

VACCINATE ADULTS!

A bulletin for adult medicine specialists from the Immunization Action Coalition

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

Ask the Experts

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

General vaccine questions

by William L. Atkinson, MD, MPH

Is there a recommended period of time a person should wait in the clinic or pharmacy following an immunization?

The rationale for a "waiting period" after vaccination is, presumably, that if an allergic reaction to the vaccine were to occur, the person would still be in the facility. With appropriate screening, the likelihood of a serious allergic reaction is extremely low. Accordingly, the Advisory Committee on Immunization Practices (ACIP) has never recommended a specific waiting period after vaccination. Potentially life-threatening allergic reactions occur in a matter of minutes. Even without a waiting period, it is likely that the person would still be in the facility should a life-threatening reaction occur.

With what frequency should splenectomized patients receive Hib, pneumococcal, and meningococcal vaccines?

Persons with functional or anatomic asplenia should receive two doses of pneumococcal polysaccharide vaccine separated by 3–5 years, depending on age. They should also receive at least one dose of meningococcal polysaccharide vaccine. The need for additional doses is uncertain. Adults—even those without spleens—are at very low risk of invasive Hib disease. ACIP recommends that a single pediatric dose of Hib conjugate vaccine "be considered" for asplenic persons.

Tetanus, diphtheria, pertussis

by William L. Atkinson, MD, MPH

What is the dosing schedule for giving Td vaccine to an unvaccinated person?

The primary vaccination schedule for adult tetanus diphtheria toxoid (Td) is a 3-dose series; the first two doses are separated by a month, and the third dose is given 6–12 months after the second dose. Booster doses should be given every 10 years thereafter. This schedule applies to any unvaccinated person 7 years of age or older.

If a teenager contracts pertussis, does this mean s/he was not properly immunized?

Not necessarily. Vaccine-induced immunity to pertussis is believed to persist for about 10 years following the last dose. So even if a child receives all 5 doses of pertussis vaccine on schedule, he or she may still be susceptible as a teenager. The need for "booster" doses of pertussis vaccine for adolescents or adults is currently being studied.

Rubella, measles, mumps

by William L. Atkinson, MD, MPH

If a health care worker develops a rash and low-grade fever after MMR vaccine, is s/he infectious?

Approximately 5–15% of susceptible persons who receive MMR vaccine will develop a low-grade fever and/or mild rash 7–12 days after vaccination. However, the person is not infectious, and no special precautions (e.g., exclusion from work) need to be taken.

My patient has had two documented doses of MMR. Her rubella titer was nonreactive at a prenatal visit. What should I do?

It is possible that she failed to respond to both doses. It is also possible that she did respond but has a low level of antibody. 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. A small number of people appear to develop a relatively small amount of antibody following vaccination with rubella and other vaccines. This level of antibody may not be detectable on relatively insensitive commercial screening tests. Controlled trials with sensitive tests indicate a response rate of >99%

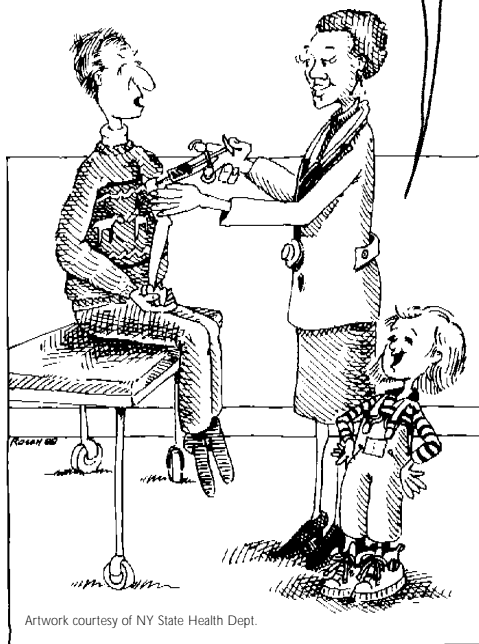
(continued on page 9)

Immunization questions?

- Call your state health department
- E-mail: nipinfo@cdc.gov
- Call CDC's Immunization Information Hotline at (800) 232-2522

Hold on! I'm only 52 years old! I thought flu shots were for people 65 and older!

Grampa, you haven't been keeping up with health news! Major health professional groups and the Centers for Disease Control and Prevention now recommend annual influenza vaccination for everyone 50 and older every fall. Fifty is now the recommended age cut-off, not 65!



Artwork courtesy of NY State Health Dept.

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VACCINATE ADULTS!

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www.immunize.org is IAC's website. Visit often for the most current resources. Website design by Lantern Web™.

The Immunization Action Coalition (IAC), a 501(c)3 nonprofit organization, works to increase immunization rates and prevent disease. IAC 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 IAC, promotes hepatitis B vaccination for all children 0–18 years; HBsAg screening for all pregnant women; testing and vaccination for high-risk groups; and education and treatment for people chronically infected with hepatitis B.

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Letters to the Editor . . .

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

Rhode Island adult coalition says IAC print materials are integral to success

A special thanks for the materials that are made available through the Immunization Action Coalition (IAC). In 1997, the Ocean State (RI) Adult Immunization Coalition was created with the goal of improving influenza and pneumococcal vaccination rates among Rhode Island's seniors. We have used IAC materials as part of our Medical Provider Tool Kit mailings each year. I estimate that in the past two years, we received requests for approximately 6,000 copies of IAC materials; they are certainly in high demand! And the good news is that, according to the Behavioral Risk Factor Survey, 1999, Rhode Island's influenza and pneumococcal vaccination rates have increased by 6.0% and 11.7% respectively since 1997. The IAC materials have proved to be a valuable resource, and I believe, have contributed to the success of our coalition efforts in Rhode Island.

—Thomas E. Bertrand, MPH

*Chair, Ocean State Adult Immunization Coalition
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Physician remembers the tragedies of vaccine-preventable disease

I am one of the increasingly rare old timers who lived during the prevaccination era. I am the second to the last of thirteen siblings, five of whom died of vaccine-preventable diseases in infancy. Born to poor immigrant parents, I remember well my mother's account of the causes of their deaths—three from "la tussa forte" (tussa derives from the same stem from which we get pertussis) and two from "rosolia" (measles). Even after many years had passed, she spoke of these "morte d'angeli" (death of her angels) with a great deal of emotion. Imagine losing not one, two, three, or four, but five babies! It was common in the prevaccine era. Like our family, many families lost several children to these diseases.

We forget. Time blurs our memories of these common tragedies of yesteryear.

I remember well, during the winter and spring of each year, hearing the whoop of pertussis in movie theaters, school assemblies, and assorted gatherings. Today, few have ever heard this, and those who have, forget.

I remember the summer outbreaks of polio, the crippled children who could no longer walk or walked with limb-distorted limbs. As a third- and fourth-year

medical student, I remember answering the appeals of hospital administrators who could not find the nursing staff for special duty tending to the needs of polio patients in "iron lungs." We forget.

I remember the awful cases of measles my own children experienced. I remember the children with smallpox during the years my family lived in Pakistan. I remember those who lost their sight from lesions in their eyes. I remember those who died. We forget.

In memory of all of them, I commend IAC and others who share **Unprotected People** stories to remind those who have been spared these tragedies that most of these illnesses are still a threat. And, they can be prevented. Easily. We forget.

Thank you for promoting vaccines in such a unique way—by telling the stories of the vaccine-preventable disease tragedies. So people won't forget.

—E.J. (Gene) Gangarosa, MD, MS
Professor Emeritus

*Department of International Health
Emory University*

Editor's note: The Unprotected People series is composed of stories of people who have suffered or died from vaccine-preventable diseases, and is published in IAC EXPRESS, the Coalition's e-mail news and announcement service. To subscribe to this free service, visit: www.immunize.org/stories/



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.

Vaccine highlights

Latest recommendations and schedules

ACIP statement information

No clinic should be without a set of ACIP statements, the U.S. public health recommendations on vaccines, which are published in the *MMWR*. Continuing education credits are available for reading most of the recent statements and completing the test that accompanies the text.

To get a complete set of ACIP statements or just the ones you want:

- Download statements from CDC's website: www2.cdc.gov/mmwr (You also can request a free electronic subscription to the *MMWR* at this site.)
- Visit IAC's website: www.immunize.org/acip
- Call CDC Immunization Hotline: (800) 232-2522.

Recently published ACIP statements include:

- "Prevention and Control of Meningococcal Disease and College Students" (6/30/00)
- "Poliomyelitis Prevention—U.S." (5/19/00)
- "Prevention/Control of Influenza" (4/14/00)
- "Use of Standing Orders Programs to Increase Adult Vaccination Rates" (3/24/00)
- "Prevention of Hepatitis A Through Active or Passive Immunization" (10/1/99)

Influenza vaccine news

On June 22, 2000, the FDA and CDC briefed the ACIP about the possibility of delays or shortages in production of influenza vaccine during the 2000–2001 season. In a July 14 *MMWR* article, ACIP urged health care providers to delay adult mass influenza vaccination campaigns until November, and to consider ways to ensure that their high-risk patients receive priority for vaccination if a vaccine shortfall were to occur.

On April 14, 2000, the ACIP statement "Prevention and Control of Influenza" was published in the *MMWR*. This updates the 1999 influenza recommendation. The most significant change in this new recommendation is that the age for routine vaccination for adults has been lowered to include all persons 50 years of age and older.

Meningococcal vaccine news

On June 30, 2000, the ACIP statement "Prevention/Control of Meningococcal Disease and Meningococcal Disease and College Students" was published in the *MMWR*. Recommendations include that during routine medical visits, providers of medical care to incoming and current college freshmen, particularly students who plan to or already live in dormitories and residence halls, should inform these students and their parents about meningococcal disease and the benefits of vaccination. Colleges should do the same.

Standing orders for adult vax

On March 24, 2000, the ACIP recommendation "Use of Standing Orders Programs to Increase Adult Vaccination Rates" was published in the *MMWR*. ACIP recommends that standing orders for adult immunization be used in long-term-care facilities. It also encourages their use in settings such as inpatient and outpatient facilities, managed care organizations, assisted living facilities, correctional facilities, pharmacies, adult workplaces, and home health care agencies. Because of the societal burden of influenza and pneumococcal disease, implementation of standing orders programs to improve adult vaccination coverage for these diseases should be a national public health priority.

VISs (Vax. Info. Statements)

New Vaccine Information Statements (VISs) were released by CDC during 1999–2000. They include Lyme disease (11/1/99), meningococcal (3/31/00), and influenza (4/14/00). Clinicians in the U.S. who administer any vaccine containing diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis B, Hib, or varicella vaccine **are required by law** to provide a copy of the relevant VIS to the patient, prior to administration of each dose of the vaccine. For the vaccine-preventable diseases not listed above, use of the VISs is recommended, but not required.

Following is a table of the most current VISs and the issue date that is at the bottom of each one. Make sure you are using the current ones.

Current VISs

DTaP/DT/DTP	.....	8/15/97	MMR	.....	12/16/98
Td	.....	6/10/94	varicella	.....	12/16/98
polio	.....	1/1/00	Hib	.....	12/16/98
hepatitis A	.....	8/25/98	hepatitis B	.....	12/16/98
pneumo (PPV23)	.....	7/97	influenza	.....	4/14/00
meningococcal	.....	3/31/00	Lyme	.....	11/1/99
pneumococcal conjugate (PCV7)	.....	7/18/00			

VISs and instructions on how to use them can be obtained from CDC's website: www.cdc.gov/nip/publications/VIS/ or from your state health department. The VISs, some in 22 languages, and instructions on how to use them are also available on IAC's website: www.immunize.org/vis

On May 4, 2000, CDC updated its booklet "Vaccine Information Statements: What You Need to Know." This booklet contains information about the legal requirements for the use of VISs and includes copies of all VISs routinely used. To obtain this booklet, call CDC's Immunization Hotline at (800) 232-2522 or download the booklet from IAC's website: www.immunize.org/vis

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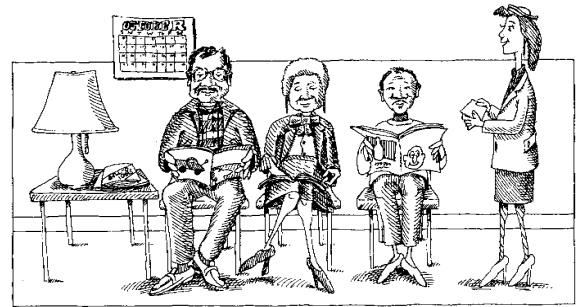
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Patient's name: _____

Date of birth: ____/____/____

Screening Questionnaire for Adult Immunization



For patients: The following questions will help us determine which vaccines may be given in clinic today. Please answer these questions by checking the boxes. If the question is not clear, please ask your health care 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, any person who lives with you, or any person you take care of have cancer, leukemia, AIDS, or any other immune system problem?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Do you, any person who lives with you, or any person you take care of take cortisone, prednisone, other steroids, anticancer drugs, or x-ray treatments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. During the past year, have you received a transfusion of blood or plasma, or been given a medicine called immune (gamma) globulin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. For women: Are you pregnant or is there a chance you could become pregnant in the next three months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Form completed 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 shots. If you don't have a record card, ask your health care provider to give you one! Bring this record with you every time you go to the clinic. Make sure your health care provider records all your vaccinations on it.

Item #P4065 (6/00)

INFLUENZA VACCINE

WHAT YOU NEED TO KNOW

2000-2001

1 Why get vaccinated?

Influenza is a serious disease.

It is caused by a virus that spreads from infected persons to the nose or throat of others. The “influenza season” in the U.S. is from November through April each year.

Influenza can cause:

- fever
- sore throat
- cough
- headache
- chills
- muscle aches

People of any age can get influenza. Most people are ill with influenza for only a few days, but some get much sicker and may need to be hospitalized. Influenza causes thousands of deaths each year, mostly among the elderly.

Influenza vaccine can prevent influenza.

2 Influenza vaccine

The viruses that cause influenza change often. Because of this, influenza vaccine is updated each year by replacing at least one of the vaccine viruses with a newer one. This is done to make sure that influenza vaccine is as up-to-date as possible.

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

3 Who should get influenza vaccine?

People at risk for getting a serious case of influenza or influenza complications, and people in close contact with them (including all household members) should get the vaccine. An annual flu shot is recommended for these groups:

- Everyone 50 years of age or older.
- Residents of long term care facilities housing persons with chronic medical conditions.

- Anyone who has a serious long-term health problem with:
 - heart disease
 - lung disease
 - asthma
 - kidney disease
 - metabolic disease, such as diabetes
 - anemia, and other blood disorders
- Anyone whose immune system is weakened because of:
 - HIV/AIDS or other diseases that affect the immune system
 - long-term treatment with drugs such as steroids
 - cancer treatment with x-rays or drugs
- Anyone 6 months to 18 years of age on long-term aspirin treatment (who could develop Reye Syndrome if they catch influenza).
- Women who will be past the 3rd month of pregnancy during the influenza season.
- Physicians, nurses, family members, or anyone else coming in close contact with people at risk of serious influenza

Others who should consider getting influenza vaccine include:

- People who provide essential community services
- Travelers to the Southern hemisphere between April and September, or those traveling to the tropics any time
- Students and staff at schools and colleges, to prevent outbreaks
- Anyone who wants to reduce their chance of catching influenza

4 When should I get influenza vaccine?

The best time to get influenza vaccine is from October to mid-November. A new shot is needed each year.

- People 9 years of age and older need **one shot**.
- Children less than 9 years old need **two shots**, given one month apart, the first time they get vaccinated against influenza.

Influenza vaccine can be given at the same time as other vaccines, including pneumococcal vaccine.

5 Can I get influenza even though I get the vaccine this year?

Yes. Influenza viruses change often, and they might not always be covered by the vaccine. But people who *do* get influenza despite being vaccinated often have a milder case than those who did not get the shot.

Also, to many people “the flu” is any illness with fever and cold symptoms. They may expect influenza vaccine to prevent these illnesses. But influenza vaccine is effective only against illness caused by influenza viruses, and not against other causes of fever and colds.

6 Some people should consult with a doctor before getting influenza vaccine.

Consult with a doctor before getting an influenza vaccination if you:

- 1) ever had a serious allergic reaction to *eggs* or a *previous dose of influenza vaccine*
or
- 2) have a history of Guillain-Barré Syndrome (GBS).

If you are moderately or severely ill at the time the shot is scheduled you should usually wait until you recover before getting influenza vaccine. Talk to your doctor or nurse about rescheduling the vaccination.

7 What are the risks from influenza vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of a vaccine causing serious harm, or death, is extremely small. Almost all people who get influenza vaccine have no serious problems from it. ***The viruses in the vaccine are killed, so you cannot get influenza from the vaccine.***

Mild problems:

- soreness, redness, or swelling where the shot was given
- fever
- aches

If these problems occur, they usually begin soon after the shot and last 1-2 days.

Severe problems:

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

8 What if there is a moderate or severe reaction?

What should I look for?

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

What should I do?

- Call a doctor, or get the person to a doctor right away.
- Tell your doctor what happened, the date and time it happened, and when the vaccination was given.
- Ask your doctor, nurse, or health department to file a Vaccine Adverse Event Reporting System (VAERS) form, or call VAERS yourself at **1-800-822-7967**.

9 How can I learn more?

- Ask your doctor or nurse. They can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call **1-800-232-2522** (English)
 - Call **1-800-232-0233** (Español)
 - Visit the National Immunization Program’s website at <http://www.cdc.gov/nip>



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention
National Immunization Program

PNEUMOCOCCAL POLYSACCHARIDE VACCINE

WHAT YOU NEED TO KNOW

1 Why get vaccinated?

Pneumococcal disease is a serious disease that causes much sickness and death. In fact, pneumococcal disease kills more people in the United States each year than all other vaccine-preventable diseases combined. Anyone can get pneumococcal disease. However, some people are at greater risk from the disease. These include people 65 and older, the very young, and people with special health problems such as alcoholism, heart or lung disease, kidney failure, diabetes, HIV infection, or certain types of cancer.

Pneumococcal disease can lead to serious infections of the lungs (pneumonia), the blood (bacteremia), and the covering of the brain (meningitis). About 1 out of every 20 people who get pneumococcal pneumonia dies from it, as do about 2 people out of 10 who get bacteremia and 3 people out of 10 who get meningitis. People with the special health problems mentioned above are even more likely to die from the disease.

Drugs such as penicillin were once effective in treating these infections; but the disease has become more resistant to these drugs, making treatment of pneumococcal infections more difficult. This makes prevention of the disease through vaccination even more important.

2 Pneumococcal polysaccharide vaccine (PPV)

The pneumococcal polysaccharide vaccine (PPV) protects against 23 types of pneumococcal bacteria. Most healthy adults who get the vaccine develop protection to most or all of these types within 2 to 3 weeks of getting the shot. Very old people, children under 2 years of age, and people with some long-term illnesses might not respond as well or at all.

3 Who should get PPV?

- All adults 65 years of age or older.
- Anyone over 2 years of age who has a long-term health problem such as:
 - heart disease
 - lung disease
 - sickle cell disease
 - diabetes
 - alcoholism
 - cirrhosis
 - leaks of cerebrospinal fluid
- Anyone over 2 years of age who has a disease or condition that lowers the body's resistance to infection, such as:
 - Hodgkin's disease
 - lymphoma, leukemia
 - kidney failure
 - multiple myeloma
 - nephrotic syndrome
 - HIV infection or AIDS
 - damaged spleen, or no spleen
 - organ transplant
- Anyone over 2 years of age who is taking any drug or treatment that lowers the body's resistance to infection, such as:
 - long-term steroids
 - certain cancer drugs
 - radiation therapy
- Alaskan Natives and certain Native American populations.



4

How many doses of PPV are needed?

Usually one dose of PPV is all that is needed.

However, under some circumstances a second dose may be given.

- A second dose is recommended for those people aged 65 and older who got their first dose when they were under 65, if 5 or more years have passed since that dose.
- A second dose is also recommended for people who:
 - have a damaged spleen or no spleen
 - have sickle-cell disease
 - have HIV infection or AIDS
 - have cancer, leukemia, lymphoma, multiple myeloma
 - have kidney failure
 - have nephrotic syndrome
 - have had an organ or bone marrow transplant
 - are taking medication that lowers immunity (such as chemotherapy or long-term steroids)

Children 10 years old and younger may get this second dose 3 years after the first dose. Those older than 10 should get it 5 years after the first dose.

5

Other facts about getting the vaccine

- Otherwise healthy children who often get ear infections, sinus infections, or other upper respiratory diseases do not need to get PPV because of these conditions.
- PPV may be less effective in some people, especially those with lower resistance to infection. But these people should still be vaccinated, because they are more likely to get seriously ill from pneumococcal disease.
- **Pregnancy:** The safety of PPV for pregnant women has not yet been studied. There is no evidence that the vaccine is harmful to either the mother or the fetus, but pregnant women should consult with their doctor before being vaccinated. Women who are at high risk of pneumococcal disease should be vaccinated before becoming pregnant, if possible.

6

What are the risks from PPV?

PPV is a very safe vaccine.

About half of those who get the vaccine have very mild side effects, such as redness or pain where the shot is given.

Less than 1% develop a fever, muscle aches, or more severe local reactions.

Severe allergic reactions have been reported very rarely.

As with any medicine, there is a very small risk that serious problems, even death, could occur after getting a vaccine.

Getting the disease is much more likely to cause serious problems than getting the vaccine.

7

What if there is a serious reaction?

What should I look for?

- Severe allergic reaction (hives, difficulty breathing, shock)

What should I do?

- Call a doctor, or get to a doctor right away.
- Tell your doctor what happened, the date and time it happened, and when the vaccination was given.
- Ask your doctor, nurse, or health department to file a Vaccine Adverse Event Reporting System (VAERS) form, or call VAERS yourself at 1-800-822-7967.

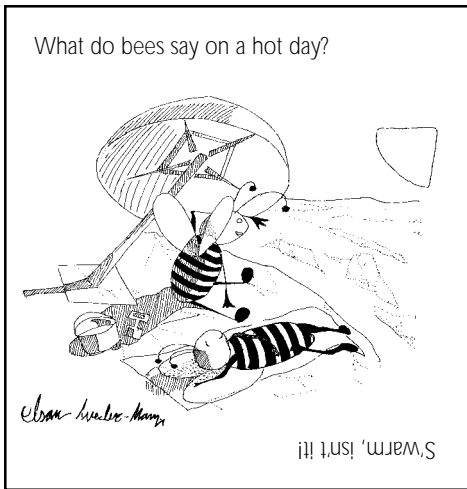
8

How can I learn more?

- Ask your doctor or nurse. They can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
 - Call 1-800-232-7468 (English)
 - OR
 - Call 1-800-232-0233 (Spanish)
 - OR

Visit the CDC National Immunization Program website at <http://www.cdc.gov/nip>





following two doses of rubella-containing vaccine. I would suggest you make a note of her documented vaccination and stop testing. Another approach would be to administer one additional dose of MMR. However, there are no data on the administration of additional doses of rubella-containing vaccine in this situation.

How likely is it for a person to develop arthritis from rubella vaccine?

Arthralgia (joint pain) and transient arthritis (joint redness or swelling) following rubella vaccination occur only in persons who were susceptible to rubella at the time of vaccination. Joint symptoms are uncommon in children and in adult males. About 25% of post-pubertal women report joint pain after receiving rubella vaccine, and about 10% report arthritis-like signs and symptoms. When joint symptoms occur, they generally begin 1–3 weeks after vaccination, persist for 1 day to 3 weeks, and rarely recur. Chronic joint symptoms attributable to rubella vaccine are very rare, if they occur at all.

Can I give a PPD (tuberculin skin test) on the same day as a dose of MMR vaccine?

A PPD can be applied before or on the same day that MMR vaccine is given. However, if MMR vaccine is given on the previous day or earlier, the PPD should be delayed for at least one month. Live measles vaccine given prior to the applica-

tion of a PPD can reduce the reactivity of the skin test because of mild suppression of the immune system.

Varicella

by William L. Atkinson, MD, MPH

If MMR and varicella vaccines are given at less than a 28-day interval, should one of the doses be repeated?

The effect of the nonsimultaneous administration of MMR and varicella is unknown, but there is theoretical concern that the vaccine given first could reduce the response to the vaccine given second. As a general rule, ACIP recommends separating parenteral live virus vaccines by 4 weeks if they are not given at the same visit. At its February 2000 meeting, ACIP voted to recommend that if two parenteral live virus vaccines are not administered simultaneously (on the same day) and are given less than 28 days apart, the vaccine given second should be repeated at least 28 days later. An alternative approach would be to serologically test for a response to the vaccine given second. This recommendation will be published in late 2000 in a revision of the ACIP statement titled "General Recommendations on Immunization."

Pneumococcal disease

by William L. Atkinson, MD, MPH

Should people who are HIV positive receive pneumococcal vaccine?

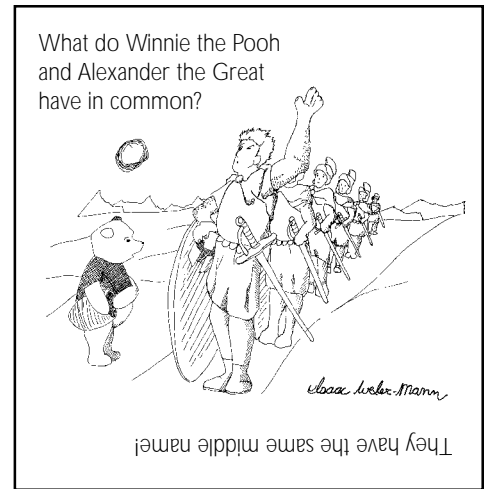
Yes. Persons with HIV infection should receive the vaccine as soon as possible after diagnosis and a one-time revaccination dose at the appropriate interval. The risk of pneumococcal infection is up to 100 times greater in HIV-infected persons than in other adults of similar age. Although severely immunocompromised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

Influenza

by William L. Atkinson, MD, MPH

Will there be a shortage of influenza vaccine for the 2000–2001 influenza season?

The total amount of vaccine that will be available for the influenza season is uncertain at this time. It is also possible that delivery of influenza vaccine will be delayed. Both FDA and CDC are actively working with manufacturers to determine how much and when vaccine will be available. The amount of available flu vaccine will become more clear by September. In a July 14 *MMWR* article, ACIP urged health care providers to delay adult mass influenza vaccination campaigns until November, and to consider ways to ensure that their high-risk patients receive priority for vaccination if a vaccine shortfall were to occur. Routine



influenza vaccination activities in clinics, offices, hospitals, nursing homes, and other health care settings (especially vaccination of persons at high risk for complications from influenza, health care staff, and other persons in close contact with persons at high risk for complications from influenza) should proceed as normal with available vaccine.

Why did ACIP recently lower the age for routine influenza vaccination to 50 years?

ACIP recommended lowering the age for routine influenza vaccination from 65 to 50 in order to increase vaccination levels in the 50- to 64-year-old age group. From 24–32% of persons in this age group have a chronic medical condition that places them at high risk for influenza-related hospitalization and death. Vaccination levels of high-risk persons aged 50–64 have been low, and age-based strategies are usually more successful than risk-based vaccination strategies.

Which health care workers should receive influenza vaccine?

All health care workers (persons who work in health care settings) who breathe the same air as a person at high risk for complications of influenza should be vaccinated every fall.

I received my flu shot SQ instead of IM. Should it have been repeated?

Yes.

What's the difference between Haemophilus influenzae type b and influenza?

Haemophilus influenzae type b is a polysaccharide-encapsulated bacteria that causes a variety of invasive syndromes, such as meningitis, epiglottitis, and pneumonia. Influenza is a virus that causes the disease influenza. **Historical note:** *Haemophilus influenzae* was first isolated in 1889 from the sputum of a patient who died of influenza, and the isolated organism (then called the Pfeiffer bacillus) was assumed to have caused the patient's illness. *Haemophilus influenzae* received its name in 1920, to acknowledge its historical

(continued on page 10)

Correction Policy

The Immunization Action Coalition works tirelessly to ensure the accuracy of the information we make available. At times, however, mistakes occur and we welcome your "eagle-eyed" review of our content. If you find an error, please notify us immediately. We publish notice of an error in the next issue of **VACCINATE ADULTS!** To hear of an error right away, sign up for our free e-mail announcement service **IAC EXPRESS**. (You'll also receive the latest immunization news.) Visit our website at www.immunize.org/express to sign up. It's free!

association with influenza. The viral cause of influenza was not discovered until 1933.

Meningococcal disease

by William L. Atkinson, MD, MPH

Is meningococcal vaccine recommended for college students?

College students who live in on-campus housing appear to be at slightly increased risk of meningococcal disease compared to persons of the same age who live off campus. Neither ACIP nor the AAP recommends that college students be routinely given meningococcal vaccine. However, they recommend that clinicians inform and educate students and parents about the risk of meningococcal disease and the existence of a safe and effective vaccine and immunize students at their request or if educational institutions require it for admission. Meningococcal vaccine is safe and effective against the serogroups included in the vaccine.

Where do I obtain a meningococcal VIS?

A Vaccine Information Statement can be obtained from the National Immunization Program website (www.cdc.gov/nip), or the Immunization Action Coalition website (www.immunize.org). You can also call your state or local health department to request a copy.

Lyme disease

by William L. Atkinson, MD, MPH

I have a patient who got his first dose of Lyme disease vaccine in July, but didn't return for the second dose until November.

Should the booster dose be given 11 months after dose #2, or 12 months after dose #1?
The third dose of Lyme vaccine should be given 12 months after the first dose.

Hepatitis B

by Harold Margolis, MD, and Linda Moyer, RN

Where can I find a CDC document that states that hepatitis B vaccine doesn't have to be restarted if the series is interrupted?

Discussion regarding an interrupted hepatitis B vaccine schedule can be found in the original hepatitis B vaccine recommendation: "Hepatitis B Virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination: Recommendations of the ACIP" (*MMWR* 1991;40[RR-13]) under the heading Vaccine Usage.

Wondering about clinical trials for hepatitis B and C?
www.clinicaltrials.gov

Interpretation of the hepatitis B panel

Tests	Results	Interpretation
HBsAg anti-HBc anti-HBs	negative negative negative	susceptible
HBsAg anti-HBc anti-HBs	negative neg. or pos. 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 actually a carrier.

I understand that if a person is HBeAg negative and HBsAg positive, s/he is not infectious. Am I wrong?

Yes, you are wrong. HBeAg is an indicator of high viral replication activity, so an individual who is actively replicating hepatitis B virus (HBV) will be highly infectious. HBsAg positivity accompanied by HBeAg negativity indicates continued viral replication, though at a less intense level than if the patient were HBeAg positive. Hence, a person who is HBsAg positive is infectious.

If a person is HBsAg positive, can s/he pass the virus by sharing cups or straws?

Casual contact—such as sharing drinking cups, straws, or other eating utensils—has not been associated with HBV transmission.

I'm a nurse who received the hepatitis B vaccine series over 10 years ago and had a positive follow-up titer. At present, my titer is negative. What should I do now?

Nothing. Current data show that vaccine-induced anti-HBs levels may decline over time; however, immune memory (anamnestic anti-HBs response) remains intact indefinitely following immunization. Persons with declining antibody levels are still protected against clinical illness and chronic disease. For health care workers with normal immune status who have demonstrated an anti-HBs response following vaccination, booster doses of vaccine are not recommended nor is periodic anti-HBs testing.

Do you have patients who are HBsAg-positive?

They need medical monitoring and many can benefit from treatment.

There are two FDA-licensed treatment options available in the United States:

1. interferon alfa-2b, recombinant administered subcutaneously
2. lamivudine administered orally

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

Hepatitis A

by Harold Margolis, MD, and Linda Moyer, RN

When traveling to an endemic area, when should one receive immune globulin in addition to hepatitis A vaccine?

Hepatitis A vaccine is the first choice for any person aged ≥ 2 years who requires protection from hepatitis A when traveling outside of the United States. Immune globulin should be added when the person is vaccinated < 1 month prior to departure as it takes 2–4 weeks to develop protective levels of antibody after vaccination. Persons aged < 2 years should only be given immune globulin for protection.

Should a woman who is 2 months pregnant and traveling to a hepatitis A endemic area in 6 weeks be vaccinated?

The safety of hepatitis A vaccination during pregnancy has not been determined. However, because hepatitis A vaccine is produced from inactivated hepatitis A virus, the theoretical risk to the developing fetus is expected to be low.

Why does a 15-year-old who weighs 160 lbs receive a pediatric dose of hepatitis A vaccine while his 110-lb mother receives an adult dose (twice the pediatric dose)?

The efficacy data from the clinical trials were based on age at time of vaccination, and not on the weight of the individual. Hence, the dosage recommendations reflect this age-based efficacy data. The same holds true for hepatitis B vaccine. In addition, higher response rates are expected in younger persons even if their weights are above the norm. ♦

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**Immunization Action Coalition
Hepatitis B Coalition**

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Qty.	Materials for your patients	Amt.
___ P4030	Vaccinations for adults: <input type="checkbox"/> English <input type="checkbox"/> Spanish	\$1/ea ___
___ P4035	Immunizations...not just kids' stuff: <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Chinese	\$1/ea ___
___ P4041	Shots for adults with HIV	\$1 ___
___ P4042	Vaccinations for adults with hepatitis C	\$1 ___
___ P4070	Chickenpox isn't just an itchy, contagious rash: <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Vietnamese	\$1/ea ___
___ P4080	Hepatitis A is a serious disease. Should you be vaccinated? <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Vietnamese	\$1/ea ___
___ P4090	Questions frequently asked about hepatitis B: <input type="checkbox"/> English <input type="checkbox"/> Spanish	\$1/ea ___
___ P4112	Every week thousands of sexually active people get hep B: <input type="checkbox"/> English <input type="checkbox"/> Spanish	\$1/ea ___
___ P4113	If you have sex, read this	\$1 ___
___ P4115	Hepatitis B is 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"/> Chinese <input type="checkbox"/> Hmong	\$1/ea ___
___ P4170	Hep B information for adults and children from endemic areas: <input type="checkbox"/> English <input type="checkbox"/> Cambodian <input type="checkbox"/> Chinese <input type="checkbox"/> Hmong <input type="checkbox"/> Korean <input type="checkbox"/> Laotian <input type="checkbox"/> Russian <input type="checkbox"/> Vietnamese	\$1/ea ___
Materials for your clinic staff		
___ P2011	Summary of rules for adult immunization	\$1 ___
___ P2013	Revised! Give these people influenza vaccine!	\$1 ___
___ P2015	Pneumococcal vaccine: who needs it, who needs it again?	\$1 ___
___ P2020	Vaccine handling, storage, and transport	\$1 ___
___ P2021	Revised! Ask the experts: compilation of immunization Q & As ...	\$5 ___
___ P2023	Vaccine administration record for adults	\$1 ___
___ P2027	Revised! It's federal law! You must give your patients VISs	\$1 ___
___ P2045	Tips to improve your clinic's immunization rates	\$1 ___
___ P2058	Vaccinate don't vacillate! Varicella kills	\$1 ___
___ P2060	Hospitals and doctors sued for failing to immunize	\$1 ___
___ P2081	Revised! Hep A and hep B vaccines, give the correct dose!	\$1 ___
___ P2100	No risk?? No way!!	\$1 ___
___ P2109	Hepatitis B and the health care worker	\$1 ___
___ P2110	Basic knowledge about hepatitis B	\$1 ___
___ P2112	Revised! Facts about adult hepatitis B	\$1 ___
___ P2164	Management of chronic hepatitis B	\$5 ___
___ P2180	Tracking hepatitis B patients and contacts	\$1 ___
___ P4065	Revised! Screening questionnaire for adult immunization: <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Chinese <input type="checkbox"/> Hmong	\$1/ea ___
___ P4140	Sample letter explaining hepatitis B test results to patients	\$1 ___
Videos, posters, and slides for your clinic		
___ V2010	Video "How to Protect Your Vaccine Supply"	\$10 ___
___ V2020	Video "Vaccine Administration Techniques"	\$10 ___
___ O2020	Poster "Immunizations...not just kids' stuff"	10/\$1 ___
___ S3010	Slides 31 slides of vaccine-preventable diseases, script included: <input type="checkbox"/> English <input type="checkbox"/> Spanish	\$25 ___
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Deborah L. Wexler MD

Deborah L. Wexler, MD
Executive Director

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