

# VACCINATE ADULTS!

A special bulletin for adult medicine specialists from *NEEDLE TIPS & Hepatitis B Coalition News*

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

## Ask the Experts

*Editors' note: The Coalition thanks William L. Atkinson, MD, MPH; Harold S. Margolis, MD; and Linda A. Moyer, RN, of the Centers for Disease Control and Prevention for answering the following questions from our readers. Dr. Atkinson, medical epidemiologist at the National Immunization Program, and Dr. Margolis, chief of the Hepatitis Branch, act as CDC liaisons to the Coalition. Ms. Moyer is an epidemiologist at the Hepatitis Branch.*

### Hepatitis B

Harold S. Margolis, MD, and Linda A. Moyer, RN

**In adults, what is the appropriate site for administration of hepatitis B vaccine and what needle length and gauge should I use?**

The deltoid is recommended for routine intramuscular vaccination among adults, particularly for hepatitis B vaccine. The suggested needle size is 1-1½ inches and 20-25 gauge.

**Are the hepatitis B vaccines interchangeable?**

Yes. The vaccines available in the United States are Recombivax-HB (Merck & Co.) and Engerix-B (SmithKline Beecham). They may be used interchangeably at the recommended dosage for each product.

**Which adolescents should receive hepatitis B vaccine?**

All adolescents should receive hepatitis B vaccine. The Advisory Committee on Immunization Practices, American Academy of Family Physicians, and the American Academy of Pediatrics recommend this vaccine for children 0 through 18 years of age.

**If my patient has a positive anti-HBs titer after 2 doses of hepatitis B vaccine, is a third dose necessary?**

Yes, the 3-dose series is based on the results of long-term immunogenicity studies using the 3-dose regimen. These data show the 3-dose series of hepatitis B vaccine provides long-term immunologic memory that gives long-term protection.

**My adult patient's first dose of hepatitis B vaccine was 6 months ago. Should the vaccine series be restarted?**

The vaccine series does not need to be restarted. The person should receive the second dose at this time and the third dose 2-6 months later.

*Ed. note: For more questions and answers from our experts about hepatitis B and the health care worker, read page 5. Also, make sure you have the new ACIP recommendation entitled, "Immunization of Health-Care Workers." To obtain a copy, call 800-232-2522.*

**Is there a certain period of time one should wait after receiving hepatitis B vaccine before giving blood?**

No. Although there have been case reports in the literature of persons testing HBsAg-positive transiently after hepatitis B vaccine, this is thought to occur rarely, doesn't represent infection, and doesn't warrant postponement of blood donation by recent vaccinees.

**If you want to test and vaccinate your patient for hepatitis B on the same day, does it matter if you test or vaccinate first?**

In theory, no. It is reasonable to draw the blood first and then administer the first dose of vaccine.

### Hepatitis A

Harold S. Margolis, MD, and Linda A. Moyer, RN

**If dose #1 of hepatitis A vaccine was given over 1 year ago, do you restart the series?**

No. Hepatitis A vaccine is very immunogenic and persons with intact immune memory should respond well to an interrupted schedule.

**My patient is traveling in 2 weeks to a hepatitis A endemic area. How do I protect him or her in light of the immune globulin (IG) shortage?**

Give the first dose of hepatitis A vaccine. If IG is available, give IG at the same time at a different site. Counseling should include safe eating and drinking practices in countries where sanitation may not be optimal.

**If a traveler received the first dose of hepatitis A vaccine more than one year ago and needs to travel abroad imminently, will the traveler need IG in addition to dose #2 prior to leaving?**

No. Just give the final dose of hepatitis A vaccine prior to travel.

(continued on page 9)

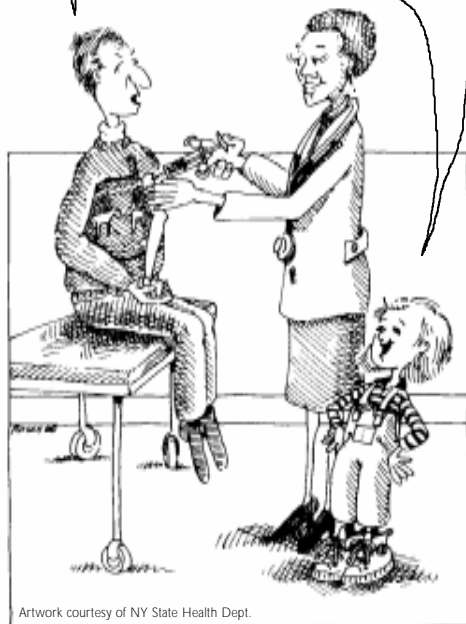
### Questions for the experts?

Contact: Immunization Action Coalition  
1573 Selby Avenue, St. Paul, MN 55104  
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Are you **sure** I have to get this pneumococcal shot??

Grandpa, if you're not **positive** you've had it, you need to get it now!

(See page 6.)



Artwork courtesy of NY State Health Dept.

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## VACCINATE ADULTS!

from the publishers of  
**NEEDLE TIPS**

### Immunization Action Coalition Hepatitis B Coalition

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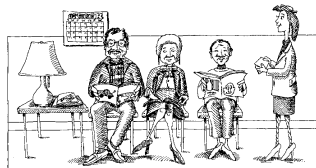
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**The Immunization Action Coalition**, a 501(c)3 nonprofit organization, works to boost immunization rates. The Coalition promotes physician, community, and family awareness of, and responsibility for, appropriate immunization of all people of all ages against all vaccine-preventable diseases.

**The Hepatitis B Coalition**, a program of the Immunization Action Coalition, 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 who are chronically infected with hepatitis B.

## Join the Coalition!

Please become a member. Your contribution will be used to continue sending you **VACCINATE ADULTS!**, a publication full of excellent information. See the back page for details about how to join.



# Letters to the Editor...

*Editor's note: We welcome letters of interest to our readers. Please send your letters by mail, fax, or e-mail to the address in the box at the left.*

## Pneumococcal vaccine saves lives

The study by Ortvqvist and colleagues (*Lancet*, 1998;351:399-403) adds to an already conflicted literature regarding the efficacy of pneumococcal vaccines on preventing pneumonia in middle-aged and elderly people.

This and previously reported studies with similar negative conclusions have been criticized on the basis of population size, case ascertainment, and other methodologic issues, and other studies from Finland (Koivula I., et al., *Amer J Med*. 1997;103(4):281-90) and the United States (K. Nichol, personal communication) indicate a benefit of pneumococcal vaccination in preventing pneumonia in the elderly. Nevertheless, it seems clear that when measured by pneumonia prevention, the pneumococcal vaccine is not the "home run" that we had wished.

In revisiting its recommendations for the use of the pneumococcal vaccine ("Prevention of Pneumococcal Disease," *MMWR*, 1997; 46:No.RR-8), the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention recognized the variability of the study results which measure prevention of pneumococcal pneumonia and chose to base its recommendations on the well-established efficacy of the vaccine in preventing invasive pneumococcal disease (bacteremia and meningitis).

The estimated annual burden of invasive pneumococcal disease in the United States is 50,000 cases of bacteremia and 3,000 cases of meningitis. The elderly bear the brunt of these infections, both in terms of incidence and mortality.

Multiple trials have consistently demonstrated protective efficacy (50-80%) of pneumococcal vaccines in prevention of invasive pneumococcal disease in immunocompetent elderly people. This alone is ample justification for the continued and increased use of the current pneumococcal vaccine in the indicated populations. At the same time, the limited effectiveness of

the current vaccine in preventing pneumonia should spur efforts to "develop a better mousetrap." The more immunogenic protein conjugated pneumococcal vaccines (now being studied in children) need to be evaluated in adult groups at high risk of pneumococcal disease, both invasive and noninvasive.

– *Pierce Gardner, MD* – *Marie Griffin, MD*  
*SUNY, Stony Brook* *Vanderbilt University*  
– *Gregory Poland, MD* – *William Schaffner, MD*  
*Mayo Clinic* *Vanderbilt University*

*Ed. note: Pneumococcal disease kills about 40,000 people each year in the United States. Pneumococcal vaccine is recommended for every person 65 years of age and older as well as for many persons under 65. See page 6 for information about the recommendations for the use of pneumococcal vaccine.*

## "IAC Express" expressly appreciated!

This is a tardy thank you to everyone at the Immunization Action Coalition for "IAC Express" and the information it provides. In the last issue I especially appreciated information about topics such as rabies postexposure prophylaxis and the new STD guidelines (addressing the expanded use of hepatitis A and B vaccines).

I work hard at staying well-informed, but I learn something new in every issue of "IAC Express." It's a great supplement to **VACCINATE ADULTS!** and I especially appreciate the pointers to other on-line information. Thanks for making it easier for me to do my job well! Do you guys ever sleep??

– *Nancy Fasano, Immunization Division*  
*Michigan Department of Community Health* ♦

## Sign up for IAC Express!

You will receive monthly immunization and hepatitis announcements from us via e-mail.

To subscribe, send an e-mail request to [express@immunize.org](mailto:express@immunize.org) and place the word **SUBSCRIBE** in the "subject:" field.

## Welcome new advisory board members!

**Pierce Gardner, MD, FACP**, internist, is the Associate Dean for Academic Affairs and Professor of Medicine, at State University of New York, Stony Brook. Dr. Gardner, the American College of Physicians' liaison to the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention, also serves on national subcommittees and working groups concerned with such issues as immunization following bone marrow transplantation, pneumococcal vaccine, and the "Influenza Pandemic Preparedness and Emergency Response for the United States." Dr. Gardner received his medical degree from Harvard Medical School.

**Bernard Gonik, MD**, obstetrician-gynecologist, is Professor and Associate Chairman, Department of Obstetrics and Gynecology, at Wayne State University School of Medicine, and Chief of Obstetrics and Gynecology at Grace Hospital, Detroit, Michigan. Dr. Gonik, an associate examiner for the American Board of Obstetrics and Gynecology, serves on the editorial board of *Infectious Diseases in Obstetrics and Gynecology* and is a reviewer for major journals including the *Journal of Immunology*. He is a prolific author and a lecturer on hepatitis B infection in pregnant women. Dr. Gonik received his medical degree from Michigan State University College of Human Medicine.

(continued on page 3)

# New vaccine highlights

*Editors' note: The information on this page is current as of April 1, 1998.*

## The latest ACIP statements

No clinic or other health care facility should be without a set of these public health recommendations on vaccines, which are published in the *MMWR*. To find out how to get a complete set of ACIP statements or just the ones you want, see "General vaccine questions" on page 9.

**NEW!** On Jan. 23, 1998, *MMWR* published, "1998 Guidelines for Treatment of Sexually Transmitted Diseases." Exchange your well-worn, well-used 1993 edition for this new update!

**NEW!** On Dec. 26, 1997, *MMWR* published, "Immunization of Health-Care Workers." Included in these recommendations are the most up-to-date guidelines for screening and vaccination of health care workers in clinics, hospitals, nursing homes, etc. Every clinic should have a copy!

The following ACIP statements were released in 1997: *The Prevention of Pneumococcal Disease, 4/4/97; Pertussis Vaccination, 3/28/97; Poliomyelitis Prevention, 1/24/97*. Also make sure you have a copy of *General Recommendations on Immunization, 1/24/94*. It's a great resource.

## Hepatitis A and B news

At the March 24–25, 1997, NIH Consensus Development Conference, a non-federal panel of experts recommended that hepatitis A and B vaccination be given to all person who are infected with the hepatitis C virus. To order a copy of "Management of Hepatitis C - NIH Consensus Statement," call 888-644-2667.

## Rabies news

On Jan. 16, 1998, *MMWR* published, "Human Rabies - Texas and New Jersey, 1997." This article updates the ACIP recommendations on who should receive postexposure prophylaxis (PEP) following exposure to bats. These recommendations call for more aggressive use of PEP.

*(continued from page 2)*

**William Schaffner, MD**, internist, is Professor and Chairman, Department of Preventive Medicine, and Professor of Medicine, Division of Infectious Diseases, at Vanderbilt University School of Medicine. Dr. Schaffner, the American Hospital Association's liaison to the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention, is also a member of the National Institute of Allergy and Infectious Diseases' Adult Acellular Pertussis Vaccine Trial Data Monitoring and Safety Committee and the hospital epidemiologist at Vanderbilt University Hospital. Dr. Schaffner received his medical degree from Cornell University Medical College.

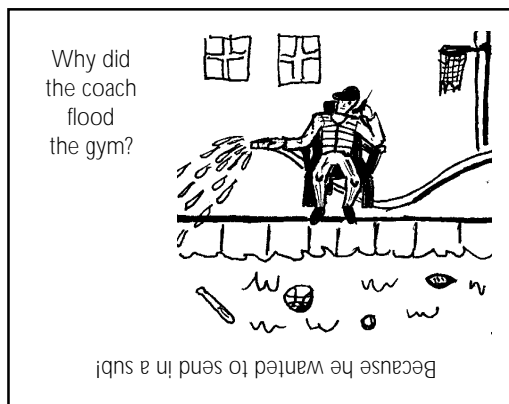
On Oct. 20, 1997, RabAvert, a rabies vaccine manufactured by Chiron Behring GmbH & Co., (distributed in the U.S. by Chiron Corp.) was approved by the FDA for both preexposure and postexposure prophylactic use in humans. See *MMWR*, Jan 16, 1998: 47: No. 1.

## Tetanus news

On March 6, 1998, *MMWR* published, "Tetanus Among Injecting-Drug Users - California, 1997." During 1987–1997, 27 of the 67 cases of tetanus reported in California occurred in injecting drug users (IDUs). The article reports that IDUs have frequent contact with the medical system but poor continuity of care. Each clinical encounter with an IDU should be used for assessment and, when needed, completion of Td vaccination.

## Rubella news

On Jan. 9, 1998, the *MMWR* published recommendations on rubella prevention following rubella outbreaks on two commercial cruise ships. CDC recommends that cruise lines administer MMR to all crew members without documented immunity to rubella. To prevent transmission of rubella infection and subsequent congenital rubella syndrome, women of child-bearing age, particularly pregnant women, should be immune to rubella before cruise ship excursions or international travel. ♦



**Raymond A. Strikas, MD**, infectious disease specialist, is Chief of the Adult Vaccine-Preventable Diseases Branch, Epidemiology and Surveillance Division, National Immunization Program, Centers for Disease Control and Prevention (CDC), and acts as a CDC liaison to the Immunization Action Coalition. Dr. Strikas, co-editor of the recently released ACIP statement on "Immunization of Health-Care Workers," is also the co-chair of "Influenza Pandemic Preparedness Federal Working Group for the United States." Dr. Strikas received his medical degree from the University of Illinois, Chicago. ♦

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# Basic knowledge about hepatitis B

## ***Know the risk groups for hepatitis B virus infection***

**People in these groups are at moderate or high risk for hepatitis B virus infection and should be vaccinated.**

- Immigrants/refugees from areas of high HBV endemicity (Asia, Pacific Islands, Sub-Saharan Africa, Amazon Basin, Eastern Europe, Middle East)
- Children born in the United States to immigrants from areas of high HBV endemicity
- Alaska natives and Pacific Islanders
- Household contacts and sex partners of people with chronic HBV infection
- People who have or who have had sexually transmitted diseases
- Heterosexuals with more than one sex partner in six months
- Men who have sex with men
- Users of illicit injectable drugs
- Health care workers who have contact with blood
- Adopted children from countries where HBV is endemic
- Hemodialysis patients
- Recipients of certain blood products
- Clients and staff of institutions for the developmentally disabled
- Inmates of long-term correctional facilities

### **Who needs serologic testing?**

Prior serologic testing may be recommended depending on the specific level of risk and/or likelihood of previous exposure. If you do decide to test, give the first dose of vaccine at the same office visit that you draw blood for testing. Vaccination can then be continued, or not, based upon the results of the tests. If you are not sure who needs screening, call your consultant or health department for details. It is especially prudent to screen individuals who have emigrated from endemic areas. When people with chronic HBV infection are identified, offer them appropriate disease management. In addition, their household members and intimate contacts should be screened and, if found susceptible, vaccinated. Guidelines on which risk groups need to receive prevaccination serology (anti-HBc), which groups need to have post-vaccination serology (anti-HBs), and which groups need evaluation to determine if they are chronically infected with hepatitis B virus, will be published in 1998 in the *MMWR* as part of the ACIP recommendations on vaccination to prevent hepatitis B virus infection. You can get copies of ACIP recommendations by calling 800-232-2522.

Hepatitis B vaccination is recommended for all children 0–18 years of age.

## ***Interpretation of the hepatitis B panel***

Tests	Results	Interpretation
HBsAg anti-HBc anti-HBs	negative negative negative	susceptible
HBsAg anti-HBc anti-HBs	negative negative or positive positive	immune
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive positive negative	acutely infected
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive negative negative	chronically infected
HBsAg anti-HBc anti-HBs	negative positive negative	four interpretations possible*

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

## ***Laboratory diagnosis of chronic hepatitis B, C, and D***

Lab tests needed to diagnose chronic hepatitis B, C, or D:

Hepatitis B	HBsAg. If positive, obtain IgM anti-HBc to differentiate acute hepatitis B (IgM anti-HBc is positive) from chronic hepatitis B (IgM anti-HBc is negative). Chronic hepatitis B is also defined by two HBsAg-positive tests separated by at least 6 months.
Hepatitis C	Anti-HCV. Verify a positive test with a supplemental assay such as RIBA or nucleic acid detection of HCV RNA, depending on the clinical situation.
Hepatitis D	Must meet criteria for chronic hepatitis B. Then, obtain anti-HDV.

To diagnose the presence of hepatitis-associated liver disease, the liver enzymes are usually elevated at least 1.5–2X normal. In this situation the patient should be referred to a gastroenterologist/hepatologist for further evaluation, which may include liver biopsy. Treatment for chronic hepatitis B and C is available for some patients who meet clinical criteria. Currently, interferon alfa-2b is the only FDA-approved treatment for hepatitis B or hepatitis C.

*For more information about hepatitis B including guidelines for the management of people chronically infected with HBV, contact the Hepatitis B Coalition, 1573 Selby Avenue, St. Paul, MN 55104, 612-647-9009 or visit our website at [www.immunize.org](http://www.immunize.org)*

# Hepatitis B and the health care worker

You need more than hepatitis B shots!  
**To obtain the ACIP statement, "Immunization of Health-Care Workers," call 800-232-2522**

## CDC answers frequently asked questions about how to protect health care workers

Harold S. Margolis, MD, pediatrician, is chief of the Hepatitis Branch, Centers for Disease Control and Prevention (CDC), and director of the World Health Organization Collaborating Centre for Research and Reference in Viral Hepatitis. Linda A. Moyer, RN, is an epidemiologist at the Hepatitis Branch, CDC.

### Which workers in the health care setting need hepatitis B vaccine?

Persons who have a reasonable expectation of being exposed to blood on the job should be offered hepatitis B vaccine. This does not include receptionists, executive directors, billing staff, general office workers, etc., as these groups would not be expected to have occupational risk.

### What is the appropriate site for administration of hepatitis B vaccine and what needle length and gauge should be used?

The deltoid is recommended for routine intramuscular vaccination in adults, particularly for hepatitis B vaccine. The suggested needle size is 1 to 1½ inches and 20 to 25 gauge.

### A health care worker's (HCW) first dose of hepatitis B vaccine was 4 months ago. Should the series be restarted?

No. The vaccine series does not need to be restarted. The person should receive the second dose at this time and third dose 2–6 months later.

### Is it safe for pregnant HCWs to be vaccinated during pregnancy?

Yes. Pregnant women in occupations with a high risk of HBV infection should be vaccinated. Hepatitis B vaccine contains no components that have been shown to pose a risk to the fetus at any time during gestation. However, HBV infection during pregnancy poses a significant risk to the fetus or newborn of perinatal or *in utero* infection.

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

Persons at occupational risk of infection and with continued percutaneous or percutaneous exposures to blood or body fluids (e.g., HCWs with direct patient contact, HCWs who have the risk of needlestick or sharps injury, lab workers who draw and test blood) should be tested after vaccination. Testing should be done 1–2 months after the last dose of vaccine.

### What should be done if a HCW's serologic test comes back negative for anti-HBs?

Repeat the 3-dose series and then 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. The HCW should be counseled that non-response to the vaccination series most likely means that the HCW is susceptible to HBV infection. It is possible, however, that the HCW is chronically infected with HBV and HBsAg testing should be recommended. Counseling of the HCW should then be done to discuss what non-response to the vaccination series means for that specific HCW and what steps should be taken in the future to protect his/her health.

### How often should anti-HBs titers be drawn on HCWs who perform invasive procedures?

No healthy person needs to be repeatedly tested for anti-HBs. Persons who perform invasive procedures should be treated no differently from other health care workers with respect to anti-HBs testing. If a health care worker has an exposure (e.g., needlestick) he or she should be evaluated for postexposure prophylaxis according to current recommendations (see table below).

**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 10mIU/mL?**

No. Postvaccination testing should be done only 1–2 months after the original vaccine series is completed. Testing showed that the HCW was protected as a result of the original vaccination series. Data show that adequate response to the 3-dose series of hepatitis B vaccine provides long-term immunologic memory that gives long-term protection. Only immunocompromised persons (e.g., hemodialysis patients, HIV-positive persons) need to have anti-HBs testing and booster doses of vaccine to maintain their anti-HBs concentrations of at least 10mIU/mL in order to be protected against HBV infection.

**If HCWs were vaccinated for hepatitis B in the past and not tested for immunity, should they be tested now?**

No. A HCW does not need to be tested unless he or she has an exposure. If an exposure occurs, refer to the table below for management guidelines. In addition to following these guidelines, if prophylaxis (HBIG and a booster dose of vaccine) is indicated, the person should receive postvaccination testing 3–6 months afterwards. It is necessary to do postvaccination testing at 3–6 months as earlier testing may just measure antibody from HBIG. This postvaccination anti-HBs test result should be recorded in the person's health record.♦

Recommended postexposure prophylaxis for percutaneous or permucosal exposure to hepatitis B virus, United States*			
Vaccination and antibody response status of exposed person	Treatment when source is		
	HBsAg <sup>1</sup> positive	HBsAg negative	Source not tested or status unknown
Unvaccinated	HBIG <sup>2</sup> x 1; initiate HB vaccine series <sup>3</sup>	Initiate HB vaccine series	Initiate HB vaccine series
Previously vaccinated:			
Known responder <sup>4</sup>	No treatment	No treatment	No treatment
Known non-responder	HBIG x 2 or HBIG x 1 and initiate revaccination	No treatment	If known high-risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed person for anti-HBs <sup>5</sup> 1. If adequate <sup>4</sup> , no treatment 2. If inadequate <sup>4</sup> , HBIG x 1 and vaccine booster	No treatment	Test exposed person for anti-HBs 1. If adequate <sup>4</sup> , no treatment 2. If inadequate <sup>4</sup> , initiate revaccination

<sup>1</sup> Hepatitis B surface antigen

<sup>2</sup> Hepatitis B immune globulin; dose 0.06 mL/kg intramuscularly

<sup>3</sup> Hepatitis B vaccine

<sup>4</sup> Responder is defined as a person with adequate levels of serum antibody to hepatitis B surface antigen (i.e., anti-HBs ≥10 mIU/mL); inadequate response to vaccination defined as serum anti-HBs < 10 mIU/mL

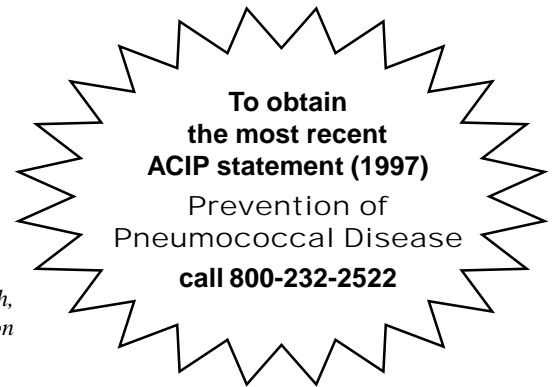
<sup>5</sup> Antibody to hepatitis B surface antigen

\* from "Immunization of Health-Care Workers," *MMWR*, 1997; 46: No. RR-18.

# Pneumococcal vaccine

## Who needs it and who needs it again? CDC answers your questions

William L. Atkinson, MD, MPH, medical epidemiologist, Immunization Education and Training Branch, National Immunization Program, Centers for Disease Control and Prevention, conducts immunization training workshops via satellite across the United States.



### My patient doesn't have a record of receiving pneumococcal vaccine. What should I do?

Providers should not withhold vaccination in the absence of an immunization record or complete record. The patient's verbal history should be used to determine prior vaccination status. Persons with uncertain or unknown vaccination status should be vaccinated.

### Should all nursing home patients 65 and over be vaccinated against pneumococcal disease?

Yes. Standing orders for vaccination of persons admitted to long-term care facilities can help simplify the procedure.

### How serious is pneumococcal pneumonia?

Pneumococcal pneumonia accounts for 10–25% of all pneumonias leading to hospitalization. Pneumococcal infections account for an estimated 40,000 deaths annually in the United States.

### What needle length is recommended for administration of pneumococcal vaccine?

Pneumococcal vaccine may be given either IM or SQ. When administration is IM, a 1–1½" needle is recommended for adults, depending on muscle mass. When administration is SQ, a 5/8–¾" needle is recommended.

### Should people with asthma receive pneumococcal vaccine?

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

### Should people who are HIV positive receive pneumococcal vaccine?

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

### My patient has had laboratory-confirmed pneumococcal pneumonia. Does he/she still need to be vaccinated?

There are more than 80 known serotypes of pneumococcus (23 serotypes are in the current vaccine). Infection with one serotype does not necessarily produce immunity to other serotypes. As a result, if the person is a candidate for vaccination, he/she should receive it even after one or more episodes of invasive pneumococcal disease.

### If I give pneumococcal vaccine to my patient now, how long must I wait before giving the influenza or Td vaccine?

Influenza vaccine and Td may be given at the same time or at any time before or after a dose of pneumococcal vaccine. There are no minimum interval requirements between the doses of any inactivated vaccines.

### Are influenza and pneumococcal vaccines safe to administer to patients with multiple sclerosis (MS)?

MS is not a contraindication to any vaccine, including influenza and pneumococcal vaccines.

### How often should diabetic patients receive pneumococcal vaccine?

Diabetics 2–64 years of age who have not already received a dose of pneumococcal vaccine should receive one now. At age 65 they should receive a one-time revaccination if ≥5 years have elapsed since the previous dose.

### How often should adult dialysis patients receive pneumococcal vaccine?

Adult dialysis patients need a dose of pneumococcal vaccine followed by a one-time revaccination 5 years later. ♦

Immunocompetent Persons	
Who needs pneumococcal vaccine?	Who needs revaccination?
Vaccinate all persons ≥65 years of age.	Revaccination is not recommended. However, if a person received a first dose prior to age 65, give a single revaccination at age 65 if ≥5 years have elapsed since the previous dose.
Vaccinate persons 2-64 years of age with chronic cardiovascular disease (including congestive heart failure and cardiomyopathies), chronic pulmonary disease (including COPD and emphysema), or diabetes mellitus.	If a person received a first dose prior to age 65, give a single revaccination at age 65 if ≥5 years have elapsed since the previous dose.
Vaccinate persons 2-64 years of age with alcoholism, chronic liver disease (including cirrhosis), or cerebrospinal fluid leaks.	If a person received a first dose prior to age 65, give a single revaccination at age 65 if ≥5 years have elapsed since the previous dose.
Vaccinate persons 2-64 years of age with functional or anatomic asplenia (including sickle cell disease and splenectomy).	If patient is >10 years of age, give a single revaccination if ≥5 years have elapsed. If patient is ≤10 years of age, consider revaccination 3 years later.
Vaccinate persons 2-64 years of age living in special environments or social settings (including Alaska natives and certain American Indian populations).	If a person received a first dose prior to age 65, give a single revaccination at age 65 if ≥5 years have elapsed since the previous dose.
Immunocompromised Persons	
Vaccinate immunocompromised persons ≥2 years of age, including those with HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome; those receiving immunosuppressive therapy (including long-term systemic corticosteroids); and those who have received an organ or bone marrow transplant.	If patient is >10 years of age, give a single revaccination if ≥5 years have elapsed. If patient is ≤10 years of age, consider revaccination 3 years later.

\* adapted from "Prevention of Pneumococcal Disease," MMWR, 1997; 46: No. RR-8.

## How do I know if I've already been infected?

The only way to know if you've been infected is to have your blood tested.

## Should I have a blood test before I start the hepatitis B vaccine series?

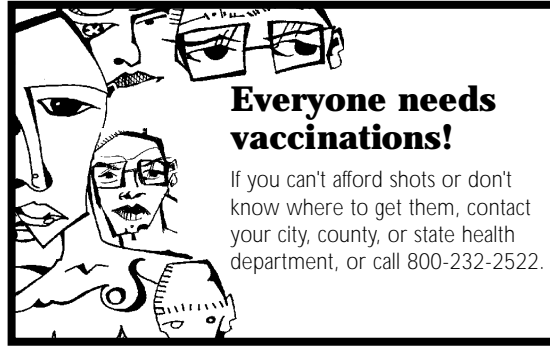
Talk to your doctor about whether you need this testing. Most people do not need a blood test. If you and your doctor decide you need testing, start the vaccine series at the same visit. That way you will be closer to being protected from HBV.

## Will hepatitis B vaccine protect me from hepatitis A or hepatitis C?

No. Hepatitis A and hepatitis C are different diseases caused by different viruses. There is a vaccine for hepatitis A but there is no vaccine for hepatitis C. For information on hepatitis A and hepatitis C, talk to your doctor or your local health department.

## What if I can't afford these shots?

Sometimes these shots are available at no charge through clinics or health departments. Call your clinic or local health department for details. And, while you're at it, find out what other vaccinations you need, too!



### Immunization Action Coalition

1573 Selby Avenue, Suite 234  
St. Paul, MN 55104  
612-647-9009  
www.immunize.org  
mail@immunize.org

The text in this brochure was reviewed for technical accuracy by the Centers for Disease Control and Prevention. It is copyright free. Feel free to alter it to fit your clinic or community's needs. However, if you do alter it, please acknowledge that it was adapted from the Immunization Action Coalition.

# Every week thousands of sexually active people are infected with hepatitis B



## Get protected! Get vaccinated!

## What is hepatitis B?

Hepatitis B is a sexually transmitted disease. It is a liver infection caused by the hepatitis B virus (HBV). HBV is spread much like HIV, the virus that causes AIDS. HBV is found in the blood, semen, and vaginal secretions of an infected person. HBV is easier to catch than HIV because it is over 100 times more concentrated in an infected person's blood.

## How serious is hepatitis B?

HBV can cause severe liver disease, including liver scarring (cirrhosis) and liver cancer. Over 6,000 people in the United States die every year from hepatitis B-related liver disease. Fortunately, there is a vaccine to prevent this disease.

## How great is my risk of getting HBV infection from sex?

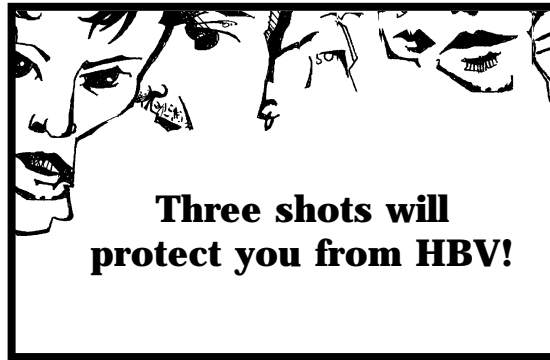
If you answer "yes" to any of the following questions, you are at risk for hepatitis B virus infection and need to be vaccinated!

Do you have more than one sex partner?  yes  no

During any six-month period, have you, or your partner, had sex with more than one person?  yes  no

Do you or your sex partner have a sexually transmitted disease at this time?  yes  no

Have you ever had a sexually transmitted disease?  yes  no



## Is sex the only way I can get HBV?

No. HBV is a sexually transmitted disease, but it is spread in other ways, too. It is a hardy virus that can exist on almost any surface for up to one month. HBV can be spread by:

- unprotected vaginal or anal sex
- sharing needles or paraphernalia (works) for illegal drug use
- contact with open sores
- living in a household with a person with long-term HBV infection
- body piercing (including ear piercing) or tattooing with unsterile equipment
- sharing toothbrushes, razors, nail clippers, or washcloths
- human bites

You do not get hepatitis B virus infection from sneezing, coughing, dry lip kissing, or holding hands.

## How do I protect myself from HBV?

Get three hepatitis B shots. The shots are usually given over a period of six months.

Tell your sex partner(s) to get vaccinated, too. There are very few STDs you can be vaccinated against so always follow "safer sex" practices.

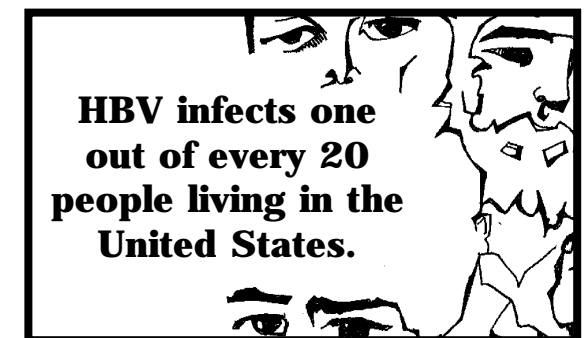
## What are the symptoms of HBV?

Only about half of the people who are infected with HBV get symptoms. Symptoms might include:

- loss of appetite
- nausea
- fever
- dark-colored urine
- yellow-tinged skin and eyes
- extreme tiredness
- pain in joints
- bloated and tender belly

## Do people fully recover from HBV?

Most people who get HBV as adults will fully recover. However, approximately 6% will remain infected and will carry HBV in their bodies for life and can still spread the virus to others. People who stay infectious do not necessarily look or feel ill, but they are at increased risk for liver failure and liver cancer and need ongoing medical care.





## Hepatitis C

by Deborah L. Wexler, MD, Executive Director  
Immunization Action Coalition

### Should people with hepatitis C virus infection receive hepatitis A and B vaccines?

At the March 24–25, 1997, NIH Consensus Development Conference, a non-federal panel of experts recommended that hepatitis A and B vaccination be given to all persons who are infected with hepatitis C virus. To order a copy of "Management of Hepatitis C - NIH Consensus Statement," call 888-644-2667 or download it from: <[http://odp.od.nih.gov/consensus/statements/cdc/101/105\\_stmt.html](http://odp.od.nih.gov/consensus/statements/cdc/101/105_stmt.html)>

### Why doesn't the Immunization Action Coalition (IAC) more actively work on hepatitis C issues?

The mission of the IAC is to promote physician, community, and family awareness of, and responsibility for appropriate immunization of all people of all ages against all vaccine-preventable diseases. Unfortunately, at this time there is no vaccine to prevent HCV infection.

### Where can I get more information about hepatitis C?

There are a number of organizations that will provide you with information about hepatitis C:

- CDC's hepatitis toll-free hotline: 888-443-7232
- CDC's hepatitis website: [www.cdc.gov/ncidod/diseases/hepatitis/hepatitis.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/hepatitis.htm)
- American Liver Foundation: 800-223-0179
- American Liver Foundation's website: [www.liver-foundation.org](http://www.liver-foundation.org)
- Hepatitis Foundation International: 800-891-0707
- Hepatitis Foundation International's website: [www.hepfi.org](http://www.hepfi.org)
- Hepatitis C Foundation (for support groups): 215-672-2606
- Hepatitis C Foundation's website: [www.jeonet.com/hepcfoundation/](http://www.jeonet.com/hepcfoundation/)

Check with your state health department to find out about hepatitis C coalitions in your state.

## General vaccine questions

by William L. Atkinson, MD, MPH

### What is the ACIP?

The Advisory Committee on Immunization Practices (ACIP) is a committee of ten national experts that provides advice and guidance to CDC regarding the most appropriate use of vaccines and immune globulins. ACIP meetings are held three times a year in Atlanta, GA, and are open to the public. The next meetings will be held June 24–25, 1998, and October 21–22, 1998.

### How do I obtain ACIP statements?

ACIP statements are published in the *Morbidity and Mortality Weekly Report (MMWR)*. To obtain any ACIP statement try the following:

- Download them from CDC's website at [www.cdc.gov/epo/mmwr/mmwr.html](http://www.cdc.gov/epo/mmwr/mmwr.html). You can also request a free electronic subscription to *MMWR* at this site.
- Call CDC's Immunization Hotline at 800-232-2522.
- E-mail your request to [nipinfo@cdc.gov](mailto:nipinfo@cdc.gov)
- Call your state immunization program.
- Request them from your medical library.

Note: if you want new ACIP recommendations as soon as they are released, CDC's website is the place to go!

### If a patient has a bleeding disorder, what injection route should I use for administering vaccinations?

This issue is discussed in the "General Recommendations on Immunization" (*MMWR*, 1994; 43:No. RR-1). Briefly, vaccines should be given by the same route as in a person without a bleeding disorder. Intramuscular vaccines should be given with a fine needle (23 gauge or smaller), and firm pressure should be applied over the site for at least 2 minutes. If possible, schedule the IM injections shortly after antihemophilia or similar therapy to minimize the risk of a hematoma.

### What new vaccines might be available in the next year or two?

An oral rotavirus vaccine is likely to be licensed by the Food and Drug Administration within the next few months. License applications are also pending for two DTaP-Hib combination vaccines, and a DTaP-hepatitis B combination. It is also possible that at least one inactivated vaccine for Lyme disease will be available this year, and a live attenuated influenza vaccine, given by nasal spray, may be available within the next two years.

## Measles, mumps, rubella

by William L. Atkinson, MD, MPH

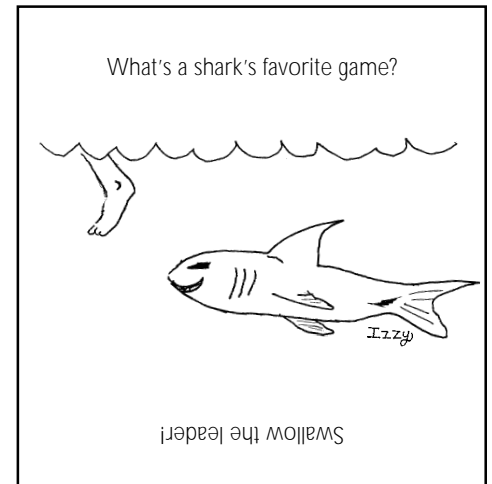
### What is the new recommendation for measles-mumps-rubella (MMR) vaccine for health care workers (HCWs)?

A new ACIP statement called the "Immunization of Health-Care Workers" was published in December 1997 (*MMWR*, 1997;46:No.RR-18). The new recommendation for MMR is that *all* persons who work in a medical facility should have evidence of immunity (defined in the statement), not just those persons with direct patient contact. For most persons born after 1956, this means documentation of two doses of MMR vaccine. Persons born before 1957 can generally be considered immune to all three diseases, but age does not guarantee immunity. As a result, ACIP recommends that facilities consider recommending a dose of MMR to persons born before 1957 if there is no other evidence of immunity (such as serologic testing).

### A HCW received 2 doses of MMR and the rubella titer remains negative. What should be done?

Failure to respond to two properly timed doses of MMR vaccine would be expected to occur in one

or two persons per thousand vaccinees, at most. This situation could also occur because of the relative insensitivity of the serologic test used for screening. ACIP does not address this situation. However, one approach would be to administer one additional dose of MMR. Additional testing is neither indicated nor recommended.



## Varicella

by William L. Atkinson, MD, MPH

### What is the new recommendation on varicella immunity for HCWs?

The recommendation for varicella immunity in HCWs has not changed since the 1996 ACIP varicella statement. All HCWs should be immune to varicella, either as a result of having had chickenpox, or from receiving two doses of varicella vaccine.

### Which of my patients should have varicella serology prior to receiving varicella vaccine?

ACIP does not recommend serologic testing for persons <13 years of age. At least 90% of adolescents and adults from the U.S. can be expected to be immune to varicella, including those who do not recall having had the disease. As a result, serologic screening may be considered for persons 13 years of age and older who do not have a history of chickenpox, a strategy that may be cost effective, depending on the cost of the serologic test. However, it is safe to give varicella to persons already immune to the disease, so screening is not required under any circumstance.

### I have a 22-year old patient who requested varicella immunization after a negative varicella titer. Eleven days postimmunization she developed a fever and at least 50 chickenpox lesions (with no known exposure other than the vaccine). Does she still need the second vaccination?

No. This mild case of varicella probably represents replication of the vaccine virus, although it could be a mild case of varicella disease. In any event, the person is now immune and does not need additional vaccine. (continued on page 10)

(continued from page 9)

## Influenza

by William L. Atkinson, MD, MPH

### For influenza vaccine, what is the difference between the split virus and whole virus products?

Whole virus vaccine is just that—influenza virus purified and inactivated with formalin. Split virus vaccine is treated with a detergent-type chemical and purified so that the neuraminidase and/or hemagglutinin remains in the vaccine. There is no difference in efficacy between the two vaccines. Split virus vaccine is recommended for children <13 years of age because of a lower rate of febrile reactions. In adults there is no difference in local or febrile reactions using whole or split virus.

### Which patients with egg allergy should not receive influenza vaccine?

For those who claim egg allergy, determine the nature of the allergy. If it is severe (anaphylaxis, urticaria, bronchospasm) do not vaccinate. You might consider consultation with an allergist. Protocols for desensitization have been published (e.g., in the *AAP's 1997 Red Book*). For allergies other than severe, give the vaccine.

### Are influenza and pneumococcal vaccines safe to administer to patients with multiple sclerosis?

Multiple sclerosis is not a contraindication to any vaccine, including influenza and pneumococcal vaccines.

## Pneumococcal disease

by William L. Atkinson, MD, MPH

### Is there any reason to withhold pneumococcal vaccine from a healthy 45-year old who requests it to decrease his/her risk of this disease?

No, although ACIP does not routinely recommend pneumococcal vaccine for healthy persons of this age.

*Ed. note: For more questions and answers from our experts about the use of pneumococcal vaccine, read page 6.*

## Rabies

by William L. Atkinson, MD, MPH

### If a bat is found in a room where a person is sleeping, do you need to give postexposure prophylaxis?

The ACIP recently expanded its recommendations on who should receive postexposure prophylaxis (PEP) following exposure to bats. When a bat is found in a dwelling, even in the absence of a known bite or scratch, the recommendation calls for more aggressive use of PEP. Details of these new rabies recommendations were published in the *MMWR*, 1998;47:1. The indications for postexposure prophylaxis are fairly complex, and depend on several factors. Providers who are responsible for decisions on postexposure prophylaxis should also be familiar with the ACIP recommendations (*MMWR*, 1991;40:No.RR-3). ♦

# Adult Resources

## Here's some info you may be looking for!

### Order these immunization and hepatitis resources directly from the organizations listed.

Twice a year, the Immunization Action Coalition updates this list of great resources from around the nation. If you know of any resources, call us at 612-647-9009 or e-mail us at [mail@immunize.org](mailto:mail@immunize.org)

### Reference materials

*ACIP statements* (CDC). To order a complete set of these public health recommendations on immunization or just the ones you want, call CDC's Immunization Information Hotline at 800-232-2522.

**NEW!** *IAC Express* (Immunization Action Coalition). Sign up to receive e-mail announcements of new immunization and hepatitis B resources. To subscribe to this Internet news service (formerly called *NEEDLE TIPS NOW!*), send an e-mail message to [express@immunize.org](mailto:express@immunize.org) and place the word **SUBSCRIBE** in the "subject:" field. We'll add your name to our list! It's free!

**NEW!** *VACCINATE ADULTS!* (Immunization Action Coalition, a semi-annual publication). Contains information about adult immunization and hepatitis A and B issues. If you receive *NEEDLE TIPS*, you are already getting the information that is published in *VACCINATE ADULTS!* Subscription is free, but a \$40 membership contribution is appreciated. To be added to the mailing list, e-mail your request to [mail@immunize.org](mailto:mail@immunize.org) or send a fax to 612-647-9131. The complete text of *VACCINATE ADULTS!* is available on the Coalition's website: [www.immunize.org](http://www.immunize.org)

*Morbidity and Mortality Weekly Report (MMWR)*. Recommendations and information on vaccine-preventable diseases and many more public health topics. Available in print for \$79/yr. To subscribe, call 781-893-3800, or sign up for free electronic delivery at CDC's website at [www.cdc.gov/epo/mmwr/mmwr.html](http://www.cdc.gov/epo/mmwr/mmwr.html)

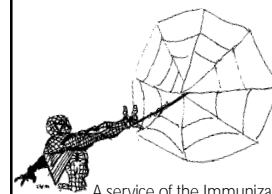
*Green Book—Guide for Adult Immunization* (ACP, 1994). Recommendations for the prevention and management of infectious diseases in adults. \$27.50. Call 800-523-1546, ext. 2600.

*Hepatitis Control Report* (Precision Media Works, a quarterly publication). Devoted to news on the control of viral hepatitis. Free. Call 610-664-2793.

*ImmunoFacts* (J.D. Grabenstein, Facts and Comparisons). Updatable comprehensive reference on vaccines and immunologic drugs. \$95. Call 800-223-0554.

**NEW!** *Immunization Delivery: A Complete Guide* (J.D. Grabenstein, Facts and Comparisons, 1997). Provides guidance for operating an immunization program in a variety of settings. \$25. Call 800-223-0554.

[www.immunize.org](http://www.immunize.org)



If you're looking for immunization or hepatitis A and B resources, this is a great place to go!

A service of the Immunization Action Coalition

### Travel

*Health Information for International Travel - Yellow Book* (CDC, 1997). Vaccine information and requirements for foreign travel. \$20. Call the Superintendent of Documents at 202-512-1800 or download it free from CDC's travel website: [www.cdc.gov/travel/travel.html](http://www.cdc.gov/travel/travel.html)

*Travel & Routine Immunizations - a practical guide for the medical office.* (Shoreland, 1998). \$30. Call 800-433-5256 or visit the website: [www.shoreland.com](http://www.shoreland.com)

### CDC websites

If you're looking for immunization resources from CDC, this is a great place to go: [www.cdc.gov/nip](http://www.cdc.gov/nip)

For hepatitis A, B, and C resources: [www.cdc.gov/ncidod/diseases/hepatitis/hepatitis.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/hepatitis.htm)

For international travel information: [www.cdc.gov/travel/travel.html](http://www.cdc.gov/travel/travel.html)

CDC presents:

### Immunization Training via Satellite

by William L. Atkinson, MD, MPH

- Thursday, June 4: Adult Immunization: Technical issues (2½ hrs)
- Thursday, Sept. 10: Immunization Update (2½ hrs)
- Thursday, Oct. 8: Adult Immunization: Strategies that Work (2½ hrs)

For more information, call your state immunization program.



# Adult Catalog

## Publications and resources



**Before you order, REMEMBER . . .**

All of our materials are camera ready, copyright free, and reviewed by national experts! You can order one of any item and make as many copies as you need (including videos).

**Join the Coalition**

With a \$40 membership contribution for 1998 we'll send you all of the print and video materials listed on this page. Your contribution will also keep you on our mailing list and help us produce future issues of VACCINATE ADULTS! Please join us today!

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___ P4041	Shots for adults with HIV .....	\$1 _____
___ P4070	Chickenpox isn't just an itchy, contagious rash <input type="checkbox"/> English <input type="checkbox"/> Spanish .....	\$1/ea _____
___ P4080	Hepatitis A is serious..should you be vaccinated? <input type="checkbox"/> English <input type="checkbox"/> Spanish .....	\$1/ea _____
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___ P4112	Every week 1000s of sexually active people get hep B .....	\$1 _____
___ P4115	Hep B...100 times easier to catch than HIV (a brochure for men who have sex with men) .....	\$1 _____
___ P4116	You don't have to go all the way to get hepatitis A (a brochure for men who have sex with men) .....	\$1 _____
___ P4120	If you are a hepatitis B carrier <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong <input type="checkbox"/> Chinese .....	\$1/ea _____
___ P4170	Hep B information for adults & children from endemic areas <input type="checkbox"/> English <input type="checkbox"/> Hmong <input type="checkbox"/> Cambodian <input type="checkbox"/> Laotian <input type="checkbox"/> Vietnamese <input type="checkbox"/> Tagalog <input type="checkbox"/> Russian <input type="checkbox"/> Chinese <input type="checkbox"/> Korean .....	\$1/ea _____

**Materials for your clinic staff**

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**Videos for your clinic staff**

___ V2010	How to Protect Your Vaccine Supply .....	\$10 _____
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Spanish  Hmong  Cambodian

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(All contributions to the Coalition are tax deductible to the full extent of the law.)

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**Sign me up for "IAC Express"**

Sign me up for IAC Express (our free e-mail news service).

My e-mail address is \_\_\_\_\_

# Vaccinate grown-ups... it's the adult thing to do!



Dear Reader:

This is the second issue of **VACCINATE ADULTS!** - a practical publication about immunization and hepatitis B for health professionals who treat adults. **VACCINATE ADULTS!** is published twice a year by the Immunization Action Coalition, the organization that also publishes **NEEDLE TIPS & the Hepatitis B Coalition News**.

Look inside! Everything is carefully reviewed for technical accuracy by the Adult Vaccine-Preventable Diseases Branch and the Hepatitis Branch of CDC, with additional help from members of the Coalition's Advisory Board. These materials are designed to copy and distribute to patients; to keep as ready references in exam rooms; or to distribute to your clinic staff members. All of the Coalition's materials are copyright free so you may use our materials in any way you'd like.

In this issue you'll find two new pieces by the Coalition, "**Hepatitis B and the Health Care Worker**" and "**Pneumococcal Vaccine: Who Needs It and Who Needs It Again.**" Both of these pieces are comprised of questions that frequently come to our office via e-mail or phone calls. The answers are provided by CDC experts. See pages 5 and 6 inside.

While you're "thinking" immunization, make sure you check your patients' immunization status at every visit. With only 35% of adults  $\geq 65$  years of age up-to-date on their pneumococcal vaccine dose and 40,000 deaths every year from pneumococcal disease, we have ample opportunity to do better.

After reviewing **VACCINATE ADULTS!** please consider becoming a 1998 member of the Immunization Action Coalition. Over 4,000 primary health care professionals have joined. With a contribution of \$40 or more, we'll add your name to our mailing list and send you a packet of all of the print materials and videos in our adult catalog on page 11. I hope you'll join today!

*Deborah L. Wexler MD*  
Deborah L. Wexler, MD  
Executive Director

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## Immunization Action Coalition

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