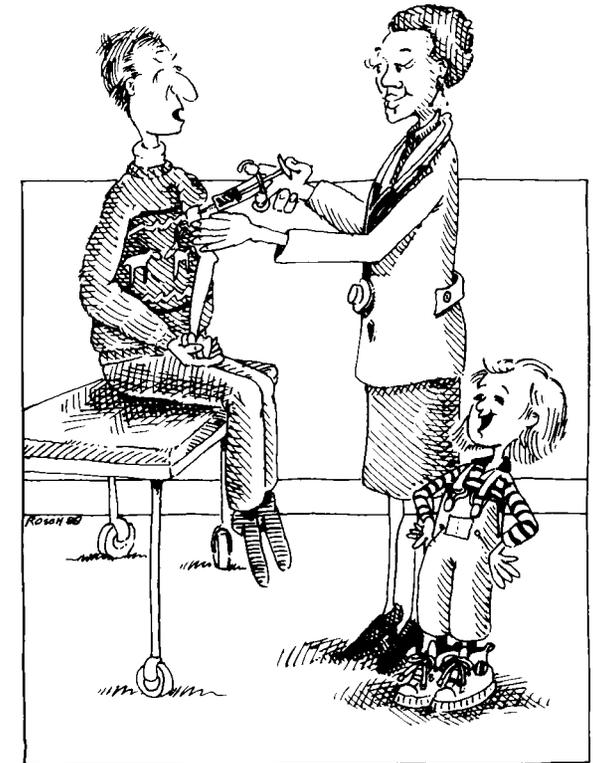
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# Immunization...

# Not Just Kids' Stuff



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

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

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

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

## Measles

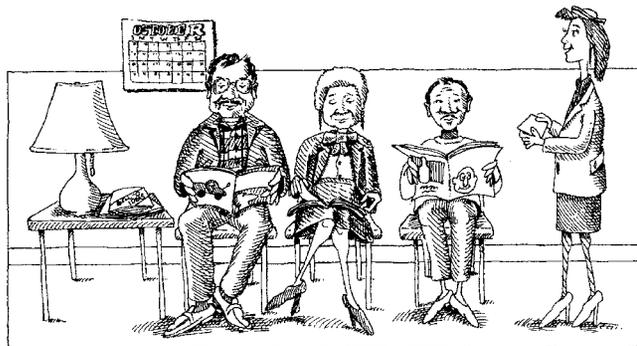
Though the number of cases of measles is at a record low, adults account for about one-third of cases. Measles is caused by a virus that is spread through the air or through direct contact with an infected person. Symptoms of measles usually include a high fever, rash, runny nose, red eyes, and cough.

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

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

## Mumps

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



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

## Rubella

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

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

## Tetanus and diphtheria

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

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

While the disease is rare in the U.S., it still occurs in other parts of the world.

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

## Polio

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

## Influenza

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

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

## Pneumococcal disease

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



## WHAT IS HEPATITIS B?

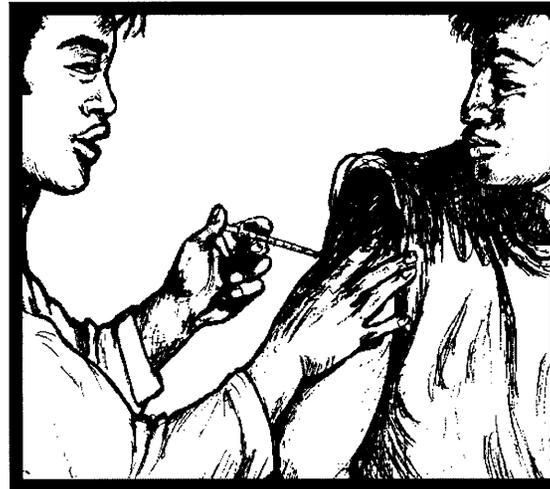
Hepatitis B is a sexually transmitted disease caused by a virus (HBV) that attacks the liver. The virus is found in the blood and semen of infected men and is spread in the same manner as HIV. HBV is easier to catch than HIV because it is more than 100 times more concentrated in an infected person's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

## WHAT IS HEPATITIS A?

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

# EVERYONE NEEDS VACCINATIONS!

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



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The Immunization Action Coalition (IAC) encourages you to make and distribute copies of this brochure. If you alter it, please acknowledge that it was adapted from IAC. This brochure was developed in collaboration with Levine & Co., NYC. The technical content was reviewed by the Centers for Disease Control and Prevention.

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

# PROTECT YOURSELF AGAINST HEPATITIS A AND HEPATITIS B...

a guide for gay and bisexual men



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

**Hepatitis is a serious disease that can be fatal.**

**Fortunately, both hepatitis B and hepatitis A can be prevented by safe and effective vaccines.**

**Unfortunately, many men at risk remain unprotected.**

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

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

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

## HOW ARE HBV AND HAV SPREAD?

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

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



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

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

## WHAT ARE THE SYMPTOMS OF HEPATITIS B AND HEPATITIS A?

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

## DO PEOPLE FULLY RECOVER FROM HBV AND HAV INFECTIONS?

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

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

## HOW SERIOUS ARE HBV AND HAV INFECTIONS?

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

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

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

## HOW CAN I PROTECT MYSELF FROM HBV INFECTION?

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



## HOW CAN I PROTECT MYSELF FROM HAV INFECTION?

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

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

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

## SHOULD I HAVE MY BLOOD TESTED BEFORE GETTING VACCINATED?

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

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

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

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

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

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

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

## ARE THESE SHOTS EFFECTIVE?

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

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

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

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

## ARE THESE SHOTS RECOMMENDED FOR TRAVELERS?

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

## WHERE CAN I RECEIVE THESE SHOTS?

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

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



# Standing Orders for Administering Pneumococcal Vaccine to Adults

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

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

## Procedure:

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

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

Medical Director’s signature: \_\_\_\_\_ Effective date: \_\_\_\_\_

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

have already announced they will stop taking pre-orders in mid-May. You may need to increase your vaccine order. For influenza season 2004–2005, ACIP will recommend vaccination of all children 6 through 23 months of age. Be sure to include vaccine for your facility's health care workers as part of your overall campaign.

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

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

## Hepatitis A and B

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

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

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

Because your employees were not tested 1–2 months after completing the primary series, it is not known if they had previously responded to hepatitis B vaccination. The preferred approach to managing these persons is to base interventions on the results of serologic testing performed at the time of percutaneous or permucosal exposure to blood or body fluids. The Advisory Committee on Immunization Practices and the Hospital Infection Control Practices Advisory Committee have published guidelines for the management of HCWs after percutaneous or permucosal exposures. These guidelines include postexposure anti-HBs testing

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of those who were vaccinated but not tested for response after the primary series. To obtain a copy of the CDC guidelines "Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis," visit [www.cdc.gov/mmwr/PDF/rr/rr5011.pdf](http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf)

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

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

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

### Sign up for HEP EXPRESS!

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

[www.hepprograms.org/hepexpress](http://www.hepprograms.org/hepexpress)

### Do you have patients who are HBsAg-positive?

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

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

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

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

## 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 ( $\leq 6$  mos). It is used to diagnose acute hepatitis A.

### Hepatitis B lab nomenclature

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

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

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

**IgM anti-HBc:** *IgM antibody subclass of anti-HBc.* Positivity indicates recent infection with HBV ( $\leq 6$  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.



