

VACCINATE ADULTS!

A bulletin for adult medicine specialists from the Immunization Action Coalition

Highlighting the latest developments in adult immunization and hepatitis B prevention and screening

Ask the Experts

IAC extends thanks to our experts: William L. Atkinson, MD, MPH, medical epidemiologist; and Andrew T. Kroger, MD, MPH, medical officer. Both are with the National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention (CDC). Eric E. Mast, MD, MPH, is chief, Prevention Branch, CDC's Division of Viral Hepatitis (DVH); and Linda A. Moyer, RN, who until her retirement, was an epidemiologist and chief, Education and Training Team, at DVH. Currently an IAC consultant, she maintains close professional ties with CDC.

Immunization questions

How common is human papillomavirus (HPV) infection?

HPV is the most common sexually transmitted infection in the United States. Currently, more than 20 million men and women in the United States are infected with HPV, and more than 6 million are estimated to become infected each year. HPV is most common in young women and men in their late teens and early 20s. By age 50, at least 80% of sexually active women will have acquired HPV infection.

Immunization questions?

- Call the CDC-INFO Contact Center at (800) 232-4636 or (800) CDC-INFO
- Email nipinfo@cdc.gov
- Call your state health dept. (phone numbers at www.immunize.org/coordinators)

How serious is disease caused by HPV?

HPV infection is responsible for nearly 100% of cervical cancer in women and contributes to other cancers that can affect males or females. Cervical cancer is diagnosed in more than 9,700 women in the United States each year and results in 3,700 deaths. Approximately 70% of cervical cancers are caused by two of the strains of HPV included in the newly licensed HPV vaccine. HPV also causes genital warts in men and women.

Please provide more information about the new HPV vaccine.

Gardasil™, manufactured by Merck, is the first vaccine approved by FDA to prevent cervical cancer, precancerous genital lesions, and genital warts due to HPV. The vaccine is highly effective against the four types of HPV virus included in the vaccine. The vaccine has no effect on HPV infection that is present at the time of vaccination, or on existing cervical cell abnormalities or genital warts. Though women already infected with an HPV vaccine virus type will not benefit from that part of the vaccine,

they could still benefit from the other vaccine virus types in the vaccine.

What are the recommendations for use of HPV vaccine?

In June 2006, ACIP voted to recommend that HPV vaccine be routinely given to girls age 11–12 years, although it can be given to girls as young as 9 years. ACIP also voted to recommend that girls and women ages 13 through 26 years receive the vaccine. Ideally vaccine should be administered before onset of sexual activity, but sexually active females should still be vaccinated.

Gardasil is licensed as a 3-dose series, with dose #2 given 2 months after dose #1, and dose #3 given 4 months after dose #2. The minimum interval between doses #1 and #2 is 4 weeks, and between doses #2 and #3 is 12 weeks. The vaccine should be administered IM in the deltoid. For more information on the use of HPV vaccine, see the provisional ACIP recommendations from CDC at www.cdc.gov/nip/recs/provisional_rec/s/hpv.pdf. ACIP recommendations do not become official until they are published in *MMWR*, which is expected to occur later this year.

If a woman is diagnosed with HPV, should she still be vaccinated?

Yes. Although the vaccine would not alter the clinical course of the current infection, she would still benefit from protection against the other virus types in the vaccine.

How effective is the new Zostavax® vaccine in preventing shingles?

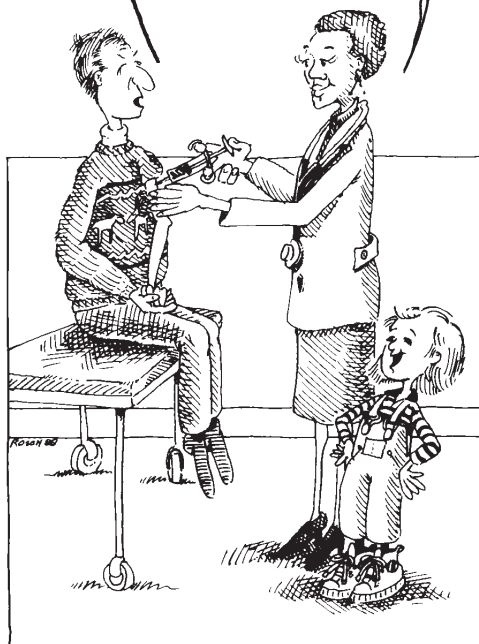
In May 2006, FDA licensed Zostavax by Merck to prevent herpes zoster (shingles) as a 1-dose vaccination for persons ages 60 years and older. In clinical trials, vaccine recipients had a 51% reduction in shingles, less severe illness when shingles did occur, and 66.5% less postherpetic neuralgia, compared with placebo recipients. During these trials, no significant safety issues were identified.

As of this writing, ACIP has not made recommendations for the use of Zostavax. However, providers can begin using Zostavax without a specific ACIP recommendation. Providers should observe

(continued on page 13)

One of my friends still has severe pain following his case of shingles. How effective is this vaccine anyway?

In clinical trials, this vaccine was 51% effective in preventing shingles. In cases when the disease DID occur, it generally was less severe, and the chances of getting postherpetic neuralgia (the pain that can occur following shingles) was reduced by two-thirds.



Artwork courtesy of New York State Department of Health

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Vaccinate Adults!

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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 persons 0–30 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 virus.

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Vaccine Highlights

Recommendations, schedules, and more

Editor's note: The information on these pages is current as of September 19, 2006.

ACIP recommendations

The CDC's Advisory Committee on Immunization Practices (ACIP) periodically issues public health recommendations on the use of vaccines. Clinicians who vaccinate should have a current set for reference. Published in the *Morbidity and Mortality Weekly Report (MMWR)*, ACIP recommendations are easily available. Here are sources:

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

Influenza news

On July 28, CDC published the ACIP recommendation "Prevention and Control of Influenza" in *MMWR*, Vol. 55 (RR-10). To obtain a copy of the recommendations, go to www.cdc.gov/mmwr/PDF/rr/rr5510.pdf.

On Jan. 1, use of a federal Vaccine Information Statement (VIS) for influenza vaccines became a requirement. The 2006–07 influenza season will be the first season that providers will be required to use VISs when vaccinating adults and children. To access current VISs for trivalent inactivated influenza vaccine (TIV) and live attenuated influenza vaccine (LAIV) in a variety of languages and formats, go to www.immunize.org/vis/#influenza.

On June 13, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) approved an infection control standard that requires accredited healthcare organizations to offer influenza vaccinations to staff, volunteers, and independent practitioners who have close patient contact, effective Jan. 1, 2007. To view a press release about the standard, go to www.jointcommission.org/newsroom/newsreleases/nr_06_13_06.htm.

On May 16, the American Heart Association and the American College of Cardiology published guidelines for secondary prevention for patients with coronary and other atherosclerotic vascular disease. One of the intervention recommendations is that patients with car-

diovascular disease receive influenza vaccination. The guidelines are available in the journal *Circulation* at circ.ahajournals.org/cgi/content/full/113/19/2363.

Human papillomavirus news

On June 8, FDA licensed Gardasil® (Merck), a quadrivalent human papillomavirus (HPV) recombinant vaccine for use in preventing infection with HPV types 6, 11, 16, and 18 in females ages 9–26 years. To obtain the Gardasil package insert, go to www.fda.gov/cber/label/hpvmer060806LB.pdf.

On June 29, ACIP voted to recommend HPV vaccination for girls and women ages 9–26 years as a series of three doses. As of this writing the recommendations have not been made official by publication in *MMWR*; however, CDC's provisional recommendations for HPV vaccine are available at www.cdc.gov/nip/recs/provisional_rec/hpv.pdf.

On Sept. 5, CDC released an interim VIS for HPV vaccine. To obtain a copy, go to www.cdc.gov/nip/publications/VIS/vis-hpv.pdf.

Herpes zoster (shingles) news

On May 25, FDA licensed Zostavax® (Merck), a live attenuated vaccine for use in preventing herpes zoster (shingles) in persons age 60 years and older. As of this writing, ACIP has not issued recommendations for the use of Zostavax. However, providers can begin using Zostavax without a specific ACIP recommendation. Providers should observe indications and contraindications as listed in the manufacturer's package insert. See www.fda.gov/cber/label/zosmer052506LB.pdf.

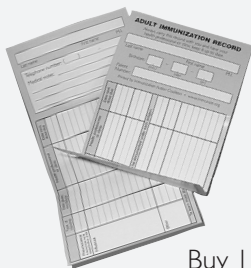
On Sept. 11, CDC released an interim VIS for shingles vaccine. To obtain a copy, go to www.cdc.gov/nip/publications/VIS/vis-shingles.pdf.

STD vaccination news

On Aug. 4, CDC published "Sexually Transmitted Diseases Treatment Guidelines, 2006." This document provides clinical guidance for preventing, diagnosing, and treating STDs in a variety of primary-care settings. Included is guidance for preexposure vaccination against hepatitis B virus and hepatitis A virus. There is also reference to HPV vaccine. The STD guidelines are available at www.cdc.gov/std/treatment/2006/rr5511.pdf.

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.

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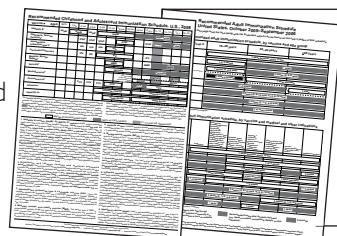
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Hepatitis B and the healthcare worker

CDC answers frequently asked questions about how to protect healthcare workers

The Immunization Action Coalition thanks Eric E. Mast, MD, MPH, chief, Prevention Branch, Division of Viral Hepatitis, National Center for HIV/AIDS, Hepatitis, STD, and TB Prevention; William L. Atkinson, MD, MPH, medical epidemiologist, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention; and Linda A. Moyer, RN, consultant to the Immunization Action Coalition, for reviewing and updating the following questions and answers.

Which workers in the healthcare setting need hepatitis B vaccine?

The Occupational Safety and Health Administration (OSHA) requires that hepatitis B vaccine be offered to healthcare workers (HCWs) who have a reasonable expectation of being exposed to blood on the job. This requirement does not include HCWs who would not be expected to have occupational risk, such as receptionists, billing staff, and general office workers.

At what anatomic site should hepatitis B vaccine be administered to adults? What needle size should be used?

The deltoid muscle is recommended for routine intramuscular (IM) vaccination among adults. The gluteus muscle should not be used as a site for administering hepatitis B vaccine. The suggested needle size is 1"–2" depending on the recipient's gender and weight (1" for females weighing less than 70 kg; 1½" for females weighing 70–100 kg; 1"–1½" for males weighing less than 120 kg; and 2" for males weighing 120 kg or more and females more than 100 kg). A 22- to 25-gauge needle should be used. For optimal protection, it is crucial that the vaccine be administered IM, not subcutaneously.

If a HCW had one dose only of hepatitis B vaccine 4 months ago, should the series be restarted?

No. The hepatitis B vaccine series should not be restarted when doses are delayed; rather, the series should be continued from where it stopped. The HCW should receive the second dose of vaccine now and the third dose at least 8 weeks later. There needs to be at least 16 weeks between the first and the third doses and at least 8 weeks between the second and third doses of vaccine.

Is it safe for HCWs to be vaccinated during pregnancy?

Yes. Limited data indicate no apparent risk for adverse events to developing fetuses. Current hepatitis B vaccines contain noninfectious hepatitis B surface antigen (HBsAg) and should pose no risk to the fetus. If the mother is being vaccinated be-

cause she is at risk for hepatitis B virus (HBV) infection (e.g., a HCW, a person with a sexually transmitted disease, an injection drug user, multiple sex partners), vaccination should be initiated as soon as her risk factor is identified during the pregnancy. If not vaccinated, a pregnant woman may contract an HBV infection, which might result in severe disease for the mother and chronic infection for the newborn. In addition, giving hepatitis B vaccine to the mother is not a contraindication to breastfeeding.

Which HCWs need serologic testing after receiving 3 doses of hepatitis B vaccine?

All HCWs who have a reasonable risk of exposure to blood or body fluids containing blood (e.g., HCWs with direct patient contact, HCWs who have the risk of needlestick or sharps injury, laboratory workers who draw or test blood) should have postvaccination testing for antibody to hepatitis B surface antigen (anti-HBs). Postvaccination testing should be done 1–2 months after the last dose of vaccine.

What should be done if a HCW's postvaccination anti-HBs test is negative 1–2 months after the last dose of vaccine?

Repeat the 3-dose series and test for anti-HBs 1–2 months after the last dose of vaccine. If the HCW is still negative after a second vaccine series, the HCW is considered a non-responder to hepatitis B vaccination. HCWs who do not respond to vaccination should be tested for HBsAg to determine if they have chronic HBV infection. If the HBsAg test is positive, the person should receive appropriate counseling and medical management. Persons who test negative for HBsAg should be considered susceptible to HBV infection and should be counseled about precautions to prevent HBV infection and the need to obtain hepatitis B immune globulin (HBIG) prophylaxis for any known or likely exposure to HBsAg-positive blood.

How often should I test HCWs after they've received the hepatitis B vaccine series to make sure they're protected?

For immune competent HCWs, periodic testing or

Healthcare workers need more vaccinations than just hepatitis B!

For information about additional vaccines you may need, see the references at the bottom of page 3.

periodic boosting is not needed. Postvaccination testing (anti-HBs) should be done 1–2 months after the last dose of hepatitis B vaccine. If adequate anti-HBs (at least 10 mIU/mL) is present, nothing more needs to be done. If postvaccination testing is less than 10 mIU/mL, the vaccine series should be repeated and anti-HBs testing done, 1–2 months after the last dose of the second series. This information should be recorded in the HCW's employee health record.

Should a HCW who performs invasive procedures and who once had a positive anti-HBs result be revaccinated if the anti-HBs titer is rechecked and is less than 10 mIU/mL?

No. Immune competent persons known to have responded to hepatitis B vaccination do not require additional passive or active immunization. Postvaccination testing should be done 1–2 months after the original vaccine series is completed. In this scenario, the initial postvaccination testing showed that the HCW was protected. Substantial evidence suggests that adults who respond to hepatitis B vaccination (anti-HBs of at least 10 mIU/mL) are protected from chronic HBV infection for as long as 23 years, even if there is no detectable anti-HBs currently. Only immunocompromised persons (e.g., hemodialysis patients, some HIV-positive persons) need to have anti-HBs testing and booster doses of vaccine to maintain their protective anti-HBs concentrations of at least 10 mIU/mL.

Before reading the recommendations of CDC's Advisory Committee on Immunization Practices (ACIP) that say not to do this, we tested our employees for anti-HBs several years after they were vaccinated and some people had inadequate results, even though they had all completed a 3-dose series. What should we do now?

ACIP does not recommend periodic testing of vaccinated HCWs because anti-HBs concentrations decline over time, and HCWs remain protected even if their anti-HBs concentration declines to below

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www.immunize.org/catg.d/2109hcw.pdf • Item #P2109 (8/06)

10 mIU/mL. For HCWs who have been vaccinated in the past and who do not have a documented response to vaccination of at least 10 mIU/mL, ACIP recommends testing for anti-HBs at the time of an exposure and providing appropriate management based on the results of testing. (See postexposure guidelines in Table 1.) If cost is not a great concern or if an employee or employer wants documented assurance of immunity, a revaccination series can be undertaken followed by testing 1–2 months after the 3rd dose of hepatitis B vaccine.

How often should anti-HBs testing be done on HCWs who perform invasive procedures?

For persons whose immune status is normal, periodic serologic testing to assess anti-HBs concentrations is not necessary. Persons who perform invasive procedures should be treated no differently from other HCWs with respect to anti-HBs testing. If a HCW has an exposure (e.g., needlestick), s/he should be evaluated for their need for immunoprophylaxis according to postexposure guidelines in Table 1.

If HCWs received hepatitis B vaccination in the past and were not tested for immunity, should

they be tested now?

No. In this scenario, a HCW does not need to be tested unless s/he has an exposure. If an exposure occurs, refer to the postexposure guidelines in Table 1.

How should a vaccinated HCW with an unknown anti-HBs response be managed if they have a percutaneous or mucosal exposure to blood or body fluids from an HBsAg-positive source?

This person should be tested for anti-HBs as soon as possible after exposure. If the anti-HBs concentration is at least 10 mIU/mL, no further treatment is needed. If the anti-HBs concentration is less than 10 mIU/mL, HBIG and one dose of hepatitis B vaccine should be administered. Prior to administering the HBIG and vaccine, blood should be drawn for a baseline HBsAg test. Subsequently, in 3–6 months, an additional anti-HBs and an HBsAg test should be performed. If the HBsAg is positive, the person is infected and should be referred for medical evaluation. If the anti-HBs result is at least 10 mIU/mL, the person is seroprotected. It is necessary to do postvaccination testing later than the usual recommended time frame because anti-HBs from HBIG

might be detected if testing is done any earlier. The postvaccination test result should be recorded in the person's health record.

For a pre-employment physical, a HCW states she received all three hepatitis B vaccine doses as an adolescent. Would you test for anti-HBs?

If the HCW has written documentation of a full hepatitis B vaccine series, testing for anti-HBs at this point is not necessary. If the HCW has a subsequent exposure to HBV, hepatitis B immunoprophylaxis should be administered following guidelines for a person who has been vaccinated, but the immune response is not known (Table 1). This information should be documented in the HCW's employee health record. This approach should be sufficient to meet the needs of the employer and the requirements of OSHA. If there is no written documentation of hepatitis B vaccination, see the next question.

(continued on next page)

Table 1: Recommendations for postexposure prophylaxis after percutaneous or mucosal exposure to HBV in an occupational setting

Vaccination and antibody response status of exposed persons ¹	Treatment			
	Source is HBsAg positive	Source is HBsAg negative	Source is unknown or not tested	
			High risk	Low risk
Unvaccinated	HBIG ² (1 dose) and begin a hepatitis B vaccine series	Begin a hepatitis B vaccine series	Begin a hepatitis B vaccine series	Begin a hepatitis B vaccine series
Known responder³	No treatment	No treatment	No treatment	No treatment
Nonresponder³				
Not revaccinated⁴	HBIG (1 dose) and begin a revaccination series	Begin a revaccination series	HBIG (1 dose) and begin a revaccination series	Begin a revaccination series
After revaccination⁴	HBIG (2 doses) ⁵	No treatment	HBIG (2 doses) ⁵	No treatment
Antibody response unknown	Test for anti-HBs ⁶ If adequate ³ , no treatment If inadequate, HBIG x 1 and vaccine booster	No treatment	Test for anti-HBs ⁶ If adequate, ³ no treatment If inadequate, give vaccine booster and check anti-HBs in 1–2 months	

1. Persons known to have had HBV infection in the past or who are chronically infected do not require HBIG or vaccine.

2. Hepatitis B immune globulin (0.06 mL/kg) administered IM.

3. Adequate response is anti-HBs of at least 10 mIU/mL after vaccination.

4. Revaccination = additional 3-dose series of hepatitis B vaccine administered after the primary series.

5. First dose as soon as possible after exposure and the second dose 1 month later.

6. Testing should be done as soon as possible after exposure.

Source: This table was adapted from "Updated U.S. PHS Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis," MMWR, 6/29/01, Vol. 50 (RR-11)

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Several physicians in our group have no documentation showing they received hepatitis B vaccine. They are relatively sure, however, that they received the doses many years ago. What do we do now?

Because there is no documentation of vaccination, the 3-dose vaccination series should be administered and postvaccination testing should be performed 1–2 months after the third dose of vaccine. There is no harm in receiving extra doses of vaccine. Care should always be taken to document vaccine lot, date, manufacturer, route, and vaccine dosages. Postvaccination testing results should also be documented, including the date testing was performed. All organizations (e.g., hospitals, clinics) should develop policies or guidelines to assure valid hepatitis B immunization.

A healthcare worker (HCW) thinks she had 3 doses of hepatitis B vaccine in the past but has no documentation of receiving those doses. Before reading the recommendations to revaccinate her, we obtained an anti-HBs titer and the result was greater than 10 mIU/mL. With this lab result, can't we assume she is immune?

A positive anti-HBs indicates that the vaccinated person is immune at the time the HCW was tested, but does not necessarily assure that the HCW has long-term immunity. Long-term immunity has been shown only for persons attaining an adequate anti-HBs result of at least 10 mIU/mL after a 3-dose vaccination series. The most direct way to deal with this is to vaccinate the HCW with the 3-dose series of hepatitis B vaccine; test for anti-HBs in 1–2 months and document the result in the HCW's employee health record. An adequate anti-HBs result from a documented 3-dose vaccine series would assure not only seroprotection, but long-term protection, as well.

Of course, it is possible that the HCW has an anti-HBs result of greater than 10 mIU/mL because of an HBV infection in the past. If this is of concern, a total anti-HBc test could be performed to discern this (a positive result indicates a history of HBV infection at some undefined period in time).

I'm a nurse who received the hepatitis B vaccine series more than 10 years ago and had a positive follow-up titer (at least 10 mIU/mL). At present, my titer is negative (less than 10 mIU/mL). What should I do now? Nothing. Data show that vaccine-induced anti-HBs levels might decline over time; however, immune memory (anamnestic anti-HBs response) remains

intact indefinitely following immunization. Persons with anti-HBs concentrations that decline to less than 10 mIU/mL are still protected against HBV infection. For HCWs with normal immune status who have demonstrated adequate anti-HBs (at least 10 mIU/mL) following vaccination, booster doses of vaccine or periodic anti-HBs testing is not recommended.

A person who is a known non-responder to hepatitis B vaccine has a percutaneous exposure to HBsAg-positive blood. According to older ACIP recommendations, I have the option to give HBIG x 2 or HBIG x 1 and initiate revaccination. How do I decide which to do?

Current recommendations have been revised. The recommended postexposure prophylaxis for persons who are non-responders to hepatitis B vaccine (i.e., have not responded to an initial 3-dose series and revaccination with a 3-dose series) is to give HBIG as soon as possible after exposure and a second dose of HBIG one month later (see Table 1). Exposed persons, who are known not to have responded to a primary vaccine series, but have not been revaccinated with a second 3-dose series, should receive a single dose of HBIG and reinstate the hepatitis B vaccine series with the first dose of hepatitis B vaccine as soon as possible after exposure.

If an employee does not respond to hepatitis B vaccination (employee has had two full series of hepatitis B vaccine), does s/he need to be removed from activities that expose her/him to bloodborne pathogens? Does the employer have a responsibility in this area beyond providing the vaccine?

There are no regulations that require removal from job situations where exposure to bloodborne pathogens could occur; this is an individual policy decision within the organization. OSHA regulations require that employees in jobs where there is a reasonable risk of exposure to blood be offered hepatitis B vaccine. In addition, the regulation states that adequate personal protective equipment be provided and that standard precautions be followed. Check your state OSHA regulations regarding additional requirements. If there are no state OSHA regulations, federal OSHA regulations should be followed. Adequate documentation should be placed in the employee record regarding non-response to vaccination. HCWs who do not respond to vaccination should be tested for HBsAg to determine if they have chronic HBV infection.

If the HBsAg test is positive, the person should receive appropriate counseling and medical management. Persons who test negative for HBsAg should be considered susceptible to HBV infection and should be counseled about precautions to prevent HBV infection and the need to obtain HBIG prophylaxis for any known or likely exposure to HBsAg-positive blood (see Table 1).

Can a person with chronic HBV infection become a HCW?

Yes. All HCWs should practice standard precautions, which are designed to prevent HBV transmission, both from patients to HCW and from HCW to patient. There is, however, one caveat concerning HBV-infected HCWs. Those who are HBsAg positive and HBeAg (hepatitis B e antigen) positive should not perform exposure-prone procedures (e.g., gynecologic, cardiothoracic surgery) unless they have sought counsel from an expert review panel and been advised under what circumstances, if any, they may continue to perform these procedures. Such circumstances might include notifying prospective patients of the HCW's seropositivity before they undergo exposure-prone invasive procedures. For more information on this issue, see the *Mortality and Morbidity Weekly Report*, "Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures," *MMWR*, 7/12/91, Vol. 40(RR-8);1–9. This document is available at www.cdc.gov/mmwr/preview/mmwrhtml/00014845.htm.

Keep your own vaccination history!

Record the dates you received hepatitis B vaccine, as well as the results of your postvaccination serologic testing (anti-HBs).

Remember to save records of any vaccinations you receive so you don't have to repeat them.

To order adult immunization record cards, visit www.immunize.org/adultizcards.

For more information on vaccination recommendations for healthcare workers, see the following:

1. "Immunization of Health-Care Workers," *MMWR*, 12/26/97, Vol. 46 (RR-18), www.cdc.gov/mmwr/PDF/rr/rr4618.pdf
2. "Influenza Vaccination of Health-Care Personnel," *MMWR*, 2/24/06, Vol. 55 (RR-2), www.cdc.gov/mmwr/PDF/rr/rr5502.pdf
3. "Healthcare Worker Vaccination Recommendations," Immunization Action Coalition, www.immunize.org/catg.d/p2017.pdf

Summary of Recommendations for Adult Immunization

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Adapted from the recommendations of the Advisory Committee on Immunization Practices (ACIP)* by the Immunization Action Coalition, September 2006

Vaccine name and route	For whom vaccination is recommended	Schedule for vaccine administration (any vaccine can be given with another)	Contraindications and precautions (mild illness is not a contraindication)
Influenza Trivalent inactivated influenza vaccine (TIV) <i>Give IM</i>	<ul style="list-style-type: none"> Persons age 50yrs and older. Persons with medical problems (e.g., heart disease, lung disease, diabetes, renal dysfunction, hemoglobinopathy, immunosuppression) and/or people living in chronic-care facilities. Persons with any condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injury, seizure disorder, or other neuromuscular disorder). Persons working or living with at-risk people. Women who will be pregnant during the influenza season (December–March). All healthcare workers and other persons who provide direct care to at-risk people. Household contacts and out-of-home caregivers of children ages 0–59m. 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., dormitory residents). Anyone wishing to reduce the likelihood of becoming ill with influenza. 	<ul style="list-style-type: none"> Given every year in the fall or winter. October and November are the ideal months to give TIV. LAIV may be given as early as August. Continue to give TIV and LAIV through the influenza season from December through March (including when influenza activity is present in the community) and at other times when the risk of influenza exists. 	Contraindication Previous anaphylactic reaction to this vaccine, to any of its components, or to eggs. Precautions <ul style="list-style-type: none"> Moderate or severe acute illness. History of Guillain-Barré syndrome within 6wks of previous TIV.
Influenza Live attenuated influenza vaccine (LAIV) <i>Give intranasally</i>	<ul style="list-style-type: none"> Healthy, non-pregnant persons age 49yrs and younger who meet any of the conditions listed below. <ul style="list-style-type: none"> Working or living with at-risk people as listed in the section above. Healthcare workers or other persons who provide direct care to at-risk people (except persons in close contact with severely immunosuppressed persons). Household contacts and out-of-home caregivers of children ages 0–59m. Travelers 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., dormitory residents). Anyone wishing to reduce the likelihood of becoming ill with influenza. 		Contraindications <ul style="list-style-type: none"> Previous anaphylactic reaction to this vaccine, to any of its components, or to eggs. Pregnancy, asthma, reactive airway disease or other chronic disorder of the pulmonary or cardiovascular system; an underlying medical condition, including metabolic disease such as diabetes, renal dysfunction, and hemoglobinopathy; a known or suspected immune deficiency disease or receiving immunosuppressive therapy; history of Guillain-Barré syndrome. Precaution Moderate or severe acute illness.
Pneumococcal polysaccharide (PPV) <i>Give IM or SC</i>	<ul style="list-style-type: none"> Persons age 65yrs and older. Persons who have chronic illness or other risk factors, including chronic cardiac or pulmonary disease, chronic liver disease, alcoholism, diabetes, CSF leak, 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 persons 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); those who received an organ or bone marrow transplant; and candidates for or recipients of cochlear implants. 	<ul style="list-style-type: none"> Routinely given as a one-time dose; administer if previous vaccination history is unknown. One-time revaccination is recommended 5yrs later for persons at highest risk of fatal pneumococcal infection or rapid antibody loss (e.g., renal disease) and for persons age 65yrs and older if the 1st dose was given prior to age 65 and 5yrs or more have elapsed since the previous dose. 	Contraindication Previous anaphylactic reaction to this vaccine or to any of its components. Precaution Moderate or severe acute illness.

*For specific ACIP recommendations, refer to the official ACIP statements published in *MMWR*. To obtain copies of these statements, call the CDC-INFO Contact Center at (800) 232-4636; visit CDC's website at www.cdc.gov/nip/publications/ACIP-list.htm; or visit the Immunization Action Coalition (IAC) website at www.immunize.org/acip.

This table is revised periodically. Visit IAC's website at www.immunize.org/adultrules to make sure you have the most current version. IAC thanks William Atkinson, MD, MPH, from CDC's National Center for Immunization and Respiratory Diseases for his assistance. For more information, contact IAC at 1573 Selby Avenue, St. Paul, MN 55104, (651) 647-9009, or email admin@immunize.org.

Summary of Recommendations for Adult Immunization (continued)

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Vaccine name and route	For whom vaccination is recommended	Schedule for vaccine administration (any vaccine can be given with another)	Contraindications and precautions (mild illness is not a contraindication)
Hepatitis B (Hep B) <i>Give IM</i> Brands may be used interchangeably.	<ul style="list-style-type: none"> All adolescents; any adult wishing to obtain immunity. High-risk persons, including household contacts and sex partners of HBsAg-positive persons; injecting drug users; heterosexuals with more than one sex partner in 6 months; men who have sex with men; persons with recently diagnosed STDs; patients receiving hemodialysis and patients with renal disease that may result in dialysis; recipients of certain blood products; healthcare 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. Persons with chronic liver disease. <p>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 give the first dose of vaccine at the same visit. If found susceptible, complete the vaccine series.</p>	<ul style="list-style-type: none"> 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. <div>For Twinrix® (hepatitis A and B combination vaccine [GSK]), three doses are needed on a 0, 1, 6m schedule. Recipients must be age 18yrs or older.</div>	<p>Contraindication Previous anaphylactic reaction to this vaccine or to any of its components.</p> <p>Precaution Moderate or severe acute illness.</p>
Hepatitis A (Hep A) <i>Give IM</i> Brands may be used interchangeably.	<ul style="list-style-type: none"> Persons who travel or work anywhere except the U.S., Western Europe, New Zealand, Australia, Canada, and Japan. Persons with chronic liver disease, including persons with hepatitis B and C; injecting and non-injecting drug users; men who have sex with men; people with clotting-factor disorders; persons 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. Anyone wishing to obtain immunity to hepatitis A. <p>Note: Prevacination testing is likely to be cost effective for persons older than age 40yrs, as well as for younger persons in certain groups with a high prevalence of hepatitis A virus infection.</p>	<div>For Twinrix® (hepatitis A and B combination vaccine [GSK]), three doses are needed on a 0, 1, 6m schedule. Recipients must be age 18yrs or older.</div> <ul style="list-style-type: none"> Two doses are needed. The minimum interval between doses #1 and #2 is 6m. If dose #2 is delayed, do not repeat dose #1. Just give dose #2. 	<p>Contraindication Previous anaphylactic reaction to this vaccine or to any of its components.</p> <p>Precautions</p> <ul style="list-style-type: none"> Moderate or severe acute illness. Safety during pregnancy has not been determined, so benefits must be weighed against potential risk.
Td, Tdap (Tetanus, diphtheria, pertussis) <i>Give IM</i>	<ul style="list-style-type: none"> All adults who lack a history of a primary series consisting of at least 3 doses of tetanus- and diphtheria-containing vaccine. A booster dose of tetanus- and diphtheria-containing toxoid may be needed for wound management as early as 5yrs after receiving a previous dose, so consult ACIP recommendations.* Using tetanus toxoid (TT) instead of Td or Tdap is <u>not</u> recommended. In pregnancy, when indicated, give Td or Tdap in 2nd or 3rd trimester. If not administered during pregnancy, give Tdap in immediate postpartum period. <p><u>For Tdap (tetanus- and diphtheria-toxoids with acellular pertussis vaccine) only:</u></p> <ul style="list-style-type: none"> All adults younger than age 65yrs who have not received Tdap. Healthcare workers who work in hospitals or ambulatory care settings and have direct patient contact and who have not received Tdap. Adults in contact with infants younger than age 12m (e.g., parents, grandparents younger than age 65yrs, childcare providers, healthcare workers) who have not received a dose of Tdap. 	<ul style="list-style-type: none"> For persons who are unvaccinated or behind, complete the primary series with Td (spaced at 0, 1–2m, 6–12m intervals). One dose of Tdap may be used for any dose if ages 19–64yrs. Give Td booster every 10yrs after the primary series has been completed. For adults ages 19–64yrs, a 1-time dose of Tdap is recommended to replace the next Td. Intervals of 2yrs or less between Td and Tdap may be used if needed. <p>Note: The 2 Tdap products are licensed for different age groups: Adacel (sanofi) for use in persons ages 11–64yrs and Boostrix (GSK) for use in persons ages 10–18yrs.</p>	<p>Contraindications</p> <ul style="list-style-type: none"> Previous anaphylactic reaction to this vaccine or to any of its components. For Tdap only, history of encephalopathy within 7 days following DTP/DTaP. <p>Precautions</p> <ul style="list-style-type: none"> Moderate or severe acute illness. Guillain-Barré syndrome within 6wks of receiving a previous dose of tetanus toxoid-containing vaccine. Unstable neurologic condition. <p>Note: Use of Td or Tdap is not contraindicated in pregnancy. At the provider's discretion, either vaccine may be administered during the 2nd or 3rd trimester.</p>
Polio (IPV) <i>Give IM or SC</i>	<p>Not routinely recommended for persons age 18yrs and older.</p> <p>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 (i.e., India, Pakistan, Afghanistan, and certain countries in Africa). Previously vaccinated adults can receive one booster dose if traveling to polio endemic areas.</p>	<ul style="list-style-type: none"> Refer to ACIP recommendations* regarding unique situations, schedules, and dosing information. 	<p>Contraindication Previous anaphylactic or neurologic reaction to this vaccine or to any of its components.</p> <p>Precautions</p> <ul style="list-style-type: none"> Moderate or severe acute illness. Pregnancy.

Summary of Recommendations for Adult Immunization (continued)

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Vaccine name and route	For whom vaccination is recommended	Schedule for vaccine administration (any vaccine can be given with another)	Contraindications and precautions (mild illness is not a contraindication)
Varicella (Var) (Chickenpox) <i>Give SC</i>	All adults without evidence of immunity. Immunity is defined as any one of the following: <ul style="list-style-type: none"> • a history of two doses of Var • born in the U.S. before 1980 • history of varicella disease or herpes zoster based on healthcare provider diagnosis • laboratory evidence of immunity or laboratory confirmation of disease 	<ul style="list-style-type: none"> • Two doses are needed. • Dose #2 is given 4–8wks after dose #1. • If Var and either MMR, LAIV, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart. • If the second dose is delayed, do not repeat dose #1. Just give dose #2. 	Contraindications <ul style="list-style-type: none"> • Previous anaphylactic reaction to this vaccine or to any of its components. • Pregnancy or possibility of pregnancy within 4wks. • Persons immunocompromised because of malignancies and primary or acquired cellular immunodeficiency including HIV/AIDS. (See <i>MMWR</i> 1999, Vol. 48, No. RR-6.) Note: For those on high-dose immunosuppressive therapy, consult ACIP recommendations regarding delay time.* Precautions <ul style="list-style-type: none"> • If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP statement <i>General Recommendations on Immunization</i>* regarding time to wait before vaccinating. • Moderate or severe acute illness.
Meningococcal Conjugate vaccine (MCV4) <i>Give IM</i> Polysaccharide vaccine (MPSV4) <i>Give SC</i>	<ul style="list-style-type: none"> • College freshmen living in dormitories. • Adolescents and adults with anatomic or functional asplenia or with terminal complement component deficiencies. • Persons who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the “meningitis belt” of Sub-Saharan Africa). • Microbiologists who are routinely exposed to isolates of <i>N. meningitidis</i>. 	<ul style="list-style-type: none"> • One dose is needed. • If previous vaccine was MPSV4, re-vaccinate after 5yrs if risk continues. • Revaccination after MCV4 is not recommended. • MCV4 is preferred over MPSV4 for persons age 55yrs and younger, although MPSV4 is an acceptable alternative. 	Contraindication Previous anaphylactic or neurologic reaction to this vaccine or to any of its components, including diphtheria toxoid (for MCV4). Precautions <ul style="list-style-type: none"> • Moderate or severe acute illness. • For MCV4 only, history of Guillain-Barré syndrome.
MMR (Measles, mumps, rubella) <i>Give SC</i>	<ul style="list-style-type: none"> • Persons born in 1957 or later (especially 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. • Persons in high-risk groups, such as healthcare workers, students entering college and other post–high school educational institutions, and international travelers, should receive a total of two doses. • Persons born before 1957 are usually considered immune, but proof of immunity (serology or vaccination) may be desirable for healthcare workers. • Women of childbearing age who do not have acceptable evidence of rubella immunity or vaccination. 	<ul style="list-style-type: none"> • One or two doses are needed. • If dose #2 is recommended, give it no sooner than 4wks after dose #1. • If MMR and either Var, LAIV, and/or yellow fever vaccine are not given on the same day, space them at least 28d apart. • If a pregnant woman is found to be rubella susceptible, administer MMR postpartum. 	Contraindications <ul style="list-style-type: none"> • Previous anaphylactic reaction to this vaccine or to any of its components. • Pregnancy or possibility of pregnancy within 4wks. • 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. Precautions <ul style="list-style-type: none"> • If blood, plasma, and/or immune globulin were given in past 11m, see ACIP statement <i>General Recommendations on Immunization</i>* regarding time to wait before vaccinating. • Moderate or severe acute illness. • History of thrombocytopenia or thrombocytopenic purpura. Note: If PPD (tuberculosis skin test) and MMR are both needed but not given on same day, delay PPD for 4–6wks after MMR.
Human-papillomavirus (HPV) <i>Give IM</i>	All previously unvaccinated women through age 26yrs.	<ul style="list-style-type: none"> • Three doses are needed. • Dose #2 is given 4–8wks after dose #1, and dose #3 is given 6m after dose #1 (at least 12wks after dose #2). 	Contraindication Previous anaphylactic reaction to this vaccine or to any of its components. Precaution Data on vaccination in pregnancy are limited; therefore, vaccination during pregnancy should be delayed until after completion of the pregnancy.
Zoster (shingles) (Zos) <i>Give SC</i>	A herpes zoster (shingles) vaccine was licensed in May 2006 for use in persons age 60yrs and older. ACIP recommendations for its use are pending. Refer to the package insert for details on its use.		

First do no harm

Protect patients by making sure all staff receive yearly influenza vaccine!

Right now, healthcare employers are strongly encouraged to increase their employees' influenza immunization rates. But in 2007, a healthcare organization's accreditation may depend on it! The Centers for Disease Control and Prevention (CDC) recently published new recommendations for healthcare settings, and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) will soon establish new influenza infection control standards.

Big changes are taking place in influenza vaccination of healthcare personnel (HCP): The responsibility for increasing the rates of HCP influenza vaccination is rapidly shifting from the employee to the employer.

What's happening?

At CDC: In February 2006, CDC published "Influenza Vaccination of Health-Care Personnel." These recommendations "apply to HCP in acute care hospitals, nursing homes, skilled nursing facilities, physician offices, urgent care centers, and outpatient clinics, and to persons who provide home healthcare and emergency medical services" and were issued jointly by HICPAC (the Healthcare Infection Control Practices Advisory Committee) and ACIP (the Advisory Committee on Immunization Practices). The summary box in the right column presents an overview, including the recommendation that employers vaccinate employees at the work site at no cost. To obtain a copy of the complete recommendations, go to: www.cdc.gov/mmwr/PDF/rr/rr5502.pdf.

At JCAHO: In June, JCAHO (the Joint Commission on Accreditation of Healthcare Organizations) approved an infection control standard that requires accredited organizations to offer

influenza vaccinations to staff, volunteers, and independent practitioners who have close patient contact. According to a JCAHO press release, the standard "will become an accreditation requirement beginning January 1, 2007, for the Critical Access Hospital, Hospital, and Long-Term Care accreditation programs." To read the press release, go to: www.jointcommission.org/newsroom/newsreleases/nr_06_13_06.htm.

Why is it happening?

The short answer is because HCP influenza vaccination rates remain appallingly low, and unvaccinated HCP are infecting vulnerable patients with influenza. Fewer than 45% of HCP are immunized against influenza each year, even though ACIP has urged annual influenza vaccination for HCP since 1981. Further, influenza transmission has been documented among patients in a variety of clinical settings, and infections have been linked to unvaccinated HCP. Clearly, we are doing our patients harm.

What should your healthcare facility do to comply?

In the box below are practical online resources healthcare organizations will find valuable in creating influenza vaccination programs for employees.

Practical resources for vaccinating HCP against influenza

Centers for Disease Control and Prevention

Read "Influenza Vaccination of Health-Care Personnel": www.cdc.gov/mmwr/PDF/rr/rr5502.pdf
Access CDC's Influenza web page: www.cdc.gov/flu

National Influenza Vaccine Summit (NIVS)

(Co-sponsored by the American Medical Association and CDC). See the NIVS Health Care Worker Home Page: www.ama-assn.org/go/hcwfluimmunization

Massachusetts Medical Society

See the "2006 Employee Flu Immunization Campaign Kit": www.massmed.org/flu_kit

Immunization Action Coalition

Get these IAC print materials online:

"Standing Orders for Administering Influenza Vaccine to Adults":
www.immunize.org/catg.d/p3074.pdf

"Screening Questionnaire for Injectable Influenza Vaccination":
www.immunize.org/catg.d/p4066.pdf

"Screening Questionnaire for Intranasal Influenza Vaccination":
www.immunize.org/catg.d/p4067.pdf

"Declination of Influenza Vaccination" form:
www.immunize.org/catg.d/p4068.pdf

Summary of CDC's HICPAC / ACIP Recommendations

The committees that developed and endorsed these recommendations included persons with expertise in infectious diseases, infection control, pediatrics, vaccinology, internal medicine, and public health. The recommendations are as follows:

- **Educate HCP regarding the benefits of influenza vaccination** and the potential health consequences of influenza illness for themselves and their patients, the epidemiology and modes of transmission, diagnosis, treatment, and nonvaccine infection control strategies, in accordance with their level of responsibility in preventing health-care-associated influenza.
- **Offer influenza vaccine annually to all eligible HCP** to protect staff, patients, and family members and to decrease HCP absenteeism. Use of either available vaccine (inactivated [TIV] or live attenuated influenza vaccine [LAIV]) is recommended for eligible persons. During periods when TIV is in short supply, use of LAIV is especially encouraged when feasible for eligible HCP.
- **Provide influenza vaccination to HCP at the work site and at no cost** as one component of employee health programs. Use strategies that have been demonstrated to increase influenza vaccine acceptance, including vaccination clinics, mobile carts, vaccination access during all work shifts, and modeling and support by institutional leaders.
- **Obtain a signed declination from HCP who decline influenza vaccination** for reasons other than medical contraindications.
- **Monitor HCP influenza vaccination coverage and declination** at regular intervals during influenza season and provide feedback of ward-, unit-, and specialty-specific rates to staff and administration.
- **Use the level of HCP influenza vaccination coverage as one measure of a patient-safety quality program.**

Influenza Vaccination Standing Orders and Screening Questionnaires

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

For a ready-to-copy 8-1/2" x 11" version of standing orders for adult influenza, go to www.immunize.org/catg.d/p3074.pdf.

For a ready-to-copy 8-1/2" x 11" version of declination of influenza vaccine (for healthcare workers who refuse vaccination), go to www.immunize.org/catg.d/p4068.pdf.

Standing Orders for Administering Influenza Vaccine to Adults

Purpose: To reduce morbidity and mortality from influenza by vaccinating all adults 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 any of the criteria below.

Procedure:

- Identify adults in need of influenza vaccination based on meeting any of the following criteria:
 - Age 50 years or older
 - Having any of the following conditions:
 - Chronic disorder of the pulmonary or cardiovascular system, including asthma
 - Chronic metabolic disease (e.g., diabetes), renal dysfunction, hemoglobinopathy, or immunosuppression (e.g., caused by medications, HIV) that has required regular medical follow-up or hospitalization during the preceding year
 - Any condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injury, seizure disorder or other neuromuscular disorder)
 - Residence in a nursing home or other chronic-care facility that houses persons of any age
 - In an occupation or living situation that puts one at increased risk of influenza infection

Declination of Influenza Vaccination

My employer or affiliated health facility, _____, has recommended that I receive influenza vaccination in order to protect the patients I serve.

I acknowledge that I am aware of the following facts:

- Influenza is a serious respiratory disease that kills an average of 36,000 persons and hospitalizes more than 200,000 persons in the United States each year.
- Influenza vaccination is recommended for me and all other healthcare workers to prevent influenza disease and its complications, including death.
- I will shed the virus for 24–48 hours before influenza symptoms appear.

Screening Questionnaire for Intranasal Influenza Vaccination

For adult patients as well as parents of children to be vaccinated: The following questions will help us determine if there is any reason we should not give you (or your child) intranasal influenza vaccine (FluMist®) today. If you answer "yes" to any question, it does not necessarily mean you (or your child) should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

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 persons age 50 years and older**
- ☐ **ALL children age 6–59 months**
- ☐ **Household contacts of all children age 0–59 months and their out-of-home caregivers**
- ☐ **Healthcare workers**
Healthcare 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
- ☐ **ANY person who wishes to reduce the likelihood of becoming ill with influenza (if the person is at least 6 months of age)**
- ☐ **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 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 with certain high-risk medical conditions**
Any person (age 6 months 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), renal dysfunction, hemoglobinopathies, or immunosuppression (including HIV)
 - Adults and children who have a condition that compromises respiratory function or the handling of respiratory secretions or can increase the risk of aspiration
 - 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**

Persons who should not be vaccinated

Consult the current recommendations from CDC (see source information below) 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 age 5–49 years.

Source: "Prevention and Control of Influenza—Recommendations of ACIP" at www.cdc.gov/flu/professionals/vaccination

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

For a ready-to-copy 8-1/2" x 11" version of this screening questionnaire, go to www.immunize.org/catg.d/p4066.pdf.

For a ready-to-copy 8-1/2" x 11" version of this piece, go to www.immunize.org/catg.d/2013flu.pdf.

For a ready-to-copy 8-1/2" x 11" version of this screening questionnaire, go to www.immunize.org/catg.d/p4067.pdf.


If you administer vaccines, you need these materials!

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

Here's the link: www.immunize.org/catg.d/p4065scr.pdf

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

Screening Questionnaire for Adult Immunization



For patients: The following questions will help us determine which vaccines you may be given today. If you answer "yes" to any question, it does not necessarily mean you should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

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

Form completed by: _____ Date: _____
Form reviewed by: _____ Date: _____

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

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

www.immunize.org/catg.d/p4065scr.pdf • Item #P4065 (5/04)

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Here's the link: www.immunize.org/catg.d/p2023b.pdf

Vaccine Administration Record for Adults

Before administering any vaccines, give the patient copies of all pertinent Vaccine Information Statements (VISs) and make sure he/she understands the risks and benefits of the vaccine(s). Update the patient's personal record card or provide a new one whenever you administer vaccine.

Patient name: _____
Birthdate: _____
Chart number: _____

Vaccine	Type of Vaccine* (generic abbreviation)	Date given (mo/day/yr)	Source (F, S, P) ¹	Site ²	Vaccine		Vaccine Information Statement		Signature/ Initials of vaccinator
					Lot #	Mic.	Date on VIS ³	Date given ⁴	
Tetanus, Diphtheria, (Pertussis) (e.g., Td, Tdap) Give IM.									
Hepatitis A ⁵ (e.g., HepA, HepA-HepB) Give IM.									
Hepatitis B ⁶ (e.g., HepB, HepA-HepB) Give IM.									
Human Papillomavirus (HPV) Give IM.									
Measles, Mumps, Rubella (MMR) Give SC. ⁷									
Varicella (Var) Give SC.									
Pneumococcal polysaccharide (PPV) Give SC or IM.									
Meningococcal (e.g., MenV, meningitis, MPSV4, polysaccharide) Give MPSV4 IM. Give MPSV4 SC.									
Zoster (Zos) Give SC.									
Influenza (e.g., TIV, inactivated; LAIV, live, attenuated) Give TIV IM. Give LAIV IN.									
Other									

1. Record the generic abbreviation for the type of vaccine given (e.g., PPV, HepA-HepB, not the trade name).
2. Record the source of the vaccine given as either F (Federally-supported), S (State-supported), or P (supported by Private insurance or other Private funds).
3. Record the site where vaccine was administered as either RA (Right Arm), LA (Left Arm), RT (Right Thigh), LT (Left Thigh), IN (intranasal).
4. Record the publication date of each VIS as well as the date it is given to the patient.
5. For combination vaccines, fill in a row for each separate antigen in the combination.

www.immunize.org/catg.d/p2023b.pdf • Item #P2023 (9/04)

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Here's the link: www.immunize.org/catg.d/4036need.pdf

Your name: _____ Date of birth: ____/____/____ Today's date: ____/____/____
(mo.) (day) (yr.) (mo.) (day) (yr.)

☒ **Do I Need Any Vaccinations Today?**

Many adults are behind on their vaccinations. These checklists will help you and your healthcare provider determine if you need any vaccinations. Please check the boxes that apply to you.

Influenza vaccination

☐ I am age 50 years or older.

☐ I am younger than age 50 years, and one or more of the following conditions or situations applies to me:

_____ lung disease	_____ I live in a nursing home or chronic care facility.
_____ heart disease	_____ I will be pregnant during the influenza season (December–March).
_____ kidney disease	_____ I provide essential community services.
_____ diabetes	_____ I am a healthcare worker.
_____ HIV/AIDS	_____ I am a household contact or caregiver of a person who has one of the illnesses listed at the left, is age 65 years or older, or is age 0–59 months.
_____ a disease that affects my immune system	_____ I am a household contact or caregiver of a person who has one of the illnesses listed at the left, is age 65 years or older, or is age 0–59 months.
_____ a condition that may cause me to choke when I swallow (e.g., neuromuscular disorder, spinal cord injury, seizure disorder)	

☐ I am not in one of the groups listed above, but I'd like to be vaccinated to avoid getting influenza this season.

Pneumococcal vaccination

☐ I am age 65 years or older, and I have never had a dose of pneumococcal vaccine.

☐ I am age 65 years or older and had one dose of pneumococcal vaccine when I was younger than 65; it has been at least 5 years since that dose.

☐ I have one of the following health problems and I (☐ have) (☐ have not) had a previous dose of pneumococcal vaccine:

_____ lung disease (not asthma)	_____ liver disease	_____ organ or bone marrow transplant
_____ heart disease	_____ HIV/AIDS	_____ generalized malignancy
_____ diabetes	_____ Hodgkin's disease	_____ cerebrospinal fluid leak
_____ alcoholism	_____ leukemia	_____ sickle cell disease
_____ cochlear implant	_____ multiple myeloma	_____ had my spleen removed
_____ kidney disease	_____ lymphoma	_____ on medication or receiving x-ray treatment that affects my immune system

Tetanus-, diphtheria-, and pertussis-containing vaccination (e.g., DTP, DTap, Tdap, or Td)

☐ I am younger than age 65 years and have not had a pertussis-containing vaccine as an adult.

☐ I have or will have close contact with a child younger than 12 months and have not had a pertussis-containing vaccine as an adult.

☐ I have not yet had at least 3 tetanus- and diphtheria-containing shots.

☐ I have had at least 3 tetanus- and diphtheria-containing shots in my lifetime, but I believe it's been 10 years or more since I received my last shot.

☐ I have no idea if I ever received any tetanus- and diphtheria-containing shots in school, the military, or elsewhere.

(continued on page 2)

www.immunize.org/catg.d/4036need.pdf • Item #P4036 (7/04)

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Here's the link: www.immunize.org/catg.d/p2020a.pdf

How to Administer IM and SC Injections to Adults

For Intramuscular (IM) Injections

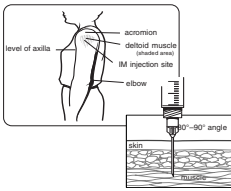
Administer these vaccines via IM route: Tetanus, diphtheria (Td) with pertussis (Tdap); hepatitis A; hepatitis B; inactivated influenza; and meningococcal conjugate (MCV4). Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPV23) either IM or SC.

Injection site: Give in the thickest and central portion of the deltoid—above the level of the armpit and below the acromion (see the diagram).

Needle size: 22–25 gauge, 1" to 1-1/2" needle

Needle insertion:

- Use a needle long enough to reach deep into the muscle.
- Insert the needle at an 80°–90° angle to the skin with a quick thrust.
- Two injections given in the same deltoid muscle should be separated by a minimum of 1", if possible.



For Subcutaneous (SC) Injections

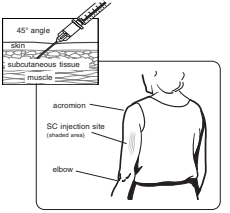
Administer these vaccines via SC route: MMR, varicella, and meningococcal polysaccharide (MPSV4). Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPV23) either SC or IM.

Injection site: Posterolateral aspect of upper arm

Needle size: 23–25 gauge, 5/8" needle

Needle insertion:

- Pinch up on the tissue to prevent injection into muscle. Insert the needle at a 45° angle to the skin.
- Two injections given in the same area of fatty tissue should be given a minimum of 1" apart.



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

www.immunize.org/catg.d/p2020a.pdf • Item #P2020A (6/05)

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indications and contraindications as listed in the manufacturer's package insert.

How should Zostavax be stored?

Zostavax must be stored like varicella vaccine, frozen at an average temperature of 5°F (-15°C) or colder until it is reconstituted. Any freezer that has a separate sealed freezer door and reliably maintains an average temperature of 5°F or colder is acceptable for storage. The diluent should be stored separately at room temperature or in the refrigerator.

How is Zostavax administered?

The vaccine is administered subcutaneously. Reconstitute using the diluent provided and administer it immediately after reconstitution to minimize loss of potency. If the vaccine is not administered within 30 minutes, it must be discarded.

Which adolescents and adults should receive routine Tdap vaccine?

All adolescents and adults who meet the age criteria should receive a one-time dose of Tdap. It is routinely recommended for all persons at age 11–12 years. In addition, it should be given as a one-time dose to older adolescents and to all adults younger than age 65 years. If Td has recently been given, in general, an interval of 5 years should separate the Tdap dose and the previous dose of Td. However, certain adolescents and adults should get Tdap with an interval of 2 years or less following their previous Td dose if they are a parent or caregiver of a child younger than age 12 months, a healthcare worker having direct patient contact, or at risk for pertussis because of increased pertussis in the community or during outbreaks.

Which Tdap products can be used in adolescents and which can be used in adults?

Adacel™ (sanofi pasteur) is approved for use in persons ages 11 through 64 years. Boostrix® (Glaxo-SmithKline) is approved for use in persons ages 10 through 18 years. Neither product is licensed for persons ages 65 years and older nor for children ages 7 through 9 years; Td should be used in these age groups whenever protection from tetanus and/or diphtheria is needed.

Can Tdap be given as part of wound management?

Yes, as long as the person has not received Tdap previously and falls within the approved age range for receiving the Tdap vaccine brand (10 through

18 years for Boostrix, 11 through 64 years for Adacel).

Can we give Tdap at the same visit as other vaccines?

Yes. Tdap can be given with all other vaccines. Each vaccine dose should be administered using a separate syringe.

Who needs to be vaccinated against influenza this year?

Annual vaccination is recommended for all persons who meet any of the following criteria:

- Age 50 years or older
- Ages 6 through 59 months
- Ages 5 years and older having any of the following conditions:
 - a chronic disorder of the pulmonary or cardiovascular system, including asthma
 - a chronic disease of the blood or kidneys, immunosuppression (e.g., caused by medications, HIV), or diabetes that has required medical follow-up or hospitalization in the preceding year
 - compromised ability to handle respiratory secretions or an increased risk for aspiration (e.g., cognitive dysfunction, spinal cord injury, seizure disorder, or other neuromuscular disorder)
 - pregnancy during the influenza season
 - current receipt of long-term aspirin therapy as a child or teen
- Residence in a nursing home or other chronic-care facility
- Likely to transmit influenza to persons at high risk, including
 - healthcare workers, caregivers, or household members in contact with persons having high-risk conditions
 - household contacts or out-of-home caretakers of children age 0 through 59 months.

In addition, anyone who wants to protect themselves or their children from influenza can be vaccinated.

Which healthcare workers need influenza vaccine?

All healthcare personnel should receive annual influenza vaccination. It is important to vaccinate all outpatient and hospital personnel, as well as those who provide home care. In short, any person who has contact with patients should be vaccinated.

What are the new CDC recommendations for influenza vaccination of healthcare personnel?

The recommendations for influenza vaccination of healthcare personnel (HCP) are not new, but influenza vaccination coverage among HCP remains low. Because HCP provide care to patients at high risk for complications of influenza, HCP should be considered a high-priority group for receiving vaccination. Achieving high rates of vaccination among HCP will protect staff and their patients, and reduce disease burden and healthcare costs.

On Feb. 24, 2006, CDC devoted an entire *MMWR*

Recommendations and Reports to influenza vaccination of HCP. These new recommendations are summarized in the following points:

- All HCP should be educated regarding the benefits of influenza vaccination.
- Influenza vaccine should be offered annually to all eligible HCP.
- Provide influenza vaccination to HCP at the work site and at no cost.
- Obtain a signed declination from HCP who decline influenza vaccination.
- Monitor HCP influenza vaccination coverage and declination at regular intervals.
- Use the level of HCP vaccination coverage as one measure of a patient-safety quality program.

To obtain a copy of these CDC recommendations for healthcare personnel, go to www.cdc.gov/mmwr/pdf/rr/rr5502.pdf.

Who can receive FluMist®?

FluMist, the live attenuated influenza vaccine (LAIV), is approved for use in healthy nonpregnant persons ages 5 years through 49 years. Many of these persons are among the groups that are targeted for vaccination, including healthcare personnel (excluding those in close contact with severely immunosuppressed persons during periods when the immunocompromised person requires a protective environment) and other persons in close contact with high-risk groups, including household contacts of high-risk persons and contacts of children from birth through age 59 months. In addition, any healthy, nonpregnant person ages 5 through 49 years who wants to reduce their risk of influenza can be vaccinated with FluMist.

What are the special requirements for storage and handling of FluMist?

It must be stored in a freezer with a separate door that can reliably maintain 5°F (-15°C) or colder. Once thawed, LAIV cannot be refrozen. LAIV may be stored at refrigerator temperature but must be discarded if not used within 60 hours. Use of the manufacturer-supplied "freezebox" is no longer required to store LAIV, and the vaccine can now be stored in a conventional frost-free freezer.

How late in the season can I vaccinate my patients with influenza vaccine?

Although peak influenza activity often occurs in mid-winter months, transmission of illness may

(continued on page 14)

Vaccinate Adults correction policy

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

Please visit the
Immunization Action Coalition's
websites:
www.immunize.org
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continue well into the spring. Providers are encouraged to continue vaccinating patients throughout the fall and winter including into March, as long as vaccine is available.

Hepatitis A and B

Editor's note: Three pages of Q&As titled "Hepatitis B and the Healthcare Worker" are answered by CDC experts on page 4 of Vaccinate Adults.

What is the best way to prevent hepatitis A virus (HAV) infection?

Hepatitis A vaccination with the 2-dose series is the best way to prevent HAV infection. The first dose confers protection approximately 30 days following vaccination. If protection from HAV is needed sooner, immune globulin (IG) can be used for immediate protection. Protection from IG use lasts 3–5 months, depending upon the dosage used.

For whom is hepatitis A vaccine recommended?

Hepatitis A vaccine is recommended routinely for all children at ages 12–23 months and for all other persons at risk of hepatitis A virus infection or its

consequences, including

- Persons traveling to or working in countries that have high or intermediate endemicity of infection
- Men who have sex with men (MSM)
- Users of illegal injection and non-injection drugs
- Certain STD clients with risk factors such as those who are MSM or who use illegal drugs
- Persons who work with infected primates or with live hepatitis A virus
- Persons with clotting-factor disorders
- Persons with chronic liver disease

Hepatitis A vaccine is also recommended for any person wishing to obtain immunity. To obtain a copy of the ACIP recommendations on hepatitis A, go to www.cdc.gov/mmwr/pdf/rr/rr5507.pdf

Should persons who were tested for HBsAg in other countries be retested in the U.S.?

Regardless of where the original test was obtained, it is important to repeat a previous positive HBsAg test result to confirm acute or chronic HBV infection. Chronic infection can have lifelong ramifications for both the person and his family.

One of my foreign-born patients is HBsAg positive. How will this affect his application for legal status in the U.S.?

HBsAg-positive persons should be considered eligible for migration and adjustment-of-visa status. They should be counseled to receive recommended follow-up medical evaluation and ongoing disease monitoring in the U.S. Their family members should be evaluated as well.

What treatment is available for persons with HBV infection?

While no specific treatment exists for persons with acute hepatitis B, persons who have chronic HBV infection require medical evaluation and regular monitoring. Therapeutic agents approved by the FDA for treatment of chronic hepatitis B can achieve sustained suppression of HBV replication and remission of liver disease in certain persons. Periodic screening with alpha fetoprotein or imaging studies has been demonstrated to enhance early detection of hepatocellular carcinoma (HCC). Chronically infected persons who have HCC have been reported to have experienced long-term survival after resection or ablation of small HCCs, and persons who were screened for HCC had a substantial survival advantage compared with historic controls.

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 or less). 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 (within the past 6 mos). Its presence indicates acute infection.

HBcAg: 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.

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

Tests	Results	Interpretation	Vaccinate?
HBsAg anti-HBc anti-HBs	negative negative negative	susceptible	vaccinate if indicated
HBsAg anti-HBc anti-HBs	negative negative positive with ≥ 10 mIU/mL*	immune due to vaccination	no vaccination necessary
HBsAg anti-HBc anti-HBs	negative positive positive	immune due to natural infection	no vaccination necessary
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive positive negative	acutely infected	no vaccination necessary
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive negative negative	chronically infected	no vaccination necessary (may need treatment)
HBsAg anti-HBc anti-HBs	negative positive negative	four interpretations possible [†]	use clinical judgment

*Postvaccination testing, when it is recommended, should be performed 1–2 months after 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

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

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☐ I don't need a CD, thanks!

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CD-ROM of IAC print materials

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

Qty.	Videos, CD, and DVD (discounts on bulk orders)	Amt.
------	---------------------------------------------------	------

_____	V2010 Videotape: How to Protect Your Vaccine Supply	\$15
_____	C2012 CD: Vaccine Storage and Handling Toolkit	\$15
_____	V2020 Videotape: Immunization Techniques: Safe, Effective, Caring	\$30
_____	D2020 DVD: Immunization Techniques: Safe, Effective, Caring	\$35

**Adult immunization record cards
(first box comes with a 30-day,
money-back guarantee; discounts on bulk orders)**

____ R2005 Adult immunization record cards: 250 cards/box; 1 box—\$35;
2 boxes—\$65; 3 boxes—\$90; 4 boxes—\$110 \$

**Laminated immunization schedules
(discounts on bulk orders)**

_____ R2008 Childhood/adolescent immunization schedule: 1–4 copies—\$4 each
5–19 copies—\$3 each \$ _____

_____ R2009 Adult immunization schedule: 1–4 copies—\$5 each;
5–19 copies—\$4 each \$ _____

Grand Total \$

Method of payment: ☐ Check enclosed ☐ Purchase order #

Exp. date ☐ Visa ☐ Mastercard ☐ Am. Express ☐ Discover

Card #

[illegible]

Name/Title

Organization

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

City/State/Zip

(Telephone)

Email address

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Deborah L. Wexler, MD
IAC Executive Director

Dear health professional,

No matter what role you play in providing health-care, the demands of our increasingly complex system make it more important than ever to have a way to keep up with the latest immunization resources and patient education materials.

One of the best ways to do that is to sign up for the Immunization Action Coalition's (IAC's) free weekly email news service, *IAC Express*, and our free semiannual publication *Vaccinate Adults*.

These publications, supported by grants from CDC, are jam-packed with concise and practical information, as well as patient and staff education materials, many of which are ready to copy.

IAC Express – Our one-of-a-kind, highly praised, free weekly email news service covers the latest information about U.S. vaccine recommendations, policies, and resources.

Vaccinate Adults – Our 16-page free print publication written specifically for adult medicine specialists, includes the exceptionally popular "Ask the Experts," featuring CDC's widely acclaimed experts on immunization. All content is technically reviewed by CDC for accuracy.

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news service focusing on recommendations, information, and resources about viral hepatitis.

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Even if this issue of *Vaccinate Adults* was mailed directly to you, you should still go online and subscribe to the publications you need.

These print and email publications bring the following benefits to you and your patients:

- Better disease protection for patients
- Time savings for staff
- Improved staff training
- Improved vaccination screening
- Improved patient understanding

Please go online today and subscribe. I believe that doing so is one of the easiest and most powerful steps you can take to provide better disease protection for the patients your organization serves.

Deborah L. Wexler, MD

Deborah L. Wexler, MD
Executive Director

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Thank you, readers!

We greatly appreciate your financial support and your comments and suggestions.

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

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October 2006

Immunization Action Coalition

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