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, and Andrew T. Kroger, MD, MPH, of the Centers for Disease Control and Prevention (CDC) for answering the following questions for our readers. Dr. Atkinson is a medical epidemiologist, and Dr. Kroger is a medical officer, both at CDC’s National Immunization Program.

Immunization questions
by William L. Atkinson, MD, MPH, and Andrew T. Kroger, MD, MPH

Which adults should receive Tdap?
A one-time dose of Tdap should replaceTd for any adult younger than age 65 years either as part of a primary series or as a booster. Certain adults should get Tdap with an interval of 2 years or less if they are 1) a parent or caregiver of a child less than age 1 year, 2) a healthcare worker having direct patient contact, or 3) at risk for pertussis due to increased pertussis activity or during outbreaks.

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

Which Tdap products can be used in adults?
Adacel® (sanofi pasteur) is licensed for use in persons ages 11–64 years. Boostrix® (GlaxoSmithKline) is licensed for use in persons 10–18 years. For persons ages 65 years and older, neither product is licensed, so Td should be used in this age group whenever needed.

Can Tdap be given as part of wound management?
Yes, if the vaccinee is younger than age 65 years and has not received Tdap previously.

Can we give Tdap at the same visit as other vaccines?
Yes. It can be given with all other vaccines. Each vaccine dose should be administered using a separate syringe.

If adults have a history of pertussis disease, should they receive Td rather than Tdap?
No. Although well-documented (e.g., culture confirmed) pertussis disease is likely to confer at least temporary immunity against pertussis, the duration of such immunity is unknown, but is probably at least 5 years. As a general rule, adults with an indication for Tdap should receive it regardless of a history of pertussis disease. However, if the illness was recent (less than 5 years) and the diagnosis was certain (i.e., culture confirmed) it is reasonable to wait 3–5 years before administration of Tdap, unless tetanus and diphtheria toxoids are needed.

What are the new CDC recommendations for influenza vaccination of healthcare personnel?
Influenza vaccination coverage of healthcare personnel (HCP) remains low. Because HCP provide care to patients at high risk for complications of influenza, HCP should be considered a high priority for receiving vaccination. Achieving high vaccination coverage among HCP will protect staff and their patients and reduce disease burden and healthcare costs.

On Feb. 24, 2006, CDC devoted an entire MMWR Recommendations and Reports to influenza vaccination of HCP. These new recommendations are summarized in the following points:
• All HCP should be educated regarding the benefits of influenza vaccination and the potential health consequences of influenza illness for themselves and their patients.
• Influenza vaccine should be offered annually to all eligible HCP to protect staff, patients, and family members and to decrease HCP absenteeism. Use of either available vaccine (inactivated or live, attenuated influenza vaccine [TIV or LAIV]) is recommended for eligible persons. During periods when TIV is in short supply, use of LAIV is especially encouraged when feasible for eligible HCP.
• Provide influenza vaccination to HCP at the work site and at no cost as a component of employee health programs. Use strategies that have been demonstrated to increase influenza vaccine acceptance, including vaccination clinics, mobile carts, vaccination access during all work shifts, and modeling and support by institutional leaders.
• Obtain a signed declination from HCP who decline influenza vaccination for reasons other than medical contraindications.
• Monitor HCP influenza vaccination coverage and

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Vaccinate Adults!
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www.iacoalitions.org

Vaccine Adults! is a semiannual publication of the Immunization Action Coalition (IAC) written for health professionals. All content is reviewed by the Centers for Disease Control and Prevention (CDC) for technical accuracy, with the exception of opinion pieces written by non-CDC authors. This publication is supported by CDC Grant Nos. U66/CCU524042 and U50/CCU523259. The content is solely the responsibility of IAC and does not necessarily represent the official views of CDC. Circulation is approximately 130,000. ISSN 1526-1824.

Vaccine Highlights
Recommendations, schedules, and more

Editor’s note: The information on this page is current as of May 8, 2006.

ACIP recommendations

The Advisory Committee on Immunization Practices (ACIP) advises CDC on the appropriate use of vaccines and periodically issues public health recommendations on vaccine use. Clinicians who vaccinate should have a current set for reference. Published in the Morbidity and Mortality Weekly Report (MMWR), ACIP recommendations are easily available. Here are sources:
- Download them from links on IAC’s website: www.immunize.org/acip.
- Download them from CDC’s website: www.cdc.gov/nip/publications/acip-list.htm.
- Call the CDC-INFO Contact Center at (800) CDC-INFO [(800) 232-4636].

Recently published ACIP recommendations:
- “Influenza Vaccination of Health-Care Personnel” (2/24/06; issued jointly by ACIP and the Healthcare Infection Control Practices Advisory Committee)

CDC has begun posting provisional ACIP recommendations at www.cdc.gov/nip/recs/provisional_recs. Provisional recommendations are those ACIP has voted on that are not yet approved by CDC or the Department of Health and Human Services, and not yet published in MMWR.

Influenza news

On Feb. 24, CDC published “Influenza Vaccination of Health-Care Personnel,” a joint publication of ACIP and the Healthcare Infection Control Practices Advisory Committee. These recommendations apply to healthcare workers in hospitals, nursing homes, skilled nursing facilities, physicians’ offices, urgent care centers, and outpatient clinics, and to persons who provide home health care and emergency medical services. The recommendations are available at www.cdc.gov/mmwr/pdf/rr/rr5502.pdf.

Tdap vaccine news

In Oct. 2005, ACIP voted to recommend that adults up to age 65 years be vaccinated with the newly licensed adult booster tetanus, diphtheria, and pertussis vaccine (Tdap). Under the ACIP recommendation, Tdap would replace one dose in the currently recommended tetanus-diphtheria vaccine used as the adult booster.

Hepatitis B news

In Oct. 2005, ACIP voted to recommend hepatitis B vaccination for all unvaccinated adults at risk for HBV infection and for all adults seeking protection from HBV infection. This new recommendation has not yet been made official by publication in MMWR; the provisional ACIP recommendation is available at www.cdc.gov/nip/vaccine/adap/tdap_adult_recs.pdf.

Mumps news

On April 14, CDC released a health advisory about the ongoing mumps outbreak in Iowa and other states. Links to the Health Advisory and mumps outbreak and control information are available at www.cdc.gov/nip/diseases/mumps/default.htm.

CDC resources

A CD-ROM titled “Immunization Works!” is available free of charge from CDC’s National Immunization Program. The CD contains all ACIP recommendations published before Jan. 1, 2006; the Pink Book; a complete set of VISs; and much more. It can be ordered online until July 1 at www2.cdc.gov/nchstp_od/PWweb/niporderform.asp.

The 9th edition of the CDC textbook, “Epidemiology and Prevention of Vaccine-Preventable Diseases” (the Pink Book) is now available online at www.cdc.gov/nip/publications/pink/default.htm (please refer to www.cdc.gov/nip/publications/pink/def_pink_errata.htm for a listing of errata and updates that have been identified since this edition was published in January 2006). The Pink Book gives immunization providers comprehensive information about routinely recommended vaccines, vaccine-preventable diseases, and more. A paper copy is available from the Public Health Foundation for $29. For ordering information, go to: bookstore.phf.org/product_info.php?cPath=45&products_id=463.

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Laminated adult immunization schedules
Order one of each for every exam room

IAC’s version of the CDC/AAFP/ACOG-approved adult schedule is laminated for heavy-duty use, complete with essential footnotes, and printed in color for easy reading. The cost is $5 each for the 4-sided adult schedule. For five or more copies, contact us for discount pricing.

To order by fax or mail, use the order form on page 11.
For more information or to order online, go to www.immunize.org/immschedules.

Do you vaccinate adults or children?
Then your practice needs this training video!

“Immunization Techniques: Safe, Effective, Caring” developed by California Dept. of Health Services Immunization Branch

Available in videotape (VHS) or DVD format. Each comes with presenter’s notes and a skills checklist.

Cost is $30 for VHS video; $35 for DVD. For 20 or more copies, contact us for discount pricing. For more information or to order online, visit www.immunize.org/iztech.
To order by fax or mail, use the order form on page 11.
Questions? Email admin@immunize.org or call (651) 647-9009.

Immunization record cards for adults!

Give all your adult patients a permanent vaccination record card from IAC. Printed on rip-proof, smudge-proof, water-proof paper, this durable canary-yellow card is sized to fit in a wallet alongside other important cards. To view the card, visit www.immunize.org/adultizcards/adultizcard.pdf.

Buy 1 box (250 cards) for $35 (first order of a 250-card box comes with a 30-day money-back guarantee)
Discounts for larger orders: 2 boxes (500 cards) $65; 3 boxes (750 cards) $90; 4 boxes (1000 cards) $110

To order, visit www.immunize.org/adultizcards, or use the order form on page 11.
(To receive sample cards, email your request to admin@immunize.org.)
Hepatitis B questions

What will be changing in the CDC’s hepatitis B recommendations for adults?
The recommendations for adults will be published later this year. The provisional recommendations include these significant changes:

- Hepatitis B vaccination is recommended for all unvaccinated adults at risk for hepatitis B virus (HBV) infection and for all adults seeking protection from HBV infection. Acknowledgment of a specific risk factor is not a requirement for vaccination.
- In settings where a high proportion of adults are likely to have risk factors for HBV infection, all unvaccinated adults should be assumed to be at risk and should receive hepatitis B vaccination. These settings include sexually transmitted disease treatment facilities, human immunodeficiency virus (HIV) testing facilities, HIV treatment facilities, facilities providing drug abuse treatment and prevention, correctional facilities, healthcare settings serving men who have sex with men (MSM), chronic hemodialysis facilities, end-stage renal disease programs, and institutions and nonresidential day care facilities for developmentally challenged persons.
- Standing orders should be implemented to identify and vaccinate eligible adults in primary care and specialty medical settings. If ascertainment of risk for HBV infection is a barrier to vaccination in these settings, providers may use alternative vaccination strategies, such as offering hepatitis B vaccine to all unvaccinated adults in age groups with the highest risk for infection (e.g., less than 45 years of age).

To obtain a copy of the provisional recommendations, go to www.cdc.gov/mmwr/pdf/rr/rr5502.pdf.

Hepatitis A and B lab tests

**Hepatitis A lab nomenclature**

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

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

**Hepatitis B lab nomenclature**

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

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

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

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

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

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

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

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

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

The FDA licenses five medications for treatment in the United States. They are interferon alfa-2b and peginterferon alfa-2a (administered subcutaneously); and adeovir dipoxil, entecavir, and lamivudine (administered orally).

Consult a liver specialist experienced in the treatment of viral hepatitis for appropriate monitoring guidelines and for help in determining which of your patients might benefit from treatment.
STANDING ORDERS for administering vaccines to adults and children

Adapt these standing orders for use in your practice setting!

A few years ago, the Immunization Action Coalition (IAC) developed examples of standing orders for administering vaccines to adults. We’ve recently added standing orders for children and teens. Healthcare providers can easily adapt these standing orders for use in their own facilities.

The Centers for Disease Control and Prevention has reviewed all examples of IAC’s standing orders for technical accuracy. All are available on IAC’s website at www.immunize.org/standingorders.

Read what others have said about the use of standing orders:

The Advisory Committee on Immunization Practices (ACIP): “Standing orders programs require senior nurses and pharmacists to administer vaccinations according to a prewritten protocol which removes the decision-making from the provider’s examination. Standing orders can be used in inpatient and outpatient facilities, long-term-care facilities, managed-care organizations, assisted living facilities, correctional facilities, pharmacies, workplaces, and home health-care agencies to vaccinate patients, clients, resident, and employee populations.”

CDC. Use of Standing Orders Programs to Increase Adult Vaccination Rates: Recommendations of the Advisory Committee on Immunization Practices. MMWR 2000; 49(RR01).

The Task Force on Community Preventive Services, convened by DHHS with support from the CDC, analyzed the peer-reviewed published evidence on interventions designed to improve the timely immunization of children and adults. Among other recommendations, the task force found the following intervention to be proven effective for office practices to improve vaccine delivery:

“Standing orders for registered nurses, physician assistants, and medical assistants that allow staff to independently screen patients, identify opportunities for immunization, and administer vaccines under physician supervision (where permissible by local regulations) are effective at raising immunization rates.”


The following standing orders are now (or soon will be) available at www.immunize.org/standingorders:

<table>
<thead>
<tr>
<th>Standing Orders</th>
<th>Children</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria, tetanus &amp; acellular pertussis (DTaP) vaccine</td>
<td>coming soon</td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib) vaccine</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hepatitis A (HepA) vaccine</td>
<td>coming soon</td>
<td>✓</td>
</tr>
<tr>
<td>Hepatitis B (HepB) vaccine</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Inactivated poliovirus vaccine (IPV)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Influenza vaccines (TIV and LAIV)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR) vaccine</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Meningococcal vaccines (MCV and MPSV)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pneumococcal conjugate vaccine (PCV)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide vaccine (PPV)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tetanus, diphtheria &amp; acellular pertussis (Td, Tdap) vaccine</td>
<td>coming soon</td>
<td>✓</td>
</tr>
<tr>
<td>Varicella (VAR) vaccine</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Medical management of vaccine reactions</td>
<td>coming soon</td>
<td>✓</td>
</tr>
</tbody>
</table>
**Vaccinations for Adults**

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

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

<table>
<thead>
<tr>
<th>Vaccine ▼</th>
<th>Age ▼</th>
<th>19–49 years</th>
<th>50–64 years</th>
<th>65 years &amp; older</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza</strong></td>
<td></td>
<td>You need a dose yearly if you have a chronic health problem,* are a healthcare worker, have close contact with certain individuals,* or you just want to avoid getting influenza.</td>
<td></td>
<td>You need a dose every fall (or winter).</td>
</tr>
<tr>
<td><strong>Pneumococcal</strong></td>
<td></td>
<td>You need 1–2 doses if you have certain chronic medical conditions.*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tetanus, diphtheria, pertussis (Td, Tdap)</strong></td>
<td></td>
<td>If you haven’t had at least 3 tetanus-and-diphtheria-containing shots sometime in your life, you need to get them now. Start with dose #1, followed by dose #2 in 1 month, and dose #3 in 6 months. All adults need Td booster doses every 10 years. If you’re younger than 65 years and haven’t had pertussis-containing vaccine as an adult, one of the doses that you receive should have pertussis (whooping cough) vaccine in it—known as Tdap. Be sure to consult your health professional if you have a deep or dirty wound.</td>
<td></td>
<td>You need 1 dose at age 65 (or older) if you’ve never been vaccinated. You may also need a 2nd dose.*</td>
</tr>
<tr>
<td><strong>Hepatitis B (HepB)</strong></td>
<td></td>
<td>You need this vaccine if you have a specific risk factor for hepatitis B virus infection* or you simply wish to be protected from this disease. The vaccine is given as a 3-dose series (dose #1 now, followed by dose #2 in 1 month, and dose #3, usually given 5 months later).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hepatitis A (HepA)</strong></td>
<td></td>
<td>You need this vaccine if you have a specific risk factor for hepatitis A virus infection* or you simply wish to be protected from this disease. The vaccine is given as 2 doses, 6–18 months apart.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Measles, mumps, rubella (MMR)</strong></td>
<td></td>
<td>You need at least 1 dose of MMR if born in 1957 or later. You may also need a 2nd dose.*</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Varicella (Chickenpox)</strong></td>
<td></td>
<td>If you’ve never had chickenpox, you should get vaccinated now (2 doses, 1–2 months apart).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meningococcal</strong></td>
<td></td>
<td>If you are a young adult going to college and plan to live in a dormitory, you need to get vaccinated against meningococcal disease. People with certain medical conditions should also receive this vaccine.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Do you travel outside the United States?** If so, you may need additional vaccines. The Centers for Disease Control and Prevention (CDC) operates an international traveler’s health information line. Call (877) 394-8747 or visit CDC’s website at www.cdc.gov/travel for information about your destination. You may also consult a travel clinic or your healthcare professional.
If you have hepatitis C, which vaccinations do you need?

The chart below shows which vaccinations you should have to protect your health. Make sure you and your healthcare provider keep your vaccinations up to date.

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Recommended</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>Yes</td>
<td>You should receive one dose of the inactivated influenza vaccine every year if you want to avoid getting sick with influenza.</td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>Yes</td>
<td>This vaccine is specifically recommended for you if you have liver disease. If you haven’t been vaccinated, you should get one dose now. If you were vaccinated when you were younger than age 65 and you’re 65 years or older now, you should get another dose now, provided at least 5 years have passed since your first dose.</td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td, Tdap)</td>
<td>Yes</td>
<td>If you haven’t had at least 3 doses of tetanus and diphtheria-containing shots sometime in your life, you need to start or complete a 3-dose series now. Start with dose #1, followed by dose #2 in 1 month, and dose #3 in 6 months. You’ll need a Td booster dose every 10 years. If you’re younger than 65 years, your next booster dose should also contain pertussis (whooping cough) vaccine—known as Tdap. Be sure to consult your healthcare provider any time you get a deep or dirty wound.</td>
</tr>
<tr>
<td>Hepatitis A (Hep A)</td>
<td>Yes</td>
<td>This vaccine is specifically recommended for you if you have liver disease. If you haven’t been vaccinated, you should get one dose now. If you were vaccinated when you were younger than age 65 and you’re 65 years or older now, you should get another dose now, provided at least 5 years have passed since your first dose.</td>
</tr>
<tr>
<td>Hepatitis B (Hep B)</td>
<td>Yes</td>
<td>The Centers for Disease Control and Prevention (CDC) recommends a 3-dose series for people who are at risk for hepatitis B virus infection. If you haven’t been vaccinated against hepatitis B, you need 2 doses of this vaccine, spaced 6–18 months apart.</td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td>Maybe</td>
<td>If you are an adult who was born in 1957 or later, you need at least 1 dose of MMR. Discuss your need for vaccination with your healthcare provider.</td>
</tr>
<tr>
<td>Varicella (Chickenpox)</td>
<td>Maybe</td>
<td>If you’ve never had the chickenpox disease, you should get vaccinated now (2 doses, 1–2 months apart).</td>
</tr>
</tbody>
</table>

For more information about hepatitis C, call the CDC at 1-800-925-2210, visit the CDC Healthy People 2010 website at www.healthypeople.gov, or call the Hepatitis Foundation International at (800) 891-0707 (800-HF-HEP).

Do you travel outside the United States? If so, you may need additional vaccines. The Centers for Disease Control and Prevention (CDC) offers an international travel 3 health information line. Call (877) 338-2322 or visit CDC’s website at www.cdc.gov/travel for information about your destination. You may also consult a travel clinic or your healthcare professional.

For a ready-to-copy 8½ x 11” version of this piece, visit www.immunize.org/catg.d/4042hepc.pdf.
## Summary of Recommendations for Adult Immunization

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

### Contraindications and precautions

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

(mild illness is not a contraindication)

<table>
<thead>
<tr>
<th>Vaccine name and route</th>
<th>For whom vaccination is recommended</th>
<th>Schedule for vaccine administration (any vaccine can be given with another)</th>
<th>Contraindications and precautions (mild illness is not a contraindication)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza</strong></td>
<td></td>
<td></td>
<td>Contraindication Previous anaphylactic reaction to this vaccine, to any of its components, or to eggs.</td>
</tr>
<tr>
<td>Trivalent inactivated influenza vaccine (TIV)</td>
<td>• Persons age 50yrs and older. • Persons with medical problems (e.g., heart disease, lung disease, diabetes, renal dysfunction, hemoglobinopathy, immunosuppression) and/or people living in chronic-care facilities. • Persons with any condition that compromises respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration (e.g., cognitive dysfunction, spinal cord injury, seizure disorder, or other neuromuscular disorder) • Persons working or living with at-risk people. • Women who will be pregnant during the influenza season (December–March). • All healthcare workers and other persons who provide direct care to at-risk people. • Household contacts and out-of-home caregivers of children ages 0–59m. • Travelers at risk for complications of influenza who go to areas where influenza activity exists or who may be among people from areas of the world where there is current influenza activity (e.g., on organized tours). • Persons who provide essential community services. • Students or other persons in institutional settings (e.g., dormitory residents). • Anyone wishing to reduce the likelihood of becoming ill with influenza.</td>
<td>Every year. October through November is the optimal time to receive annual influenza vaccination to maximize protection; however vaccination may occur in December and throughout the influenza season (typically December through March) or at other times when the risk of influenza exists.</td>
<td>Moderate or severe acute illness.</td>
</tr>
<tr>
<td><strong>Influenza</strong></td>
<td></td>
<td></td>
<td>Precaution Previous anaphylactic reaction to this vaccine, to any of its components, or to eggs.</td>
</tr>
<tr>
<td>Live attenuated influenza vaccine (LAIV)</td>
<td>• Healthy, non-pregnant persons age 49yrs and younger who meet any of the conditions listed below. - Working or living with at-risk people as listed in the section above. - Healthcare workers or other persons who provide direct care to at-risk people (except persons in close contact with severely immunosuppressed persons). - Household contacts and out-of-home caregivers of children ages 0–59m. - Travelers who may be among people from areas of the world where there is current influenza activity (e.g., on organized tours). - Persons who provide essential community services. - Students or other persons in institutional settings (e.g., dormitory residents). - Anyone wishing to reduce the likelihood of becoming ill with influenza.</td>
<td></td>
<td>Moderate or severe acute illness.</td>
</tr>
<tr>
<td><strong>Pneumococcal polysaccharide (PPV23)</strong></td>
<td>• Persons age 65yrs and older. • Persons who have chronic illness or other risk factors, including chronic cardiac or pulmonary disease, chronic liver disease, alcoholism, diabetes, CF leak, as well as people living in special environments or social settings (including Alaska Natives and certain American Indian populations). Those at highest risk of fatal pneumococcal infection are persons with anatomic asplenia, functional asplenia, or sickle cell disease; immunocompromised persons including those with HIV infection, leukemia, lymphoma, Hodgkin’s disease, multiple myeloma, generalized malignancy, chronic renal failure, or nephrotic syndrome; persons receiving immunosuppressive chemotherapy (including corticosteroids); and those who received an organ or bone marrow transplant and candidates for or recipients of cochlear implants.</td>
<td>Routinely given as a one-time dose; administer if previous vaccination history is unknown. One-time revaccination is recommended 5yrs later for persons at highest risk of fatal pneumococcal infection or rapid antibody loss (e.g., renal disease) and for persons age 65yrs and older if the 1st dose was given prior to age 65 and 5yrs or more have elapsed since the prior dose.</td>
<td>Pneumococcal polysaccharide (PPV23) Previous anaphylactic reaction to this vaccine, to any of its components.</td>
</tr>
</tbody>
</table>

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

Visit IAC’s website at www.immunize.org/adultrules to make sure you have the most current version. IAC thanks William Atkinson, MD, MPH, from CDC’s National Immunization Program for his assistance.

www.immunize.org/catg.d/p2011b.pdf  •  Item #P2011 (5/06)
<table>
<thead>
<tr>
<th>Vaccine name and route</th>
<th>For whom vaccination is recommended</th>
<th>Schedule for vaccine administration (any vaccine can be given with another)</th>
<th>Contraindications and precautions (mild illness is not a contraindication)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hepatitis B</strong> (Hep B) Give IM</td>
<td>• All adolescents; any adult wishing to obtain immunity. • Persons at risk for sexual transmission, including persons seeking treatment for STDs, sex partners of HBsAg-positive persons, persons with more than one sex partner in the past 6m, and men who have sex with men. • Persons at risk for transmission by percutaneous or mucosal exposure to blood, including household contacts of HBsAg-positive persons, current or recent injection drug users, healthcare and safety workers exposed to blood, hemodialysis patients, and patients whose renal disease might result in dialysis. • All persons seen in the following settings: clinics/facilities providing care for STD, HIV/AIDS, drug abuse and harm-reduction; corrections; chronic hemodialysis; and residential/non-residential care for developmentally disabled persons. • Certain international travelers (see <a href="http://www.cdc.gov/travel/diseases.htm">www.cdc.gov/travel/diseases.htm</a>). • Persons with chronic liver disease, including persons with hepatitis C. Note: Also provide HBsAg screening for immigrants from high endemic areas.</td>
<td>• Three doses are needed on a 0, 1, 6m schedule. • Alternative timing options for vaccination include 0, 2, 4m and 0, 1, 4m. • There must be 4wks between doses #1 and #2, and 8wks between doses #2 and #3. Overall, there must be at least 16wks between doses #1 and #3. • Schedule for those who have fallen behind: If the series is delayed between doses, DO NOT start the series over. Continue from where you left off. For Twinrix (hepatitis A and B combination vaccine [GSK]), three doses are needed on a 0, 1, 6m schedule. Recipients must be age 18yrs or older.</td>
<td>Contraindication Previous anaphylactic reaction to this vaccine or to any of its components. Precaution Moderate or severe acute illness.</td>
</tr>
<tr>
<td><strong>Hepatitis A</strong> (Hep A) Give IM</td>
<td>• Persons who travel or work anywhere except the United States, Western Europe, New Zealand, Australia, Canada, and Japan. • Injecting and non-injecting drug users; men who have sex with men; people with clotting-factor disorders; persons who work with hepatitis A virus in experimental lab settings (not routine medical laboratories); and food handlers when health authorities or private employers determine vaccination to be cost effective. • Persons with chronic liver disease, including persons with hepatitis B and C. • Anyone wishing to obtain immunity to hepatitis A. Note: Prevaccination testing is likely to be cost effective for persons older than age 40yrs, as well as for younger persons in certain groups with a high prevalence of hepatitis A virus infection (see persons listed in 2nd bullet above).</td>
<td>• Two doses are needed. • The minimum interval between dose #1 and #2 is 6m. • If dose #2 is delayed, do not repeat dose #1. Just give dose #2.</td>
<td>For Td, Tdap (tetanus, diphtheria, pertussis) only:</td>
</tr>
<tr>
<td><strong>Td, Tdap</strong> (Tetanus, diphtheria, pertussis) Give IM</td>
<td>• All adults who lack a history of a primary series consisting of at least three doses of tetanus- and diphtheria-containing vaccine. • A booster dose of tetanus- and diphtheria-containing toxoid may be needed for wound management as early as 5yrs after receiving a previous dose, so consult ACIP recommendations.* The use of single antigen tetanus toxoid instead of Td/Tdap is not recommended. For Tdap (tetanus- and diphtheria-toxoids with acellular pertussis vaccine) only: • All adults younger than age 65yrs who have not received Tdap. • Healthcare workers who work in hospitals or ambulatory care settings and have direct patient contact and who have not received Tdap. • Adults in contact with infants younger than age 12m (e.g., parents, grandparents younger than age 65yrs, childcare providers, healthcare workers) and who have not received Tdap.</td>
<td>• For persons who are unvaccinated or behind, complete the primary series with Td (spaced at 0, 1–2m, 6–12m intervals). One dose of Tdap may be used for any dose if 19–64yrs. • Give Td booster every 10yrs after the primary series has been completed. For adults 19–64 yrs, a 1-time dose of Tdap is recommended to replace the next Td. • Intervals of 2yrs or less between Td and Tdap may be used if needed. Note: The two Tdap products are licensed for different age groups: Adacel (sanofi) for use in persons 11–64yrs and Boostrix (GSK) for use in persons 10–18yrs.</td>
<td>Contraindication Previous anaphylactic reaction to this vaccine or to any of its components. For Td only, history of encephalopathy within 7 days following DTP/DTaP. Precautions Moderate or severe acute illness. • Guillain–Barré syndrome within 6wks of receiving a previous dose of tetanus toxoid-containing vaccine. • Unstable neurologic condition. • Pregnancy: if ≥10yrs since prior Td, give Td in 2nd or 3rd trimester; if &lt;10 yrs, give Tdap in immediate postpartum period.</td>
</tr>
<tr>
<td><strong>Polio</strong> (IPV) Give IM or SC</td>
<td>Not routinely recommended for persons age 18yrs and older. Note: Adults living in the U.S. who never received or completed a primary series of polio vaccine need not be vaccinated unless they intend to travel to areas where exposure to wild-type virus is likely. Previously vaccinated adults can receive one booster dose if traveling to polio endemic areas.</td>
<td>Refer to ACIP recommendations* regarding unique situations, schedules, and dosing information.</td>
<td>Contraindication Previous anaphylactic or neurologic reaction to this vaccine or to any of its components. Precautions Moderate or severe acute illness. Pregnancy.</td>
</tr>
</tbody>
</table>
### Summary of Recommendations for Adult Immunization (continued)

<table>
<thead>
<tr>
<th>Vaccine name and route</th>
<th>For whom vaccination is recommended</th>
<th>Schedule for vaccine administration (any vaccine can be given with another)</th>
<th>Contraindications and precautions (mild illness is not a contraindication)</th>
</tr>
</thead>
</table>
| **Varicella** (Var) (Chickenpox) **Give SC** | All susceptible adults and adolescents should be vaccinated. It is especially important to ensure varicella immunity among household contacts of immunosuppressed persons and among healthcare workers. | • Two doses are needed.  
• Dose #2 is given 4–8wks after dose #1.  
• If varicella vaccine and MMR are both needed and are not administered on the same day, space them at least 4wks apart.  
• If the second dose is delayed, do not repeat dose #1. Just give dose #2. | **Contraindications**  
• Previous anaphylactic reaction to this vaccine or to any of its components.  
• Pregnancy or possibility of pregnancy within 4wks (use contraception).  
• Persons immunocompromised because of malignancies and primary or acquired cellular immunodeficiency including HIV/AIDS. (See MMWR 1999, Vol. 48, No. RR-6.) **Note:** For those on high-dose immunosuppressive therapy, consult ACIP recommendations regarding delay time.*  
**Precautions**  
• If blood, plasma, and/or immune globulin (IG or VZIG) were given in past 11m, see ACIP statement General Recommendations on Immunization* regarding time to wait before vaccinating.  
• Moderate or severe acute illness. **Note:** Breastfeeding is not a contraindication to the use of this vaccine. |
| **Meningococcal Conjugate vaccine (MCV4)** **Give IM**  
**Polysaccharide vaccine (MPSV4)** **Give SC** | • College freshmen living in dormitories.  
• Adolescents and adults with anatomic or functional asplenia or with terminal complement component deficiencies.  
• Persons who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic (e.g., the “meningitis belt” of Sub-Saharan Africa).  
• Microbiologists who are routinely exposed to isolates of *N. meningitidis*.  
• Military recruits. | • MCV4 is preferred over MPSV4 for persons age 55yrs and younger, although MPSV4 is an acceptable alternative.  
• Give one dose to persons with risk factors; revaccinate after 5yrs if risk of disease continues and previous vaccine was MPSV4. | **Contraindication**  
Previous anaphylactic or neurologic reaction to this vaccine or to any of its components, including diphtheria toxoid (for MCV4). **Precaution**  
• Moderate or severe acute illness.  
• For MCV4 only, history of Guillain-Barré syndrome. **Note:** Pregnancy and breastfeeding are not contraindications to the use of either vaccine. |
| **MMR** (Measles, mumps, rubella) **Give SC** | • Persons born in 1957 or later (including those born outside the U.S.) should receive at least one dose of MMR if there is no serologic proof of immunity or documentation of a dose given on or after the first birthday.  
• Persons in high-risk groups, such as healthcare workers, students entering college and other post–high school educational institutions, and international travelers, should receive a total of two doses.  
• Persons born before 1957 are usually considered immune, but proof of immunity (serology or vaccination) may be desirable for healthcare workers.  
• Women of childbearing age (i.e., adolescent girls and premenopausal adult women) who do not have acceptable evidence of rubella immunity or vaccination.  
• Special attention should be given to immunizing women born outside the U.S. in 1957 or later. | • One or two doses are needed.  
• If dose #2 is recommended, give it no sooner than 4wks after dose #1.  
• If varicella vaccine and MMR are both needed and are not administered on the same day, space them at least 4wks apart.  
• If a pregnant woman is found to be rubella susceptible, administer MMR postpartum. | **Contraindications**  
• Previous anaphylactic reaction to this vaccine or to any of its components.  
• Pregnancy or possibility of pregnancy within 4wks (use contraception).  
• Persons immunocompromised because of cancer, leukemia, lymphoma, immunosuppressive drug therapy, including high-dose steroids or radiation therapy. **Note:** HIV positivity is NOT a contraindication to MMR except for those who are severely immunocompromised. **Precautions**  
• If blood, plasma, and/or immune globulin were given in past 11m, see ACIP statement General Recommendations on Immunization* regarding time to wait before vaccinating.  
• Moderate or severe acute illness.  
• History of thrombocytopenia or thrombocytopenic purpura. **Note:** Breastfeeding is not a contraindication to the use of this vaccine. **Note:** MMR is not contraindicated if a tuberculin skin test (i.e., PPD) was recently applied. If PPD and MMR not given on same day, delay PPD for 4–6wks after MMR. |
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<table>
<thead>
<tr>
<th>Qty.</th>
<th>Videos, CD, and DVD (details p. 3; discounts on bulk orders)</th>
<th>Amt.</th>
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<tr>
<td></td>
<td>V2010 Videotape: How to Protect Your Vaccine Supply</td>
<td>$15</td>
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<tr>
<td></td>
<td>V2012 CD: Vaccine Storage and Handling Toolkit</td>
<td>$15</td>
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<tr>
<td></td>
<td>(Single copy available free from CDC until July 1 by going to www2.cdc.gov/nchstp_od/PWeb/riorderform.asp)</td>
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<tr>
<td></td>
<td>V2020 Videotape: Immunization Techniques: Safe, Effective, Caring</td>
<td>$30</td>
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<tr>
<td></td>
<td>D2020 DVD: Immunization Techniques: Safe, Effective, Caring</td>
<td>$35</td>
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Adult immunization record cards (details p. 3; discounts on bulk orders)

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Amt.</th>
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<tbody>
<tr>
<td>R2005 Adult immunization record cards: 250 cards/box, 1 box—$35; 2 boxes—$65; 3 boxes—$90; 4 boxes—$110</td>
<td>$________</td>
</tr>
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</table>

Laminated immunization schedule (details p. 3; discounts on bulk orders)

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Amt.</th>
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</thead>
<tbody>
<tr>
<td>R2009 Adult immunization schedule: $5 each; contact us for discounts on larger orders</td>
<td>$________</td>
</tr>
</tbody>
</table>

Grand Total $________

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Whether you can contribute at this time or not, please be in touch. Your ideas and suggestions are vital to IAC’s work.

Deborah L. Wexler, MD
Executive Director
deborah@immunize.org

June 2006

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