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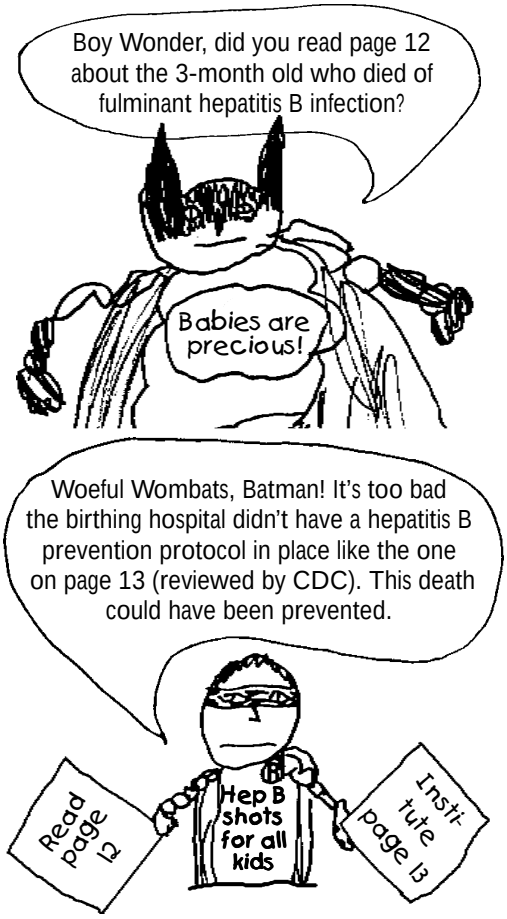
NEEDLE TIPS

and the Hepatitis B Coalition News

Published by the Immunization Action Coalition for individuals and organizations concerned about vaccine-preventable diseases



WHAT'S ON THE INSIDE:

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 (CDC) 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, serve as CDC liaisons to the Coalition. Ms. Moyer is an epidemiologist at the Hepatitis Branch.

Immunization questions?

- E-mail nipinfo@cdc.gov
- Call your state health department (phone numbers on page 23)
- Call CDC's Immunization Information Hotline at (800) 232-2522

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

When is it acceptable to use DTP (instead of DTaP) vaccine?

All five doses of the pertussis schedule should be administered using acellular pertussis vaccine (DTaP). Whole-cell pertussis vaccine should no longer be used.

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

(continued on page 19)

NEEDLE TIPS

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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.

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 pneumoccocal 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 pneumoccocal 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
Providence, Rhode Island

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 limps. 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.

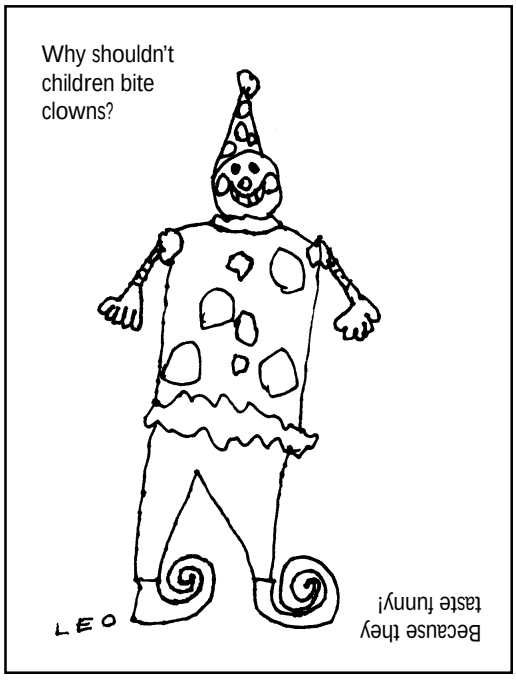
I remember the awful cases of measles my own children experienced. I remember the children with smallpox during the years my family lived in Pakistan. I remember those who lost their sight from lesions in their eyes. I remember those who died. We forget.

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 comprised 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/*



Be as sure as you can be!

Give babies hepatitis B vaccine at birth

By Harold S. Margolis, MD. Dr. Margolis, pediatrician, is Chief of the Hepatitis Branch, National Center for Infectious Diseases at the Centers for Disease Control and Prevention, and Director of the World Health Organization Collaborating Center for Research and Reference in Viral Hepatitis.

In the past year, the successful strategy of initiating hepatitis B immunization at birth has been interrupted by concerns regarding thimerosal, the commonly used vaccine preservative. Hospital surveys conducted by the Centers for Disease Control and Prevention (CDC) indicate that soon after publication of the American Academy of Pediatrics (AAP)-U.S. Public Health Service (USPHS) joint statement on thimerosal in vaccines, most hospitals discontinued policies and practices for routine hepatitis B vaccination of newborns. Unfortunately, some hospitals discontinued **all** standing orders for hepatitis B vaccination, including those covering infants born to HBsAg-positive mothers.

Providers have been found liable when appropriate postexposure prophylaxis has not been administered to exposed infants.

Vaccine manufacturers now have sufficient supplies of preservative-free hepatitis B vaccine to meet the vaccination needs of all U.S. children. Both the AAP and CDC have recommended that routine newborn vaccination policies be reintroduced in hospitals where they were discontinued. In addition, both advisory groups have emphasized that hepatitis B vaccination should not be delayed for infants born to HBsAg-negative mothers as was recommended by the AAP in July 1999. However, there is accumulating evidence that reintroduction of policies for the birth dose of hepatitis B vaccine has not occurred in many hospitals even though preservative-free vaccine has been available since September 1999.

Why infant vaccination is critical

1. Prevention of perinatal HBV infection. Approximately 19,000 women with chronic hepatitis B infection give birth in the United States each year. Ninety percent of perinatal HBV infections can be prevented by postexposure prophylaxis given within 12 hours of birth.

The changes in standing orders for hepatitis B vaccination that occurred in many hospitals also eliminated routine postexposure immunization for infants born to HBsAg-positive mothers. Standing orders for immunization of infants born to HBsAg-positive mothers should be reinstituted. CDC has received reports that because of discontinuation of standing orders, some infants did not receive hepatitis B vaccine at birth even though the mother was HBsAg positive. Providers have been found liable when appropriate postexposure prophylaxis has not been administered to exposed infants.

2. Hepatitis B vaccination at birth provides a safety net. Pregnant women whose HBsAg status is unknown at the time of delivery are significantly more likely to be chronically infected with HBV. Although many hospitals have standing orders in place to perform testing, if this does not occur or if the results are not communicated within 12 hours of birth, giving hepatitis B vaccine provides adequate postexposure protection. In addition, a number of women acquire HBV infection during their pregnancies. These infections are not detected unless testing is done late in the pregnancy. Early vaccination of infants born to these infected women would provide adequate postexposure protection.

3. Infants and children are exposed to HBV even though their mothers are HBsAg negative. Two-thirds of HBV-infected children do not have HBV-infected mothers. These infections result from close contact with HBsAg-positive persons living in the child's household or other households. Beginning the hepatitis B vaccine series at birth affords maximum protection against both infant and early childhood HBV infection.

4. Infant immunization is part of the nation's strategy to eliminate HBV transmission. Annually, at least 18,000 children under 10 years of age were infected with HBV prior to routine infant hepatitis B immunization. About one-third of persons with newly identified chronic hepatitis B acquired their infections as infants or young children. These chronically infected persons have a 25% risk of dying prematurely from liver cancer or cirrhosis.

5. The birth dose of hepatitis B vaccine increases completion of the three-dose series and other childhood vaccines. Data from the National Immunization Survey and a study of immunization coverage among children living in a Chicago public housing project show that children who received the first dose of hepatitis B vaccine during their first month of life (usually birth dose) were more likely to complete the hepatitis B vaccine series and 4:3:1 vaccine series by 19 months of age than children who received the first dose at 1-2 months. (Lauderdale et al., JAMA, 1999;282:1725-1730) ♦

Also remember! Screen **every** pregnant woman during **each** pregnancy for HBsAg.

See page 13 for perinatal hepatitis B prevention guidelines for hospitals.

Vaccine highlights

Latest recommendations and schedules

The next ACIP meetings...

Editor's note: The information on these pages is current as of July 21, 2000.

The Advisory Committee on Immunization Practices (ACIP) is a committee of 10 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 Oct. 18–19, 2000, and Feb. 21–22, 2001.

ACIP statement information

ACIP statements. No clinic should be without a set of these public health recommendations on vaccines which are published in the *MMWR*. Continuing education credits (CMEs, CEUs, CNEs) are available for reading the statement and completing the brief test that accompanies the text.

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

- Download individual 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
- E-mail your request to nipinfo@cdc.gov
- Call CDC's Immunization Information Hotline: (800) 232-2522.
- Call your state's immunization program (phone numbers on page 23).
- Request them from your medical library.
- Call (781) 893-3800 to order a subscription by mail to the *MMWR*.

Recently published ACIP statements:

- "Prevention and Control of Meningococcal Disease and 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)

Polio vaccine news

On May 19, 2000, the ACIP recommendation "Poliomyelitis Prevention in the United States" was published in the *MMWR.* ACIP recommends the exclusive use of an all-IPV schedule for routine childhood polio vaccination after January 1, 2000. All children should receive IPV at 2, 4, 6–18 months, and 4–6 years of age. OPV should only be used in rare circumstances which are described in this new ACIP statement.

Pneumococcal vax for babies

On June 21, 2000, the ACIP voted to recommend the routine use of pneumococcal conjugate vaccine (PCV7) for all children 23 months of age and younger, and for children 24–59 months of age who are at high risk for serious pneumococcal disease. This includes children with sickle cell disease, HIV infection, chronic illness, or weakened immune systems.

The ACIP also voted to recommend that the vaccine be considered for all children age 24–59 months, with priority given to children at moderate risk for invasive pneumococcal disease. This includes all children aged 24–35 months, children of American Indian, Alaskan Native or African American descent, and children who attend out-of-home group child care.

The committee voted to recommend that the vaccine be given to all infants at 2, 4, 6, and 12–15 months of age. Children who are unvaccinated and are 7–11 months of age should be given a total of 3 doses, and children who are unvaccinated and are 12–23 months of age should be given a total of 2 doses. Children at risk who are unvaccinated at 24 months of age or older need one or two doses of vaccine.

The ACIP recommendation is expected to be published in the *MMWR* within a few months. The Vaccine Information Statement for pneumococcal conjugate vaccine is available now.

On June 6, 2000, the American Academy of Pediatrics published its recommendation on the use of pneumococcal conjugate vaccine for infants and children. To obtain a copy, visit AAP's website at www.aap.org

On February 17, 2000, the FDA licensed Prevnar, the pneumococcal conjugate vaccine (PCV7) manufactured by Wyeth Lederle Vaccines, to prevent invasive pneumococcal diseases in infants and toddlers.

Hepatitis B vaccine news

On March 28, 2000, the FDA approved the newly reformulated preservative-free Engerix-B pediatric/adolescent hepatitis B vaccine manufactured by SmithKline Beecham. This vaccine product no longer contains thimerosal as a preservative.

On September 23, 1999, Merck Vaccine Division received FDA approval for an alternate two-dose schedule of Recombivax HB for hepatitis B vaccination of adolescents 11 through 15 years of age. The ACIP approved this alternate schedule in October 1999 and recommended to include it in the Vaccines for Children program in February 2000. Using the two-dose schedule, the adult dose of Recombivax HB (1.0mL dose containing 10 mcg of HBsAg) is administered to adolescents aged 11 through 15 years of age, with the doses given 4–6 months apart. This alternate schedule is not interchangable with the three-dose schedule and is approved for the Recombivax HB product only.

On August 27, 1999, Merck Vaccine Division received approval from the FDA for its supplemental license application to include the manufacture of thimerosal-free Recombivax HB pediatric/adolescent hepatitis B vaccine.

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 response, ACIP urged health professionals to make plans to delay mass influenza vaccination campaigns until Novem-

ber (usually held in October to mid-November). Health professionals are also advised to consider additional ways to ensure that their high-risk patients receive influenza vaccination if a severe 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 and Control of Meningococcal Disease and Meningococcal Disease and College Students" was published in the *MMWR.* Some of the recommendations regarding the use of meningogococcal vaccine in college students are described in the paragraphs that follow.

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.

College freshmen who want to reduce their risk for meningococcal disease should either be administered vaccine (by a doctor's office or student health service) or directed to a site where vaccine is available.

Hepatitis A vaccine news

On October 1, 1999, the ACIP recommendation "Prevention of Hepatitis A Through Active or Passive Immunization" was published in the *MMWR.* New data is presented about the epidemiology of hepatitis A and the effectiveness of community-based hepatitis A vaccination programs for routine vaccination of children in states, counties, and communities with rates that are twice the 1987-1997 national average or greater (i.e., greater than or equal to 20 cases per 100,000 population). The states are AK, AZ, CA, ID, NV, NM, OK, OR, SD, UT, and WA. Routine hepatitis A vaccination should be considered in states, counties, and communities with rates exceeding the 1987-1997 national average (i.e., greater than or equal to 10 but less than 20 cases per 100,000 population). These states include AR, CO, MO, MT, TX and WY.

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, pharamacies, 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)

Five new Vaccine Information Statements (VISs) were released by CDC during 1999–2000. They include (1) Lyme disease (11/1/99); (2) polio (1/1/00); (3) meningococcal (3/31/00); (4) influenza (4/14/00); and (5) pneumococcal conjugate (7/18/00). Health care providers in the United States who administer any vaccine containing diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis B, Hib, or varicella vaccine **are required by law** to, prior to administration of each dose of the vaccine, provide a copy of the relevant VIS to the patient or parent/guardian. 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. Recycle your old copies.

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 (phone numbers on page 23). The VISs, some in 22 languages, and the VIS instruction sheet 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 (VISs must be downloaded separately) from IAC's website: www.immunize.org/vis

VFC coverage in 2000

The Vaccines for Children program (VFC) provides free vaccines to providers for children who meet the VFC-eligibility guidelines. If you would like information on how to become a VFC provider, contact your state VFC coordinator (phone numbers are on page 23).

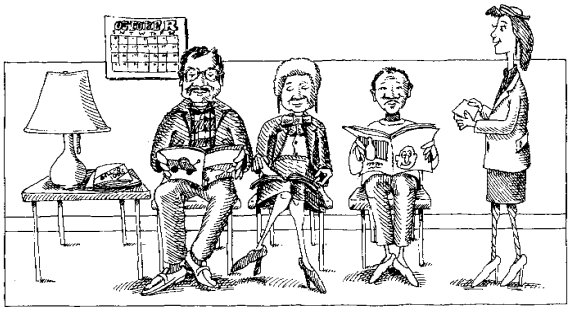
As of July 14, 2000, the age guidelines (for children who are VFC-eligible) are as follows:

- MMR and varicella: Children 1 through 18 years of age are eligible to receive one or two doses (depending on the child's age at the time of vaccination).
- Hepatitis B: Children 0 through 18 years of age are eligible to receive three doses.
- Pneumococcal conjugate (PCV7): Children 6 weeks through 23 months of age are eligible for up to 4 doses, and children ages 24-59 months are eligible if they are in an ACIP-recommended risk group.
- DTaP, DT, Td, polio, and Hib: Children 6 weeks through 18 years of age who need routine or catch-up doses.
- Hepatitis A: Children 2 through 18 years of age are eligible to receive two doses if they live in one of the eleven high-risk states: AK, AZ, CA, ID, NV, NM, OK, OR, SD, UT, and WA. Hepatitis A vaccine may be available for use in these moderate-risk states: AR, CO, MO, MT, TX, and WY and may also be available for use in communities with increased rates of hepatitis A virus infection. Check with your local or state health department for more information.
- Influenza: Children 6 months of age through 18 years of age are eligible if they are in an ACIP-recommended risk group.
- Pneumococcal polysaccharide (PPV23): Children 2 through 18 years of age are eligible if they are in an ACIP-recommended risk group.

NOTE: Some states have used state funding to expand these age limits. Check with your state immunization program (phone numbers located on page 23). ♦

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?	☐	☐	☐
2. Do you have allergies to medications, food, or any vaccine?	☐	☐	☐
3. Have you ever had a serious reaction after receiving a vaccination?	☐	☐	☐
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?	☐	☐	☐
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?	☐	☐	☐
6. During the past year, have you received a transfusion of blood or plasma, or been given a medicine called immune (gamma) globulin?	☐	☐	☐
7. For women: Are you pregnant or is there a chance you could become pregnant in the next three months?	☐	☐	☐

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)

Summary of Rules for Childhood Immunization*

Adapted from ACIP, AAP, and AAFP by the Immunization Action Coalition, June 2000

Vaccine	Ages usually given and other guidelines	If child falls behind (minimum intervals)	Contraindications (Remember: mild illness is not a contraindication)
DTaP contains acellular pertussis Give IM	• DTaP (not DTP) is recommended for all doses in the series. • Give at 2m, 4m, 6m, 15-18m, 4-6yrs of age. • May give #1 as early as 6wks of age. • May give #4 as early as 12m of age if 6m have elapsed since #3 and the child is unlikely to return at age 15-18m. • If started with DTP, complete the series with DTaP. • Do not give DTaP to children ≥7yrs of age (give Td). • May give DTaP with all other vaccines but at a separate site. • It is preferable but not mandatory to use the same DTaP product for all doses.	• #2 & #3 may be given 4wks after previous dose. • #4 may be given 6m after #3. • If #4 is given before 4th birthday, wait at least 6m for #5 (4-6yrs of age). • If #4 is given after 4th birthday, #5 is not needed. • Don't restart series, no matter how long since previous dose.	• Anaphylactic reaction to a prior dose or to any vaccine component. • Moderate or severe acute illness. Don't postpone for minor illness. • Previous encephalopathy within 7d after DTP/DTaP. • Unstable progressive neurologic problem (defer until stable). **Precautions:** The following are precautions, not contraindications. Generally when these conditions are present, the vaccine shouldn't be given. But there are situations when the benefit outweighs the risk and vaccination should be considered (e.g., pertussis outbreak). • T≥105°F (40.5°C) within 48hrs after previous dose. • Continuous crying lasting 3 or more hrs within 48hrs after previous dose. • Previous convulsion within 3d after immunization. • Pale or limp episode or collapse within 48hrs after previous dose.
DT Give IM	• Give to children < 7yrs of age if child had a serious reaction to "P" in DTaP/DTP, or if parents refuse the pertussis component. • May give DT with all other vaccines but at a separate site.	For children who have fallen behind, use information in box directly above.	• Anaphylactic reaction to a prior dose or to any vaccine component. • Moderate or severe acute illness. Don't postpone for minor illness.
Td Give IM	• Use for persons ≥7yrs of age. • A booster dose is recommended for children 11-12yrs of age if 5yrs have elapsed since last dose. Then boost every 10 yrs. • Td may be given with all other vaccines but at a separate site.	For those never vaccinated or behind, or if the vaccination history is unknown: dose #1 is given now; dose #2 is given 4wks later; dose #3 is given 6m after #2; and booster dose is given every 10yrs.	• Anaphylactic reaction to a prior dose or to any vaccine component. • Moderate or severe acute illness. Don't postpone for minor illness.
Polio **IPV** Give SQ or IM	• Give at 2m, 4m, 6-18m, and 4-6yrs of age. • May give #1 as early as 6wks of age. • ACIP/AAP/AAFP recommend IPV (not OPV) for ALL doses of polio vaccine. OPV may only be used in rare special circumstances. Consult ACIP recommendations for details. • Not routinely given to anyone ≥18yrs of age (except certain travelers). • IPV may be given with all other vaccines but at a separate site.	• All doses should be separated by at least 4wks. • #4 is given between 4-6yrs of age. • If #3 of an all-IPV or all-OPV series is given at ≥4yrs of age, dose #4 is not needed. • Children who receive any combination of IPV and OPV doses must receive all 4 doses. • Don't restart series, no matter how long since previous dose.	• Anaphylactic reaction to a prior dose or to any vaccine component. • Moderate or severe acute illness. Don't postpone for minor illness.
Varicella **Var** Give SQ	• Routinely give at 12-18m. • Vaccinate all children ≥12m of age including all adolescents who have not had prior infection with chickenpox. • May use as postexposure prophylaxis if given within 3-5d. • If Var and MMR (and/or yellow fever vaccine) are not given on the same day, space them ≥28d apart. • Var may be given with all other vaccines but at a separate site.	• Do not give to children <12m of age. • Susceptible children <13 yrs of age receive 1 dose. • Susceptible persons ≥13 yrs of age receive 2 doses 4-8wks apart. • Don't restart series, no matter how long since previous dose.	• Anaphylactic reaction to a prior dose or to any vaccine component. • Moderate or severe acute illness. Don't postpone for minor illness. • Pregnancy or possibility of pregnancy within 1m. • If blood, plasma, or immune globulin (IG or VZIG) were given in past 5m, see ACIP recs or AAP's *2000 Red Book* (p.390) re: time to wait before vaccinating. • Immunocompromised persons due to high doses of systemic steroids, cancer, leukemia, lymphoma, or immunodeficiency. NOTE: For patients with humoral immunodeficiency, HIV infection, or leukemia, or for patients on high doses of systemic steroids, consult ACIP recommendations. • For use in children taking salicylates, consult ACIP recommendations.

*The newer combination vaccines are not listed on this table but may be used whenever administration of any component is indicated and none is contraindicated. Read the package inserts. For full immunization information, see recent ACIP statements published in the *MMWR* or visit http://www2.cdc.gov/mmwr/. For recommendations of AAP's Committee on Infectious Diseases, see AAP's *2000 Red Book* and the journal *Pediatrics.*

The Immunization Action Coalition (IAC) developed this table to combine the recommendations for childhood immunization onto one page and assist health-care workers in determining the appropriate use and scheduling of vaccines. This summary table can be posted in immunization clinics or clinicians' offices. Comments? E-mail lynn@immunize.org; call (651) 647-9009; or mail IAC at 1573 Selby Avenue, St. Paul, MN 55104.

Thank you to the following individuals for their review: William L. Atkinson, MD, MPH; Beth Bell, MD; Virginia Burggraf, RN; Judith Coates, RN, FNP; John Grabenstein, RPh, PhD; Scott Harward; Anne Kuettel, PHN; Edgar Marcuse, MD; James McCord, MD; Linda Moyer, RN; Lisa Ohlandt; Diane Peterson; Larry Pickering, MD; Fred Ruben, MD; Jane Seward, MBBS; Thomas Vernon, MD. Final responsibility for errors lies with the editor.

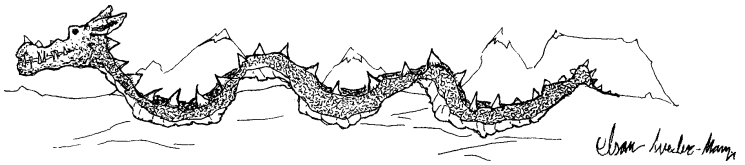
This table is revised yearly. The most recent edition of this table is available on the Immunization Action Coalition's website at http://www.immunize.org/catg.d/rules1.pdf

Item #P2010 (rev 6/00)

Summary of Rules for Childhood Immunization (continued)

Vaccine	Ages usually given and other guidelines	If child falls behind (minimum intervals)	Contraindications (Remember: mild illness is not a contraindication)
MMR Give SQ	• Give #1 at 12-15m. Give #2 at 4-6yrs. • Make sure that all children (and teens) over 4-6yrs have received both doses of MMR. • If a dose was given before 12m of age it doesn't count as the first dose, so give #1 at 12-15m of age with a minimum interval of 4wks between these doses. • If MMR and Var (and/or yellow fever vaccine) are not given on the same day, space them ≥28d apart. • May give with all other vaccines but at a separate site.	• 2 doses of MMR are recommended for all children ≤18 yrs of age. • Dose should be given whenever it is noted that a child is behind. Exception: If MMR and Var (and/or yellow fever vaccine) are not given on the same day, space them ≥28d apart. • There should be a minimum interval of 28d between MMR #1 and MMR #2. • Dose #2 can be given at any time if at least 28d have elapsed since dose #1 and both doses are administered after 1yr of age. • Don't restart series, no matter how long since previous dose.	• Anaphylactic reaction to a prior dose or to any vaccine component. • Pregnancy or possible pregnancy within next 3m (use contraception). • Moderate or severe acute illness. Don't postpone for minor illness. • If blood, plasma, or immune globulin were given in past 11m, see ACIP recs or *2000 Red Book* (p.390) re: time to wait before vaccinating. • HIV is NOT a contraindication unless severely immunocompromised. • Immunocompromised persons, e.g., cancer, leukemia, lymphoma. NOTE: For patients on high-dose immunosuppressive therapy, consult ACIP recommendations regarding delay time. NOTE: MMR is not contraindicated if a PPD test was recently applied. If PPD and MMR weren't given on same day, delay PPD for 4-6wks after MMR.
Hib Give IM	• HibTITER (HbOC) & ActHib (PRP-T): give at 2m, 4m, 6m, 12-15m. • PedvaxHIB (PRP-OMP): give at 2m, 4m, 12-15m. • Dose #1 of Hib vaccine may be given as early as 6wks of age but no earlier. • May give with all other vaccines but at a separate site. • All Hib products licensed for the primary series are interchangeable. If brands are interchanged, all 3 doses of the primary series must be given. • Any Hib vaccine may be used for the booster dose. • Hib is not routinely given to children ≥5yrs of age.	**Rules for all Hib vaccines:** • The last dose (booster dose) is given no earlier than 12m of age and a minimum of 2m after the previous dose. • For children ≥15m and less than 5yrs who have NEVER received Hib vaccine, only 1 dose is needed. • Don't restart series, no matter how long since previous dose. **Rules for HbOC (HibTITER) & PRP-T (ActHib) only:** • #2 and #3 may be given 4 wks after previous dose. • If #1 was given at 7-11m, only 3 doses are needed; #2 is given 4-8wks after #1, then boost at 12-15m. • If #1 was given at 12-14m, give a booster dose in 2m. **continued ➤**	• Anaphylactic reaction to a prior dose or to any vaccine component. • Moderate or severe acute illness. Don't postpone for minor illness. **(continued from previous column)** **Rules for PRP-OMP (PedvaxHiB) only:** • #2 may be given 4wks after dose #1. • If #1 was given at 12-14m, boost 8wks later.
Hep-B Give IM	• Vaccinate all infants at 0-2m, 1-4m, 6-18m. • Vaccinate all children 0 through 18 years of age. • For older children/teens, spacing options include: 0m, 1m, 6m; 0m, 2m, 4m; or 0m, 1m, 4m. • Children who were born (or whose parents were born) in countries of high HBV endemicity or who have other risk factors should be vaccinated as soon as possible. • **If mother is HBsAg positive:** give HBIG and hep B #1 within 12hrs of birth, #2 at 1-2m, and #3 at 6m of age. • **If mother's HBsAg status is unknown:** give hep B #1 within 12hrs of birth, #2 at 1-2m, and #3 at 6m of age. If mother is later found to be HBsAg positive, her infant should receive HBIG within first 7d of life. • May give with all other vaccines but at a separate site.	• Don't restart series, no matter how long since previous dose. • 3-dose series can be started at any age. • Minimum spacing for children and teens: 4wks between #1 & #2, and 8wks between #2 & #3. Overall there must be 4m between #1 & #3. • Dose #3 should not be given earlier than 6m of age. **Dosing of hepatitis B vaccines:** Vaccine brands are interchangeable for 3-dose schedule. For Engerix-B, use 10mcg for 0 through 19 years of age. For Recombivax HB, use 5mcg for 0 through 19 years of age. **Alternative dosing schedule for adolescents aged 11 through 15 yrs:** For Recombivax HB only, may use 10mcg (adult dose) and give two doses spaced 4-6m apart. May only be given to adolescents 11 through 15 years of age.	• Anaphylactic reaction to a prior dose or to any vaccine component • Moderate or severe acute illness. Don't postpone for minor illness.
Hep-A Give IM	• Vaccinate children ≥2yrs old who live in areas with consistently elevated rates of hepatitis A, as well as children who have specific risk factors. (See ACIP statement and column 3 of this table for details.) • Children who travel outside of the U.S. (except Western Europe, New Zealand, Australia, Canada, or Japan). • Give dose #2 a minimum of 6m after dose #1. • Dose #1 may not be given earlier than 2yrs of age. • May give with all other vaccines but at a separate site.	• Don't restart series, no matter how long since previous dose. • The minimum interval between dose #1 and #2 is 6m. **Dosing of hepatitis A vaccines:** Hepatitis A vaccine brands are interchangeable. For Havrix, give 0.5ml for 2-18 years of age. For ≥19 yrs, give 1.0ml. For Vaqta, give 0.5ml for 2-17 years of age. For ≥18 yrs, give 1.0ml. Consult your local or state public health authority for information regarding your city, county, or state hepatitis A rates. **continued ➤**	• Anaphylactic reaction to a prior dose or to any vaccine component • Moderate or severe acute illness. Don't postpone for minor illness. **(continued from previous column)** **States with consistently elevated rates (≥10 cases per 100,000 population from 1987-1997) include the following:** Alaska, Ariz., Ark., Calif., Colo., Idaho, Missouri, Mont., Nev., N. Mex., Okla., Oregon, S. Dak., Texas, Utah, Wash., and Wyo.
PCV7	Pneumococcal conjugate vaccine (Prevnar) has been licensed for use by the FDA for routine administration to infants and other at-risk children. CDC recommendations for use of PCV7 are pending.		
Influenza	There are many children ≥6 months of age for whom influenza vaccine is recommended. Give IM. Consult the ACIP statement *Prevention and Control of Influenza* for details.		
PPV23	There are many children ≥2 years of age for whom pneumococcal polysaccharide vaccine (PPV23) is recommended. Consult the ACIP statement *Prevention of Pneumococcal Disease* for details.		
Lyme disease	There are some teenagers (15 years of age and older) for whom Lyme disease vaccine is recommended. Consult the ACIP statement *Recommendations for the Use of Lyme Disease Vaccine* for details.		

Vaccine Myths



The following text is excerpted from chapter 16 of the book **Vaccines: What Every Parent Should Know** *by Paul A. Offit, MD, and Louis M. Bell, MD, ©1999. It is reprinted with permission of the publisher, IDG Books. Cost of the book is $12.95. To purchase a copy, visit your local bookstore or call (800) 762-2974. If you would like to read the entire chapter, visit: www.immunize.org/catg.d/4038myth.pdf*

It seems that almost every month newspaper articles and television programs depict the horrors of vaccines. The villains of these stories are greedy vaccine manufacturers, disinterested doctors, and burdensome regulatory agencies. The focus of the stories is that children are hurt unnecessarily by vaccines, and the tone is one of intrigue and cover-up.

Perhaps the most dangerous part of these stories (apart from the fact that they may cause many children to miss the vaccines they need) is that the explanations are presented in a manner that seem believable. Below we have listed the most commonly aired stories about vaccines and have tried to separate fact from myth.

MYTH: Infants are too young to get vaccinated.

Children are immunized in the first few months of life because a number of vaccine-preventable diseases infect them when they are very young. For example:

- Pertussis infects about 7,000 children, causing six deaths every year in the United States. Almost all of the cases are in children *less than 1 year of age.*
- Children *under 2 years old* are 500 times more likely to catch Hib meningitis if someone with a Hib infection is living in the home.
- About 90 percent of *newborns* whose mothers are infected with hepatitis B will contract hepatitis and go on to develop chronic liver disease, cirrhosis, and possibly liver cancer.

For these reasons, it is very important for infants to be fully immunized against certain diseases by the time they are 6 months old.

Fortunately, young infants are surprisingly good at building immunity to viruses and bacteria. About 95 percent of children given DTaP, Hib, and hepatitis B virus vaccines will be fully protected by 6 months of age.

MYTH: Vaccines weaken the immune system.

Natural infection with certain viruses can indeed weaken the immune system. This means that when children are infected with one virus, they can't fight off other viruses or bacteria as easily. This happens most notably during natural infection with either chickenpox or measles. Children infected with chickenpox are susceptible to infection with certain bacterial infections (like "flesh-eating" bacteria). And children infected with measles are more susceptible to bacterial infections of the bloodstream (sepsis).

But vaccines are different. The viruses in the measles and chickenpox vaccines (the so-called vaccine viruses) are very different from those that cause measles and chickenpox infections (the "wild-type" viruses). The vaccine viruses are themselves so disabled that they cannot weaken the immune system.

MYTH: It's better to be naturally infected than immunized.

It is true that "natural" infection almost always causes better immunity than vaccination (only the Hib and tetanus vaccines are better at inducing immunity than natural infection). Whereas natural infection causes immunity after just one infection, vaccines usually create immunity only after several doses are given over a number of years. For example, DTaP, hepatitis B, and polio are each given at least three times.

However, the difference between vaccination and natural infection is the price paid for immunity. The price paid for vaccination is the inconvenience of several shots and the occasional sore arm. The price paid for a single natural infection is usually considerably greater: paralysis from natural polio infection, mental retardation from natural Hib infection, liver failure from natural hepatitis B virus infection, deafness from natural mumps infection, or pneumonia from natural varicella infection are high prices to pay for immunity.

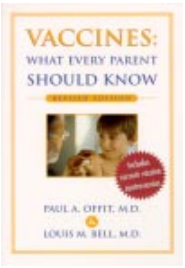
MYTH: Vaccine-preventable diseases occur more often in vaccinated people than in unvaccinated people.

On its face, this statement is actually true. However, it is important to understand why it is true.

Let's take the situation of 100 young adults living in a college dormitory and say that 95 were vaccinated against measles and 5 were not vaccinated. An outbreak of measles strikes the college campus. In the dormitory, 6 of the 95 people who were vaccinated get measles, and 4 of the 5 unvaccinated people get measles. This would mean that vaccinated people get measles more commonly than unvaccinated people (in this case, by a margin of 6 to 4). However, the attack rate for measles in the unvaccinated group was 80 percent (4 of 5), whereas the attack rate for measles in the vaccinated group was only 6 percent (6 of 95). So, people were much less likely to get measles if they had received the measles vaccine.

(continued on page 10)

Indeed, a study recently reported in the *Journal of the American Medical Association* found that unvaccinated people were 35 times more likely to get measles than vaccinated people.



Have you heard the myth that vaccines don't work or aren't necessary? What about the myth that hepatitis B vaccine causes sudden infant death? Or the myth that vaccine "hot lots" cause high rates of adverse reactions? These myths and several others are discussed in **Vaccines: What Every Parent Should Know.** *To order your copy, call (800) 762-2974.*

MYTH: Vaccines cause autism.

In 1998, a study published in the English journal *Lancet* reported that autism might be caused by the combination measles, mumps, and rubella (MMR) vaccine. The report claimed that children given this vaccine developed inflammation of their intestines that preceded the development of autism. Based on this study, The Medical Research Council of Britain set up a panel to investigate a possible link between MMR vaccine and autism.

A subsequent study showed that there was no association between vaccines and autism. The two studies were very different in the quality and analysis of data. The second study (disproving an association between vaccine and autism) evaluated 500 children; the first study evaluated only 12. The second study included statistical methods adequate to determine whether MMR causes autism; the first study did not. The second study carefully evaluated the effect of MMR when first introduced into Britain on the incidence of autism; the first study did not. So, in short, the second study was much better than the first study and enabled one to conclude that MMR and autism were not linked.

So how are parents supposed to distinguish between scientific studies? Some parents saw a report in the media that the MMR vaccine might be linked to autism, and then they saw a study that disproved this association. (The second study, however, received far less media coverage than the first.) For parents and the media the score was one study in favor of an association and one study against an association.

Unfortunately, few parents or journalists have the medical, epidemiologic, or statistical background to distinguish adequately between these studies. And, quite frankly, many doctors don't have the time to read and evaluate the statistics of all published studies. Doctors rely on associations composed of experts in various fields to determine whether to use a particular medicine or vaccine. Associations like the American Academy of Pediatrics, the Centers for Disease Control and Prevention (CDC), the American Association of Family Physicians, the Advisory Committee on Immunization Practices to the CDC, and many disease-centered societies (such as the Multiple Sclerosis Society) are composed of scientists, clinicians, epidemiologists, parents, and statisticians who contribute their time and efforts to these organizations. Experts donate their time for one simple reason: they care deeply about the health and well-being of children.

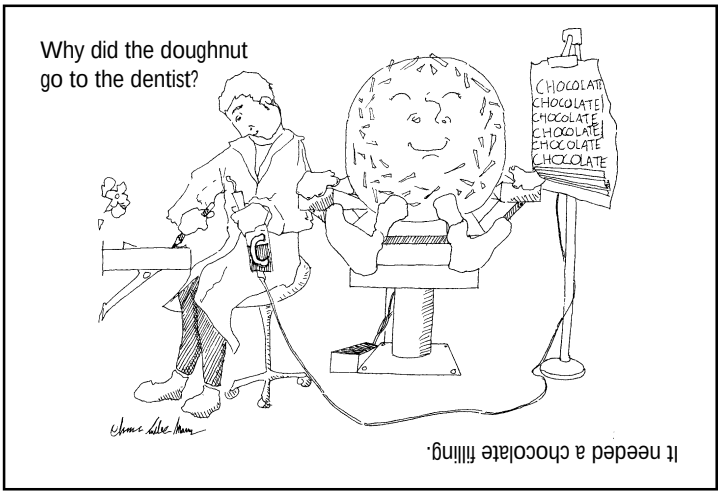
Parents should do what doctors do: heed the advice of these experts. Although this may sound like an anti-intellectual recommendation, it remains a reasonable recommendation. The fields of immunology, pathogenesis, statistics, virology, and vaccinology are complex. It takes decades to develop an expertise in each one. Although it is obviously valuable for parents to understand as much as they can about vaccines (which is why we wrote this book), it is simply not possible to gain an adequate expertise in these fields by reading. We are invariably best served by trusting experts.

Experts decided to temporarily suspend administration of the rotavirus vaccine. Experts decided to suspend the use of the polio vaccine manufactured by Cutter Laboratories. And experts have warned for decades about the side effects of some vaccines (for example, that the influenza vaccine should not be used by people allergic to eggs). If well-controlled, adequately analyzed studies clearly showed that MMR caused autism, experts in the field would be quick to ask for the vaccine to be withdrawn.

MYTH: Vaccines, if administered in the first two years of life, can cause diabetes.

One researcher claimed that infants immunized with a single dose of the Hib vaccine at 14 months of age were less likely to get diabetes than if they received four doses of the Hib vaccine at 3, 4, 6, and 14 months of age. He concluded that the risk of diabetes could be reduced if children did not receive vaccines at a young age. Some parents have seen this information and chosen to wait until 2 years of age to have their children immunized. This is unfortunate because some vaccine-preventable diseases, like Hib and pertussis, occur commonly in the first 2 years of life.

A careful review of the data, however, found that the analytic methods used in that study were incorrect. In addition, a 10-year follow-up study showed that the incidence of diabetes was the same in those who had been immunized early and in those who had been immunized later. So, no evidence exists to support the notion that vaccines should be delayed. ♦



Juggling immunization information?

CDC's National Immunization Program

www.
cdc.
gov/nip

www.
immunize.
org

Immunization Action Coalition

www.
vaccines.
org

Allied Vaccine Group

www.
cdc.gov/
hepatitis

CDC's Hepatitis Branch

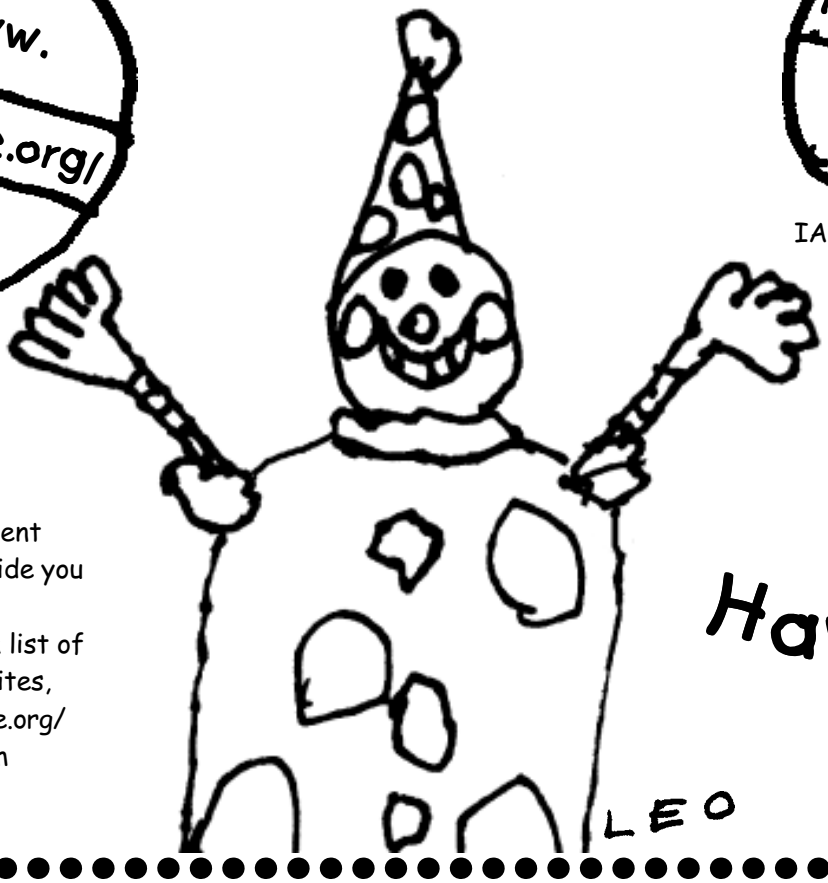
These web resources can help!

www.
immunize.org/
express

IAC EXPRESS

www.
immunize.org/
stories

IAC's Unprotected People



Many other excellent websites will provide you with immunization information. For a list of dozens of these sites, visit www.immunize.org/news.d/link001.htm

Have fun!

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

Unprotected people...

Infant dies of fulminant hepatitis B, 1999

The Immunization Action Coalition collects stories and case reports such as the one below about people who suffered or died from vaccine-preventable diseases. Stories and case reports remind us of the seriousness of these diseases and the importance of vaccination. WE NEED YOUR HELP! Send stories, news items, or case reports about ANY vaccine-preventable disease. E-mail this information to the Immunization Action Coalition at iacx@immunize.org or fax your information to (651) 647-9131.

Protect EVERY newborn from hepatitis B virus infection!

Give the first dose of hepatitis B vaccine in the hospital.

Case report:

On December 13, 1999, a previously healthy 3-month-old infant of Southeast Asian descent was brought to a local Michigan hospital emergency department and was admitted following a 5-day history of fever, diarrhea, and jaundice.

Upon admission to the hospital, hepatitis B serology was obtained along with liver function tests and liver enzymes. Laboratory results revealed that the infant was hepatitis B surface antigen (HBsAg) positive and IgM core antibody (IgM anti-HBc) positive with elevated total bilirubin 16.6, direct bilirubin 4.7, ALT 693 and AST 203. The infant's test results were reported to the local health department on December 14, 1999. The infant's mother was tested at the same time and was found to be HBsAg positive and anti-HBc positive.

Investigation revealed that the infant's mother had tested positive for HBsAg during her pregnancy but that the test result was communicated incorrectly as "hepatitis negative" to the hospital where the baby was born.

A diagnosis of hepatic failure due to hepatitis B virus infection was made and the infant was transferred to another hospital on December 16 for possible liver transplantation. After transfer, the infant developed seizures and her condition deteriorated rapidly. She died on December 17.

Investigation revealed that the infant's mother had tested positive for HBsAg during her pregnancy but that the test result was communicated incorrectly as "hepatitis negative" to the hospital where the baby was born. Neither the laboratory nor the prenatal care provider reported the HBsAg-positive test results to the local health department as required by state law. The infant received no hepatitis B vaccine and no hepatitis B immune globulin (HBIG) at the time of birth.

The hospital where the infant was born had suspended administration of hepatitis B vaccine to all newborns during the summer of 1999 due to the concern about the presence of thimerosal used as a preservative in hepatitis B vaccine. The first dose of hepatitis B vaccine wasn't administered to this infant until two months of age. This tragedy could have been averted.

Discussion:

Serious medical errors occurred in this case resulting in the death of the infant. The following errors occurred:

1. The HBsAg-positive test result was not conveyed to the pregnant woman by her physician.
2. The physician failed to report the HBsAg-positive test result to the local health department as mandated by state law.
3. The laboratory that performed the test did not notify the local health department of the positive result.
4. The HBsAg test result was transcribed incorrectly on the prenatal record which was sent to the hospital. A copy of the original lab report did not accompany the prenatal record.
5. The HBsAg test result was not verified by the perinatal staff; they did not review a copy of the actual lab report.
6. There was no hospital protocol in place to vaccinate infants who live in communities at high risk for early HBV exposure.

Take measures to assure that errors such as these do not occur in your practice or hospital.

—Nancy Fasano
Manager, Outreach and Education Section
Division of Immunization
State of Michigan Dept. of Community Health

Make sure that a tragedy like this never happens again!

If you provide prenatal care:

- Test every pregnant woman during each pregnancy for HBsAg, regardless of her hepatitis B vaccination status.
- Send a copy of the original lab report along with other prenatal records to the hospital where the woman will deliver.
- Notify the local or state health department of any positive HBsAg test result in a pregnant woman.
- Counsel the pregnant woman about the implications of her positive HBsAg test result (i.e., the need for her to receive ongoing medical evaluation and the need for household and sexual contacts to be tested and vaccinated).
- Communicate the woman's positive HBsAg status to the clinician who will provide pediatric care to the newborn.

If you work in a hospital labor & delivery unit or newborn nursery:

- Know the HBsAg status of every woman giving birth in your facility. A copy of the original lab report should be part of the prenatal record.
- Don't let any infant slip through the cracks. Administer the first dose of hepatitis B vaccine in the hospital to all newborns. Ample supplies of preservative-free hepatitis B vaccine are available for all children.
- Develop hospital policies to assure that all mothers are screened for HBsAg and all newborns are appropriately managed to prevent HBV infection.

If you provide pediatric care to newborns:

- Know the HBsAg status of the mothers of all infants for whom you provide care.
- Help assure that no babies are infected due to a medical error. Make sure that all newborns under your care receive the first dose of hepatitis B vaccine at birth.
- In addition to an HBsAg-positive mother, know the risk groups for HBV infection.

(NF)

Labor & Delivery Unit and Nursery Unit Guidelines to Prevent HBV Transmission

The following guidelines may be used to help your hospital establish standing orders for preventing perinatal hepatitis B virus (HBV) transmission in your Labor & Delivery Unit and your Nursery Unit. They have been reviewed for technical accuracy by the Centers for Disease Control and Prevention. ***NOTE:*** *Procedures* ***must be*** *in place to review the hepatitis B surface antigen (HBsAg) results of all mothers at or before the time of delivery and to give immunoprophylaxis within 12 hours after birth to infants of HBsAg-positive mothers and infants of mothers who do not have documentation of HBsAg test results on their charts.*

Labor & Delivery Unit Guidelines

1. Review the HBsAg* lab report and copy the test result onto (1) the labor and delivery record and (2) the infant's delivery record. (It is essential to examine a copy of the *original* lab report instead of relying only on the handwritten prenatal record due to the possibility of transcription error and/or misinterpretation of test results.)
2. If the HBsAg result is not available, order the test STAT. Instruct the lab to call the nursery with the result ASAP.
3. Alert the nursery if the mother is HBsAg positive or if the mother's HBsAg result is unknown. These infants require immunoprophylaxis within 12 hours of birth with hepatitis B vaccine (and HBIG if the mother is HBsAg positive). See the Nursery Unit Guidelines below.
4. For an HBsAg-positive woman or a woman whose HBsAg status is unknown, notify her (if possible prior to birth) of the need to administer immunoprophylaxis to her newborn within 12 hours of birth.

Nursery Unit Guidelines

Infants born to HBsAg-positive mothers:

1. Administer HBIG and hepatitis B vaccine at separate sites within 12 hours of birth.§
   - HBIG: Give 0.5 mL IM.
   - Hepatitis B vaccine: Give 0.5 mL pediatric formulation IM.
2. Give the mother an immunization record card with the dates of the hepatitis B vaccine and HBIG included, and instruct the mother to bring the immunization card with her each time she brings her baby to the well-child care provider.
3. Breastfeeding is NOT contraindicated for infants born to HBsAg-positive women. A mother who wishes to should be encouraged to breastfeed if her infant is given HBIG and hepatitis B vaccine.
4. Provide the mother with educational and written materials regarding:
   a. the importance of her baby completing the hepatitis B vaccination schedule at 1–2 months and 6 months of age (doses #2 and #3)
   b. the importance of post-vaccination testing for the infant at 9–15 months of age
   c. the mother's need for ongoing medical follow-up for her chronic hepatitis B virus infection
   d. the importance of household members being tested for hepatitis B and vaccinated if susceptible
5. Notify your local or state health department that the infant has been born and has received post-exposure prophylaxis (include dates of receipt of HBIG and hepatitis B vaccine).
6. Obtain the name, address, and phone number of the infant's primary care clinic and doctor. Notify them of the infant's birth, the receipt of post-exposure prophylaxis, and the need for follow-up vaccination and post-vaccination testing.

Infants born to mothers with unknown HBsAg status:

1. Administer hepatitis B vaccine (0.5 mL pediatric formulation) IM within 12 hours of birth.§
2. Confirm that the lab has drawn a serum specimen from the mother for an HBsAg test and that it will be run and reported to the nursery STAT. Verify with the lab when the HBsAg test result should be available. If you do not receive the report when expected, call the lab for the result.
3. If the HBsAg report is positive, contact the physician ASAP for additional orders. The infant needs to receive HBIG as soon as possible. If more than 7 days have elapsed since exposure (birth), there is little benefit in HBIG administration.
4. If the mother is found to be HBsAg positive, go to the section above titled "Infants born to HBsAg-positive mothers" and follow those steps.
5. **If infant must be discharged before mother's HBsAg result is known:**
   a. Clearly document how to reach the parent (address, telephone number(s), emergency contact person) as well as the infant's primary care clinic in case further treatment is needed.
   b. Notify the infant's doctor that the HBsAg result is pending.
   c. Give the mother an immunization record card noting the hepatitis B vaccine date and the need for further doses.

Infants who are born to HBsAg-negative mothers but who are at high risk of early childhood infection:†

1. Administer hepatitis B vaccine (0.5 mL pediatric formulation) prior to nursery discharge.§
2. Give the mother an immunization record card with the hepatitis B vaccination date. Remind the mother to bring the immunization card with her each time she brings her baby to the well-child care provider.
3. Instruct the mother about the importance of her baby completing the hepatitis B vaccination schedule at 1–2 months and at 6 months of age.
4. Make sure that the infant's hospital record clearly indicates the date of hepatitis B vaccine administration and that this portion of the medical record is *always* forwarded to the infant's primary care clinic.

Infants born to HBsAg-negative mothers:

1. The first dose of hepatitis B vaccine (0.5 mL pediatric formulation) is recommended during the newborn period, preferably before the infant is discharged from the hospital and no later than 2 months of age.§
   NOTE: If there is no documentation (preferably a laboratory report) on the mother's chart that indicates she is HBsAg negative, hepatitis B vaccine should be administered to the infant within 12 hours of birth.
2. **For infants vaccinated in the hospital:**
   a. Give the mother an immunization record card with the hepatitis B vaccination date. Remind the mother to bring the immunization card with her each time she brings her baby to the well-child care provider.
   b. Make sure that the infant's hospital record clearly indicates the date of hepatitis B vaccine administration and that this portion of the medical record is *always* forwarded to the infant's primary care clinic. ♦

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* Make sure you do not confuse the **HBsAg** test result with any of the following tests:
1. anti-HBs or HBsAb = antibody to hepatitis B surface antigen
2. anti-HBc or HBcAb = antibody to hepatitis B core antigen

Make sure you order the **hepatitis B surface antigen (HBsAg)** test for your patient, and that this test result is accurately recorded on the labor and delivery record and on the infant's delivery summary sheet.

§ Federal law requires that you give the parent a hepatitis B Vaccine Information Statement (VIS) *prior* to vaccine administration. To obtain VISs, call CDC's Immunization Information Hotline at (800) 232-2522, call your state health department, or download them from IAC's website at: www.immunize.org/vis/

† Infants at high risk of early childhood hepatitis B virus infection include the following:
- Infants whose mothers belong to populations and groups from areas of moderate and high endemicity for HBV infection. These areas include Africa, Asia, Indonesia, the Philippines, the Middle East, the Pacific Islands, the Amazon Basin, Haiti, the Dominican Republic, eastern and southern Europe, and the former Soviet Union. Alaska natives are also a high endemicity group.
- Any infant who lives in a household with a person who is chronically infected with hepatitis B virus.

Item #P2130 (7/00)

What's your state doing?

Empty boxes in this table mean "none."

Current U.S. immunization information by state

State	% of children with 4:3:1:3:3 series complete*	% of children with ≥3 doses of hepatitis B vaccine*	% of children given ≥1 dose of varicella vaccine*	Hepatitis B childhood vaccination mandates, with year implemented				Varicella childhood vaccination mandates, with year implemented			
				Man-date?	Daycare	Elem. School	Middle School	Man-date?	Daycare	Elem. School	Middle School
AL	74.1	90.7	71.3								
AK	74.5	88.8	29.9								
AZ	67.3	84.4	59.3	yes	1997	1997	7/00 prog†				
AR	70.4	83.2	58.0	yes	1997			yes	3/00	9/00	
CA	70.5	87.9	69.7	yes	1997	1997	1999	yes	7/01	7/01	
CO	69.6	85.6	52.9	yes	1997	1997	1997	yes	7/00	7/00	prog†
CT	82.3	93.6	62.7	yes	1995	1996	8/00	yes	2/00	8/00	8/00
DE	69.0	87.7	61.4	yes		1999	1999				
DC	70.9	86.2	77.9	yes	1997	1997	1997	yes	1997	1997 prog†	1997 prog†
FL	77.9	92.9	50.7	yes		1998	1997	yes	9/01	9/01	prog†
GA	77.9	91.0	61.7	yes	1997	1997		yes	8/00		8/00
HI	79.2	91.2	63.1	yes	1998	1998					
ID	65.0	81.6	16.1	yes	children born 11/91 or later						
IL	72.0	87.6	43.6	yes	1997		1997				
IN	65.3	83.3	42.8	yes		1999					
IA	78.9	89.6	46.0	yes		1999					
KS	70.7	81.9	53.5								
KY	84.4	93.8	61.7	yes	1998	1998					
LA	72.3	90.5	61.0	yes	1998	1998		yes	9/03	9/03	
ME	76.8	87.2	43.1								
MD	72.7	87.7	71.7	yes	1995	9/01		yes	1998	9/01	prog†
MA	81.4	92.0	66.0	yes	1992	1996	1999	yes	1998	1999 prog†	1999 prog†
MI	70.9	87.8	43.5	yes	1997	1/01	1/03	yes	1/00	9/02	9/02
MN	78.5	90.6	61.6	yes		9/00	9/01				
MS	79.0	91.1	39.4	yes		1999					
MO	68.9	84.9	51.4	yes	1995	1996	1999				
MT	76.4	89.9	44.6								
NE	79.8	92.9	58.4	yes		1999	7/00				
NV	68.5	84.9	48.3								
NH	78.4	90.5	54.0	yes	1996	1996					
NJ	75.3	90.9	59.7								
NM	66.6	88.3	53.5	yes	9/00	9/02	1999	yes	9/00	9/02	
NY	78.2	92.9	59.2	yes	1995	1998	9/00	yes	1/01	1/03	1/03
NC	77.1	89.0	59.4	yes	children born 7/94 or later						
ND	76.3	90.2	45.9	yes		9/00					
OH	73.0	85.9	53.0	yes	1999	1999					
OK	70.4	87.2	66.4	yes	1999	1997	1997	yes	1998	1998	prog†
OR	63.8	80.9	57.9	yes	1998	1998	9/00	yes	9/00	9/00	9/00
PA	80.8	91.2	67.0	yes		1997		yes	1997		
RI	83.2	94.0	76.5	yes	1998	1999	8/00	yes	1999	1999 prog†	8/00 prog†
SC	78.0	92.0	65.1	yes	1994	1998	1998	yes	9/00		
SD	76.9	90.5	17.5					yes		7/00	
TN	70.0	86.2	56.9	yes	1998	1999		yes	1999		
TX	64.8	81.7	58.9	yes	1998	1998	8/00	yes	8/00	8/00 prog†	8/00
UT	65.8	74.0	41.6	yes		1999					
VT	85.2	90.9	46.8	yes			1999				
VA	74.9	89.5	64.6	yes	1994	1994	7/01	yes	born 1/97 or later		
WA	67.1	85.5	32.1	yes	1997	1997					
WV	77.8	92.2	51.3					yes	1/00		
WI	78.6	90.1	49.1	yes	1997	1997	1997				
WY	81.5	93.9	46.1	yes	born ≥1/96	1999	1998				

* Four or more doses of diphtheria-tetanus-pertussis vaccine, three or more doses of poliovirus vaccine, one or more doses of any measles-containing vaccine, three or more doses of *Haemophilus influenzae* type b vaccine, and three or more doses of hepatitis B vaccine. Percentages are for children aged 19–35 months. (Source: CDC NIS data,1999)

† Signifies a "progressive" law in which each new school year another successive grade becomes covered by the law (e.g., 7th grade in 2000, 7th and 8th grade in 2001).

What would happen if we stopped vaccinations? Part II

This information was adapted from an article by the National Immunization Program, Centers for Disease Control and Prevention. The complete article is available at www.cdc.gov/nip/publications/fs/gen/WhatIfStop.htm

Vaccines are responsible for the control of many infectious diseases that were once common in this country. However, the viruses and bacteria that cause vaccine-preventable disease and death still exist and can be passed on to people who are not protected by vaccines. Vaccine-preventable diseases have a costly impact, resulting in doctor visits, hospitalizations, and pre-mature deaths. Sick children can also cause parents to lose time from work.

Varicella (Chickenpox)

- Chickenpox is always present in the community and is highly contagious. Prior to the licensing of chickenpox vaccine in 1995, almost all persons in the U.S. had suffered from chickenpox by adulthood. Chickenpox was responsible for an estimated 4 million cases, 11,000 hospitalizations, and 100 deaths each year.
- Chickenpox is usually mild, but may be severe in some infants, adolescents, and adults. Some people who get chickenpox have also suffered from complications such as secondary bacterial infections, loss of fluids (dehydration), pneumonia, and central nervous system involvement. In addition, only persons who have had chickenpox in the past can get shingles, a painful inflammation of the nerves. There are about 300,000 cases of shingles that occur each year when inactivated chickenpox virus is activated in people who have had chickenpox in the past.
- From March 1995–August 1999, a total of 18.5 million doses of chickenpox vaccine were distributed in the United States. Vaccine coverage among children 19–35 months was 59.4% in 1999.
- In 1990 in the U.S., the cost of caring for children who contracted chickenpox was estimated as $918 million annually. If we were to stop vaccinating for chickenpox in the U.S., this disease would quickly return to its previous high rate of infection. As a result, almost every child would miss a week of school (and the parent a week of work), and 50–100 varicella-related deaths would occur each year, most of them in previously healthy children and adults.

Hepatitis B

- More than 2 billion persons worldwide have been infected with the hepatitis B virus at some time in their lives. Of these, 350 million are life-long carriers of the disease and can transmit the virus to others. One million of these people die each year from liver disease and liver cancer.

These diseases are disappearing thanks to vaccines. But if we stop vaccinating, they will surely return.

Disease	Max. cases reported	Year max. reported	Reported cases 1998
Diphtheria	206,939	1921	1
Hepatitis B	26,654	1985	10,258
Mumps	152,209	1968	666
Tetanus (Lock jaw)	1,560	1948	41
Varicella	4,000,000*	not available*	not available*

Source: Centers for Disease Control and Prevention

*Four million is the average number of cases estimated from the National Health Interview Survey (NHIS). Varicella is not a nationally notifiable disease, hence, NHIS data on reported varicella cases are not available from all states.

- National studies have shown that five percent of Americans—1.25 million people—have been infected with hepatitis B virus. In addition, these studies have shown that about 300,000 people have been infected with hepatitis B virus each year for the two decades prior to 1990. Currently, there are about 1.25 million people who have life-long hepatitis B virus infection. Each year about 4,000–5,000 of these people die from related liver disease resulting in over $700 million of medical and work-loss costs.
- Infants and children who become infected with hepatitis B virus are at highest risk of developing life-long infection, which often leads to death from liver disease (cirrhosis) and liver cancer. Approximately 25% of children who become infected with life-long hepatitis B virus would be expected to die of related liver disease as adults.
- CDC estimates that one-third of the life-long hepatitis B virus infections in the United States resulted from infections occurring in infants and young children. About 16,000–20,000 hepatitis B surface antigen-infected women give birth each year in the United States. It is estimated that 12,000 children born to hepatitis B virus-infected mothers were infected each year before implementation of infant immunization programs. In addition, approximately 33,000 children (10 years of age and younger) of mothers who are not infected with hepatitis B virus were infected each year before routine childhood hepatitis B vaccination was recommended.

(continued on page 16)

Diphtheria

- Diphtheria is a serious disease caused by poison produced by the bacteria. It frequently causes heart and nerve problems. The death rate is 5–10%, with higher death rates (up to 20%) in the very young and the elderly.
- In the 1920's, diphtheria was a major cause of illness and death for children in the U.S. In 1921, a total of 206,000 cases and 15,520 deaths were reported. With vaccine development in 1923, new cases of diphtheria began to fall in the U.S., until in 1998 only one case was reported.
- Although diphtheria is rare in the U.S., it appears that the bacteria continues to get passed among people. In 1996, 10 isolates of the bacteria were obtained from persons in an American Indian community in South Dakota, none of whom had classic diphtheria disease. There has been one death reported in 1999 from clinical diphtheria caused by a related bacteria.
- There are high rates of susceptibility among adults. Screening tests conducted since 1977 have shown that 41–84% of adults 60 and over lack protective levels of circulating antitoxin against diphtheria.
- Although diphtheria is rare in the U.S., it is still a threat. Diphtheria is common in other parts of the world and with the increase in international travel, diphtheria and other infectious diseases are only a plane ride away. If we stopped immunization, the U.S. might experience a situation similar to the Newly Independent States of the former Soviet Union. With the breakdown of the public health services in this area, diphtheria epidemics began in 1990, fueled primarily by persons who were not properly vaccinated. From 1990–1998, more than 150,000 cases and 5,000 deaths were reported.

Tetanus (Lock jaw)

- Tetanus is a severe, often fatal disease. The bacteria that cause tetanus are widely distributed in soil and street dust, are found in the waste of many animals, and are very resistant to heat and germ-killing cleaners. From 1922–1926, there were an estimated 1,314 cases of tetanus per year in the U.S. In the late 1940s, the tetanus vaccine was introduced, and tetanus became a disease that was officially counted and tracked by public health officials. In 1998, only 45 cases of tetanus were reported in the U.S.
- People who get tetanus suffer from stiffness and spasms of the muscles. The larynx (throat) can close causing breathing and eating difficulties, muscles spasms can cause fractures (breaks) of the spine and long bones. Some people go into a coma and die. Approximately 30% of reported cases end in death.
- Tetanus in the U.S. is primarily a disease of adults. From 1995–1997, 35% of reported cases of tetanus occurred among persons 60 years of age or older. The National Health Interview Survey found that in 1995, only 36% of adults 65 or older had received a tetanus vaccination during the preceding 10 years.
- Worldwide, tetanus in newborn infants continues to be a huge problem. Every year tetanus kills 300,000 newborns and 30,000 birth mothers who were not properly vaccinated. Very recently, an increased number of tetanus cases in younger persons has been observed in the U.S. among intravenous drug users, particularly heroin users.
- Tetanus is infectious, but not contagious, so unlike other vaccine-preventable diseases, immunization by members of the community will not protect others from the disease. Because tetanus bacteria is widespread in the environment, tetanus can only be prevented by immunization. If vaccination against tetanus were stopped, persons of all ages in the U.S. would be susceptible to this serious disease.

Mumps

- Before the mumps vaccine was introduced, mumps was a major cause of deafness in children, occurring in approximately 1/20,000 reported cases. Mumps is usually a mild viral disease. However, rare conditions such as swelling of the brain, nerves, and spinal cord can lead to serious side effects such as paralysis, seizures, and fluid in the brain.
- Serious side effects of mumps are more common among adults than children. Swelling of the testes is the most common side effect in males past the age of puberty, occurring in up to 20–50% of men who contract mumps. An increase in spontaneous abortions has been found among women who develop mumps during the first trimester of pregnancy.
- An estimated 212,000 cases of mumps occurred in the U.S. in 1964. After vaccine licensure in 1967, reports of mumps decreased rapidly. In 1986 and 1987, there was a resurgence of mumps with 12,848 cases reported in 1987. Since 1989, the incidence of mumps has declined, with a total of 666 cases in 1999. This recent decrease is probably due to the fact that children have received a second dose of mumps vaccine (part of the two-dose schedule for measles, mumps, rubella or MMR) and the resultant development of immunity in those who did not gain protection after the first mumps vaccination.
- If we were to stop vaccination against mumps, we could expect the number of cases to climb back to pre-vaccine levels, since mumps is easily spread among unvaccinated persons. ♦

PNEUMOCOCCAL CONJUGATE VACCINE

WHAT YOU NEED TO KNOW

1 Why get vaccinated?

Pneumococcal disease is a serious disease that causes sickness and death. In fact, pneumococcal disease is responsible for about 200 deaths each year among children under 5 years old.

Pneumococcal disease is the leading cause of bacterial meningitis in the United States. (Meningitis is an infection of the covering of the brain). Each year pneumococcal disease causes many health problems in children under 5, including:

- over 700 cases of meningitis,
- 17,000 blood infections, and
- about 5 million ear infections.

Children under 2 years old are at highest risk for serious disease.

Pneumococcus bacteria are spread from person to person through close contact.

Pneumococcal infections can be hard to treat because the disease has become resistant to some of the drugs that have been used to treat it. This makes **prevention** of the disease even more important.

Pneumococcal conjugate vaccine can prevent pneumococcal disease.

2 Pneumococcal vaccine

Pneumococcal conjugate vaccine is licensed for infants and toddlers. It is good at preventing pneumococcal disease among these children, and also helps stop the disease from spreading from person to person.

The vaccine's protection lasts at least 3 years. Since most serious pneumococcal infections strike children during their first 2 years, the vaccine will protect them when they are at greatest risk.

Some older children and adults may get a different vaccine called pneumococcal polysaccharide vaccine. There is a separate Vaccine Information Statement for people getting the pneumococcal polysaccharide vaccine.

3 Who should get the vaccine and when?

- **Children Under 2 Years of Age**

  All healthy infants and toddlers should get 4 doses of pneumococcal conjugate vaccine:
  - ✓ One dose at **2 months** of age,
  - ✓ One dose at **4 months** of age,
  - ✓ One dose at **6 months** of age, and
  - ✓ One dose at **12-15 months** of age.

  Children who miss the first dose at 2 months should still get the vaccine. Ask your health care provider for details.

- **Children Between 2 and 5 Years of Age**

  Pneumococcal conjugate vaccine is recommended for children between 2 and 5 years of age who:
  - – have sickle cell disease,
  - – have a damaged spleen or no spleen,
  - – have HIV/AIDS,
  - – have other diseases that affect the immune system, such as diabetes or cancer, or
  - – take medications that affect the immune system, such as chemotherapy or steroids.

  This vaccine should also be considered for all other children between 2 and 5 years of age, but particularly those who:
  - – are under 3 years of age,
  - – are of Alaska Native, American Indian or African American descent, or
  - – attend group child care.

  The number of doses needed depends on the age that vaccination begins. Ask your health care provider for more details.

Pneumococcal conjugate vaccine may be given at the same time as other childhood vaccines.

4 Some children should not get pneumococcal conjugate vaccine or should wait

Children should not get pneumococcal conjugate vaccine if they had a severe (life-threatening) allergic reaction to a previous dose of the vaccine.

Children who are moderately or severely ill at the time the shot is scheduled should usually wait until they recover before getting the vaccine. Children with minor illnesses, such as a cold, *may* be vaccinated.

5 What are the risks from pneumococcal conjugate vaccine?

In clinical trials, pneumococcal conjugate vaccine was associated with only mild reactions:

- Up to 3 out of 10 children had redness, tenderness, or swelling where the shot was given.
- About 1 out of 10 had a mild fever.

However, a vaccine, like any medicine could cause serious problems, such as a severe allergic reaction. The risk of this vaccine causing serious harm, or death, is extremely small.

6 What if there is a moderate or severe reaction?

What should I look for?

Look for any unusual condition, such as a serious allergic reaction, high fever, or unusual behavior.

If a serious allergic reaction occurred, it would happen within a few minutes to a few hours after the shot. Signs of a serious allergic reaction can include:

- difficulty breathing
- hoarseness or wheezing
- hives
- paleness
- weakness
- a fast heart beat
- dizziness
- swelling of the throat

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.**

7 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's immunization program.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-2522** or **1-888-443-7232** (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 Immumization Program

Vaccine Information Statement (Interim)
Pneumococcal Conjugate Vaccine 7/18/00

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.

Should one give further doses of pertussis vaccine to an infant who has had culture-proven pertussis?

ACIP states that a child who has had culture-proven pertussis does not need additional doses of pertussis vaccine. The series may be completed with pediatric DT. However, if there is any doubt about the diagnosis (i.e., if the diagnosis was made without a culture), the pertussis vaccine series should be completed on schedule.

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.

Correction

The Fall/Winter 1999-2000 issue of ***NEEDLE TIPS*** (Vol. 9, No. 2) contained an error in "Ask the Experts" under General Questions. The question read: "I've heard there is a pentavalent vaccine for infants in use in Canada. When will a pentavalent vaccine be available in the U.S.?" The revised answer is: The Canadian vaccine (PENTACEL distributed by Aventis Pasteur, Canada) is a combination of acellular pertussis, diphtheria, and tetanus toxoids, Hib, and inactivated polio vaccines. In the United States, trials of new combination vaccines are in progress and some of these may be licensed in the future. SmithKline Beecham has applied to the Food and Drug Administration for approval of a new DTaP-IPV-HepB combination vaccine.

NEEDLE TIPS 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 notification of significant errors in ***NEEDLE TIPS*** and on our free e-mail announcement service ***IAC EXPRESS.*** Be sure you're signed up! To sign up, visit our website at www.immunize.org/express or subscribe by sending an e-mail to express@immunize.org Enter the word SUBSCRIBE in the "Subject:" field.

Polio

by William L. Atkinson, MD, MPH

Under which circumstances may one still use OPV instead of IPV?

The only circumstances in which OPV should be used are (1) for an unvaccinated child who will be traveling in less than 4 weeks to areas where wild poliovirus still exists (south Asia and Africa), (2) for the third or fourth dose of the polio vaccination series for children whose parents will not accept the additional number of injections required to complete the polio vaccination series with IPV, and (3) in mass vaccination campaigns to control outbreaks. Providers should administer OPV only after discussing the risk for vaccine-associated paralytic polio (VAPP) with parents.

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?

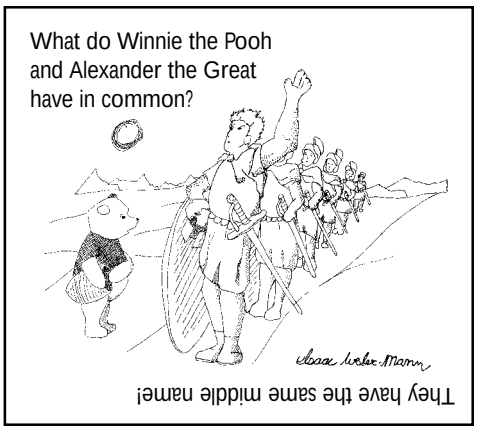
Approximately 5–15% of susceptible persons who receive MMR vaccine will develop a low-grade fever and/or mild rash 7–12 days after vaccination. However, the person is not infectious, and no special precautions (e.g., exclusion from work) need to be taken.

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% 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.

Is it contraindicated to give MMR to a breast-feeding mother or to a breastfed infant?

No. Breastfeeding does not interfere with the response to MMR vaccine. Vaccination of a woman who is breastfeeding her infant poses no risk to the infant being breastfed. Although it is believed that rubella vaccine virus, in rare instances, may be transmitted via breast milk, the infection in the infant is asymptomatic.



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 occurs 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 application 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

(continued on page 20)

given second. This recommendation will be published in late 2000 in a revision of the ACIP statement titled "General Recommendations on Immunization."

Haemophilus influenzae type b

by William L. Atkinson, MD, MPH

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

Pneumococcal disease

by William L. Atkinson, MD, MPH

Conjugate vaccine (PCV 7)

Can you provide information about the use of pneumococcal conjugate vaccine?

The ACIP has not yet published recommendations on the use of pneumococcal conjugate vaccine. It is anticipated that the vaccine will be recommended for all children 2 months to 2 years of age and some children 24–59 months of age who are at increased risk of invasive pneumococcal disease (such as those with sickle cell anemia and HIV infection). The routine vaccination schedule will be three primary doses at 2, 4, and 6 months of age, and a booster dose at 12–15 months, (all doses given IM). Children beginning the schedule after 7 months of age will need fewer doses.

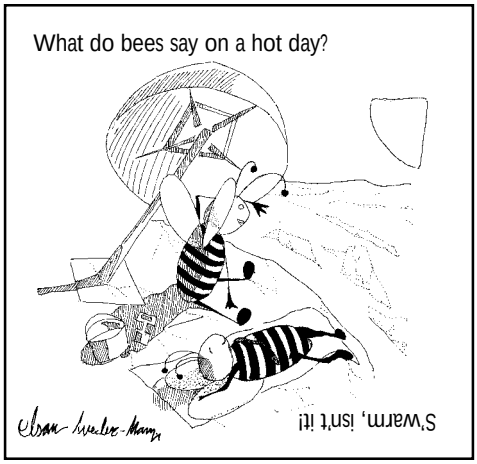
Is a pneumococcal conjugate vaccine VIS available?

A pneumococcal conjugate Vaccine Information Statement is now available. (A copy is printed on pages 17–18 of this issue of *NEEDLE TIPS.)*

Polysaccharide vaccine (PPV23)

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 within the next two months. 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.

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), or from your state or local health department (phone numbers on page 23).

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 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.

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, recombivant 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.

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.

Please describe the two-dose regimen for hepatitis B vaccine for certain adolescents.

(Excerpted from *MMWR* 2000;49[12]:261) In September 1999, Merck Vaccine Division received approval from the Food and Drug Administration for an optional two-dose schedule of Recombivax HB for vaccination of adolescents aged 11–15 years. The ACIP approved the optional two-dose schedule in October 1999 and recommended to include this schedule in the Vaccines for Children program in February 2000. Using the two-dose schedule, the adult dose of Recombivax HB (1.0mL dose containing 10 mcg of hepatitis B surface antigen [HBsAg]) is administered to adolescents aged 11–15 years, with the second dose given 4–6 months after the first dose. In immunogenicity studies among adolescents aged 11–15 years, antibody concentrations and end seroprotection rates (≥10 milli-international units per mL of antibody to HBsAg) were similar with the two-dose schedule (1.0mL dose containing 10 mcg of HBsAg) and the currently licensed three-dose schedule (0.5mL dose containing 5 mcg of HBsAg). The overall frequency of adverse events was similar for the two-dose schedule and the three-dose schedule. Short-term (2-year) follow-up data indicate that the rate of decline in antibody levels for the two-dose schedule was similar to that for the three-dose schedule. No data are available to assess long-term protection (beyond 2 years) or immune memory following vaccination with the two-dose schedule, and it is not known whether booster doses of vaccine will be required. As with other hepatitis B vaccination schedules, if administration of the two-dose schedule is interrupted it is not necessary to restart the series. Children and adolescents who have begun vaccination with a dose of 5 mcg of Recombivax HB should complete the three-dose series with this dose. If it is not clear which dose an adolescent was administered at the start of a series, the series should be completed with the three-dose schedule.

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.

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.

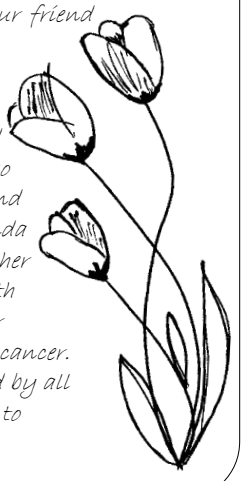
Why does a 15-year old who weighs 160 lbs receive a pediatric dose of hepatitis A vaccine while his 110-pound mother receives an adult dose (twice the pediatric dose)?

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. ♦

Remembering Linda

October 5, 1953 - February 5, 2000

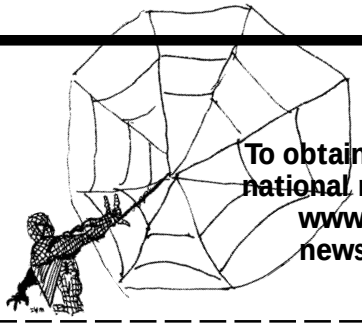
This issue of NEEDLE TIPS is dedicated to the memory of our friend and former office manager, Linda Boerger-Johnson. Linda's energy and intelligence added so much to our work and our daily lives. Linda was unfaltering in her courage and strength during her five year journey with breast cancer. She is sadly missed by all who were privileged to know her.



National Resources

There are many places that can help you!

If you know of other resources, call us at (651) 647-9009 or e-mail us at iacx@immunize.org



To obtain a longer list of national resources, visit: www.immunize.org/news.d/resourc.htm

Here's what's new!

Vaccinating Your Child: Questions and Answers for the Concerned Parent (Humiston, SG, and Good, C, Peachtree Publishers, 2000). A great book for parents who want reliable information about why and when to vaccinate their children. Includes a discussion of the benefits and risks of each vaccine for the individual and the community. $14.95. Call (800) 241-0113.

National Immunization Program's *Online* Resource Request List (CDC). Now you can submit your order online at the touch of a button! Choose from a list of free CDC immunization resources–ACIP statements, VISs, videos, posters, brochures, and more–at: https://www2.cdc.gov/nchstp_od/PIWeb/niporderform.htm

New edition! *Epidemiology and Prevention of Vaccine-Preventable Diseases,* 6th edition (CDC, January 2000). Commonly known as *The Pink Book*, this is an easy-to-read, quick reference with the latest information on vaccine-preventable diseases. Serves as the text for CDC's training course of the same name. $25. To order, visit http://bookstore.phf.org/prod111.htm or call (800) 418-7246 (41-TRAIN).

New videos! *Epidemiology and Prevention of Vaccine-Preventable Diseases* (CDC, 2000). CDC satellite broadcast of the March–April 2000 training course. Four tapes, each 2 hours in length. Single tapes individually approved for CME, CNE and CEUs. Cost: $15/tape or entire set is $50. To order, call (800) 418-7246.

New edition! *Red Book 2000: Report of the Committee on Infectious Diseases* (AAP, 2000). Recommendations for prevention and management of infectious diseases in children. Various formats available including CD-ROM. $84.95-$124.95. Call (888) 227-1770 or order online at http://www.aap.org/acb2/index.cfm?&DID=15

New edition! *Vaccines: What Every Parent Should Know,* revised edition (Offit, PA, and Bell, LM, IDG Books, 1999). A book you can recommend to parents who want to know detailed information about the vaccines you recommend for their children. $12.95. Call (800) 762-2974.

Updated! *What You Need to Know about Vaccine Information Statements* (CDC, 5/00). Details the responsibilities of immunization providers regarding the use of VISs and includes a camera-ready copy of almost all VISs that CDC publishes. Fax requests to (404) 639-8828 or go to: http://www.immunize.org/vis/instr00.pdf

Organizations with immunization and hepatitis information

Routine Immunization

Allied Vaccine Group	www.vaccines.org
All Kids Count (www.allkidscount.org)	(404) 687-5615
American Academy of Pediatrics (www.aap.org) ★	(800) 433-9016
Association of Teachers of Preventive Medicine (www.atpm.org)	(800) 789-6737
CDC's Immunization Information Hotline	(800) 232-2522
CDC's Immunization Information Hotline (Spanish language) ★	(800) 232-0233
CDC's Voice & Fax Immunization Resource Request Line	(888) 232-3228
CDC's National Immunization Program website	www.cdc.gov/nip/
CDC's Vaccine Safety website	www.cdc.gov/nip/vacsafe/
CDC's Vaccines For Children website	www.cdc.gov/nip/vfc/
CDC's Travel Website & Info Line (www.cdc.gov/travel/)	(877-FYI-TRIP) (877) 394-8747
Congress of National Black Churches	(202) 371-1091
Every Child by Two (www.ecbt.org)★	(202) 783-7034
Immunization Action Coalition (www.immunize.org) ★	(651) 647-9009
Immunization Education and Action Committee (www.hmhb.org)	(703) 836-6110 (x228)
Immunization Gateway website	www.immunofacts.com
Institute for Vaccine Safety	www.vaccinesafety.edu/
Morbidity and Mortality Weekly Report	www2.cdc.gov/mmwr/
Nat'l Alliance for Hispanic Health (www.hispanichealth.org)★	(202) 387-5000
Nat'l Coalition for Adult Immunization (www.nfid.org/ncai) ★	(301) 656-0003
Nat'l Council of La Raza (www.nclr.org) ★	(202) 785-1670
National Network for Immunization Information	www.immunizationinfo.org
Nat'l Vaccine Injury Compensation Program (www.hrsa.gov/bhpr/vicp)	(800) 338-2382
Vaccine Adverse Events Reporting System (www.fda.gov/cber/vaers/vaers.htm)	(800) 822-7967
Your health department's immunization program manager (see page 23)	_____

Hepatitis Information

American Liver Foundation (www.liverfoundation.org) ★	(800) 223-0179
CDC's Hepatitis Information Hotline ★	(888) 443-7232
CDC's Hepatitis Branch website ★	www.cdc.gov/hepatitis/
Hepatitis B Coalition (www.immunize.org) ★	(651) 647-9009
Hepatitis B Foundation (www.hepb.org)	(215) 489-4900
Hepatitis B Online Support Group	send a blank e-mail to: hepatitis-b-on@mail-list.com
Hepatitis Control Report (www.hepatitiscontrolreport.com)	(610) 664-2793
Hepatitis Foundation International (www.hepfi.org) ★	(800) 891-0707
Nat'l Task Force on Hepatitis B: Focus on APIA (www.aapihp.com/hepbtf/) ★	(614) 766-5219
Parents of Kids with Infectious Diseases (www.pkids.org)	(877) 55-PKIDS (877) 557-5437
PEPLine: 24-hr hotline to advise clinicians re: occupational blood exposures	(888) 448-4911
Your health department's hepatitis coordinator (see page 23)	_____

Pharmaceutical Companies

Aventis Pasteur, Inc. (www.aventispasteur.com)	(800) 822-2463
Chiron Corporation (www.chiron.com)	(800) 244-7668
Glaxo Wellcome (www.glaxowellcome.com)	(888) 825-5249
Merck & Co. (www.vaccinesbynet.com)	(800) 672-6372
Nabi (www.nabi.com)	(800) 458-4244
SmithKline Beecham (www.sb.com)	(800) 366-8900
Wyeth Lederle Vaccines (www.ahp.com)	(800) 358-7443

(★ indicates they have materials available in languages other than English)

To learn about more organizations that work on immunization and hepatitis issues worldwide, visit: www.immunize.org/news.d/link001.htm

Need Help?

Call your immunization, hepatitis, and VFC coordinators

Your governmental resource people are available to help you! Find out about educational materials they have including posters, brochures, and videos. Call them to register for the excellent immunization conferences that CDC broadcasts by satellite. They may also be able to help you assess your clinic's immunization rates or develop immunization tracking systems. Give them a call!

State Coordinators

Alabama
Iz: Gary Higginbotham 334-206-5023
Hep B (So. AL): Sue Balsamo 334-947-6206
Hep B (No. AL): Janet Mitchell 256-582-3174
VFC: Cynthia Lesinger 800-469-4599

Alaska
Iz: Laurel Wood 907-269-8000
Hep B: Ken Browning 907-269-8000
VFC: Laurel Wood 907-269-8000

Arizona
Iz: Kathy Fredrickson 602-230-5855
Hep B: Linda Faris 602-230-5858
VFC: Betty Finch 602-230-5832

Arkansas
Iz: Kaleem Sayyed 501-661-2723
Hep B: Sherry Ahring 501-661-2053
VFC: Ruby Jones 501-661-2170

California
Iz: Natalie Smith 510-540-2065
Hep B: Les Burd 510-540-2879
VFC: John Scott 510-704-3750

CA, Los Angeles
Hep B: Bridget Beeman 213-580-9810

Colorado
Iz: M. Ely-Moore (acting) 303-692-2788
Hep B: Amy Warner 303-692-2673
VFC: Rosemary Spence 303-692-2798

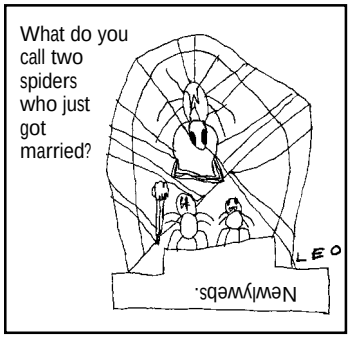
Connecticut
Iz: Vincent Sacco 860-509-7929
Hep B: Aaron Roome 860-509-7900
VFC: Richard Carney 860-509-7929

Delaware
Iz: William Baker (acting) 302-739-4746
Hep B: Laura Gannon 302-739-4746
VFC: William Baker 302-739-4746

District of Columbia
Iz: James Giandelia 202-576-7130 x25
Hep B: Ethel Holland 202-442-9141
VFC: Vacant 202-576-7130

Florida
Iz: Henry Janowski 850-245-4342
Hep B: Tony Richardson 850-245-4342
VFC: Al Sulkes 850-245-4342

Georgia
Iz: Michael Chaney 404-657-3158
Hep B: Peggy Monkus 404-657-3158
VFC: Jean Popiak (acting) 404-657-3158



Hawaii
Iz: Malama Markowitz 808-586-8330
Hep B: Mits Sugi 808-586-8338
VFC: Loriann Kanno 808-586-8329

Idaho
Iz: Hala Rafla 208-334-5942
Hep B: Merlene Fletcher 208-334-5974
VFC:Bob Salisbury 208-334-4949

Illinois
Iz: Cynthia Noa 217-785-1455
Hep B: Susan Williams 217-785-1455
VFC: Mark Amerson 217-785-1455

IL, Chicago
Iz: Cheryl Byers 312-746-6120
Hep B: Monty Dobzyn 312-746-7147
VFC: Maribel Chavez-Torres 312-746-6050

Indiana
Iz: Dave Ellsworth 317-233-7010
Hep B: Beverly Sheets 317-475-9342
VFC: Tom Nelson 317-233-7560

Iowa
Iz: Carolyn Jacobson 515-281-4938
Hep B: Tina Patterson 515-281-7053
VFC: Don Callaghan 515-281-7301

Kansas
Iz: Vivian Kuawogai 785-296-5591
Hep B: Jennifer Hill 785-296-8156
VFC: Patti Smith 785-827-9639

Kentucky
Iz: Sandra Gambescia 502-564-4478
Hep B: Gena Gilbert 502-564-4478
VFC: Gary Bevill 502-564-4478

Louisiana
Iz: Ruben Tapia 504-483-1900
Hep B: Cathy Scott 318-345-1700
VFC: Patricia Simon 504-483-1900

Maine
Iz: Linda Huff (acting) 207-287-3746
Hep B: Jennifer Gunderman-King 207-287-3746
VFC: Linda Huff 207-287-3746

Maryland
Iz: Gregory Reed 410-767-6679
Hep B: Maryann Harder 410-767-5716
VFC: Gregory Reed (acting) 410-767-6679

MD, Baltimore
Hep B: Andrew Bernstein 410-396-1884

Massachusetts
Iz: Pejman Palebian 617-983-6803
Hep B: Martha Badger 617-983-6850
VFC: Marie O'Donnell 617-983-6824

Michigan
Iz: Dr. Gillian Stoltman 517-335-8159
Hep B: Nancy Fasano 517-335-8159
VFC: Susan Wright 517-335-8159

MI, Detroit & SE Michigan
Iz: Melinda Dickson 313-876-4720
Hep B: Therese McGratty 313-256-1873
VFC: Stella Bayleff 313-876-4335

Minnesota
Iz: Susan Ersted 612-676-5237
Hep B: Margo Roddy 612-676-5237
VFC: Barbara Ottis 612-676-5237

Mississippi
Iz: Joy Sennett 601-576-7751
Hep B: Joyce Booth 601-576-7751
VFC: Katy Surkin 601-576-7751

Missouri
Iz: Vic Tomlinson 573-751-6133
Hep B: Ruby McPherson 800-699-2313
VFC: Ruby McPherson 800-699-2313

Montana
Iz: Joyce Burgett 406-444-0065
Hep B: Marci Eckerson 406-444-1805
VFC: Elizabeth Evans 406-444-0277

Nebraska
Iz: T. Grey Bordon 402-471-6423
Hep B: Molly Uden 402-471-0301
VFC: Molly Uden 402-471-0301

NE, Douglas County
Iz: Bonnie Scholting 402-444-3588
Hep B: Josie Estrada 402-444-6511

NE, Lincoln
Hep B: Brenda Christie (acting) 402-441-6214

Nevada
Iz: Robert Salcido 775-684-5939
Hep B: Rick Sowadsky 775-684-5941
VFC: Vener DeFriez 775-684-5913

NV, Clark County
Hep B: Donna Clark 702-383-1494

NV, Washoe County
Hep B: Denise Stokich 775-328-2487

New Hampshire
Iz: Charles Haenal 603-271-4482
Hep B: Susan Bascom 603-271-8325
VFC: Sandra Kelsey 603-271-4634

New Jersey
Iz: Charles O'Donnell 609-588-7512
Hep B: Nancy Borsuk 609-588-7512
VFC: Barbara Giudici 609-588-7512

New Mexico
Iz: Karen Schlanger 505-827-2463
Hep B: Vacant
VFC: Carly Christian 505-827-2898

New York
Iz: David Lynch 518-473-4437
Hep B: Betsy Herlihy 518-473-4437
VFC: Pamela Lutz 518-474-4578

NY, NYC
Iz: Arsenia Delgato 212-676-2259
Hep B: Davis Thanjan 718-520-8245
VFC: Dileep Sarecha 212-676-2298

North Carolina
Iz: Beth Rowe-West 919-715-6768
Hep B: Patricia Poole 919-715-6777
VFC: Barbara Laymon 919-715-6764

North Dakota
Iz: Barbara Frohlich 701-328-2035
Hep B: Patrick Flanagan 701-328-4556
VFC: Patrick Flanagan 701-328-4556

Ohio
Iz: Leonard Payton 614-466-4643
Hep B: Joseph Bronowski 614-466-4643
VFC: Kent Ware 614-466-4643

Oklahoma
Iz: Don Blose 405-271-4073
Hep B: Leonard Lang 405-271-4073
VFC: Dorothy Cox 405-271-4073

Oregon
Iz: Lorraine Duncan 503-731-4135
Hep B: Hilary Gillette 503-731-4807
VFC: Mimi Luther 503-731-4267

Pennsylvania
Iz: Alice Gray 717-787-5681
Hep B: Phuoc Tran 717-787-5681
VFC: Vickie Petrina 717-787-5681

PA, Philadelphia
Iz: James Lutz 215-685-6854
Hep B: Barbara Watson 215-685-6842
VFC: Mary Mulholland 215-685-6853

Rhode Island
Iz: Susan Shepardson 401-222-4603
Hep B: Patricia Raymond 401-222-5921
VFC: Ron Fielder 401-222-4628

South Carolina
Iz: Jesse Greene 803-898-0460
Hep B: Jesse Greene (acting) 803-898-0460
VFC: Jesse Greene 803-898-0460

South Dakota
Iz: Lori Koenecke 605-773-3737
Hep B: Lori Koenecke 605-773-3737
VFC: Lori Koenecke 605-773-3737

Tennessee
Iz: Jerry Narramore 615-741-7343
Hep B: J. Narramore (acting) 615-741-7343
VFC: Diane Bass 615-532-8513

Texas
Iz: Robert Crider 512-458-7284
Hep B: Sharon Duncan 512-458-7284
VFC: Jack Sims 512-458-7284

TX, Houston
Iz: Brock Lamont 713-794-9267
Hep B: Toni Wafeeg 713-794-9266
VFC: Maureen Moore 713-558-3535

TX, San Antonio
Iz: Mark Ritter 210-207-8794
Hep B: Nancy Walea 210-207-2087
VFC: Vivian Flores 210-207-2868

Utah
Iz: Linda Abel 801-538-9450
Hep B: Martee Hawkins 801-538-9450
VFC: Jan Kilpack 801-538-9450

Vermont
Iz: Carolyn Greene 802-863-7638
Hep B: Marilyn Proulx 802-863-7245
VFC: Karen Halverson 802-863-7638

Virginia
Iz: James Farrell 804-786-6246
Hep B: Marie Krauss 804-786-6246
VFC: Shannon Leary 804-786-6246

Washington
Iz: Margaret Hansen 360-236-3595
Hep B: Trang Kuss 360-236-3555
VFC: Katherine Harris-Wollburg 360-236-3513

West Virginia
Iz: Samuel Crosby Jr. 304-558-2188
Hep B: Beverly Littman 304-558-6441
VFC: Jeff Neccuzi 304-558-6437

Wisconsin
Iz: Dan Hopfensperger 608-266-1339
Hep B: Marjorie Hurie 608-266-8621
VFC: Jaclyn Nelson 608-266-1506

Wyoming
Iz: C. Phil Caves 307-777-6001
Hep B: Robin Chandler 307-777-7466
VFC: Janelle Conlin 307-777-7487

Territories

American Samoa
Iz: Joseph Tufa 011-684-633-4606
Hep B: Sylvia Tauliiili 011-684-633-4606
VFC: Sylvia Tauliiili 011-684-633-4606

Federated States of Micronesia
Iz: Kidsen Iohp 011-691-320-2872
Hep B: Lerina Nena 011-691-320-2872

Guam
Iz: Ron Balajadia 671-735-7143
Hep B: Annie Lizama 671-735-7148
VFC: Michele Leon Guerrero 671-735-7143

Mariana Islands
Iz: Mariana Sablan 011-670-233-8953
VFC: Norma Sepeda 011-670-233-8953

Republic of the Marshall Islands
Iz: Donald Capelle 011-692-625-5660
Hep B: Kenner Brianb 011-692-625-3355

Puerto Rico
Iz: Esteban Calderon 787-274-5612
Hep B: Carmen Deseda 787-274-5525
VFC: Margareta Savaphie 787-274-5616

Republic of Palau
Iz: Rosemary Kiep 011-680-488-1757

Virgin Islands
Iz: Beverly Blackwell 340-776-8311 x2151
Hep B: Carmen Vanterpool (acting)
340-776-8311 x2152

Coalition Catalog

Publications and resources

- **All our materials are camera-ready, copyright-free, and reviewed by national experts!**
- **You can order one of any item (including videos) and make as many copies as you need.**
- **A $50 membership contribution entitles you to a free copy of all IAC print materials as well as our brightly colored mousepad!**
- **Most items cost $1 (unless otherwise noted).**
- **To order materials, see instructions on page 26.**
- **Date of latest revision indicated in parentheses.**
- **★ Starred items are available in multiple languages.**

REMEMBER . . .

A $50 annual membership contribution brings you camera-ready copies of ALL of the Coalition's print materials. See the order form or the back page for information on how to join!

Languages:
En: English
Sp: Spanish
Ar: Armenian
Ca: Cambodian
Ch: Chinese
Fa: Farsi
Hm: Hmong
Ja: Japanese
Ko: Korean
La: Laotian
Po: Portuguese
Ro: Romanian
Ru: Russian
Sa: Samoan
So: Somali
Ta: Tagalog
Vi: Vietnamese

Materials for your patients

Revised! **Immunizations for babies.** A picture of the shot schedule. En (4/00). *Item #P4010*

★ ***Revised!*** **After the shots...what to do if your child has discomfort.** En, Sp (8/99); Ca, Ch, Fa, Hm, Ko, La, Ru, Ta, Vi (10/97). *Item #P4015*

★ **Are you 11–19 years old? Then you need to be vaccinated!** Covers all vaccinations for teenagers. En, Sp (4/98). *Item #P4020*

Revised! **Questions parents ask about baby shots.** A brochure about childhood vaccinations. En (4/00). *Item #P4025*

★ **Vaccinations for adults—you're never too old to get shots!** A visual table covering all adult vaccinations. En, Sp (10/97). *Item #P4030*

★ **Immunizations . . . not just kids' stuff.** Adult immunization brochure. En, Sp, Ch (2/97). *Item #P4035*

NEW! **What would happen if we stopped vaccinations?** A CDC publication that discusses by disease the potential risks of stopping vaccinations. En (7/00). *Item #P4037*

NEW! **Vaccine myths.** A reprint of chapter 16 of the book *Vaccines: What Every Parent Should Know* (IDG Books Worldwide, 1999), written by Paul A. Offit, MD, and Louis M. Bell, MD. En (1/00). *Item #P4038*

Shots for adults with HIV. A visual table of shots recommended for HIV-infected adults. En (7/97). *Item #P4041*

Revised! **Vaccinations for adults with hepatitis C.** This one-page sheet describes vaccinations that HCV-positive adults need. En (5/00). *Item #P4042*

★ ***Revised!*** **When do children and teens need vaccinations?** A picture of the shot schedule. En, Sp (4/00). *Item #P4050*

★ **All kids need hepatitis B shots!** A brochure that tells parents all children 0–18 years old need hepatitis B shots. En, Sp, Ar, Ca, Ch, Fa, Hm, Ja, Ko, La, Po, Ro, Ru, Sa, So, Ta, Vi (4/98). *Item #P4055*

★ **Chickenpox isn't just an itchy, contagious rash.** A brochure for all ages. En, Sp, Vi (1/96). *Item #P4070*

★ **Hepatitis A is a serious liver disease . . . should you be vaccinated?** A brochure for all ages. En, Sp, Vi (10/97). *Item #P4080*

★ **Questions frequently asked about hepatitis B.** Four pages of commonly asked questions. En, Sp (9/96). *Item #P4090*

★ **Every week hundreds of teens are infected with hepatitis B.** A brochure for teens and parents. En, Sp, Ca, Ch, Hm, Ko, La, Ru, Ta, Vi (6/97). *Item #P4100*

★ **Hepatitis B shots are recommended for all new babies.** A brochure for parents of newborns. En, Sp, Ca, Ch, Hm, Ko, La, Ru, Vi (1/96). *Item #P4110*

★ **Every week thousands of sexually active people are infected with hepatitis B.** A hepatitis B brochure for adults. En, Sp (4/98). *Item #P4112*

If you have sex, read this . . . and stop a killer STD from sneaking up on you! Use this article to help convince young women to get vaccinated against hepatitis B. Reprinted from *Mademoiselle.* En (2/99). *Item #P4113*

Hepatitis B . . . 100 times easier to catch than HIV. A brochure for men who have sex with men. En (2/97). *Item #P4115*

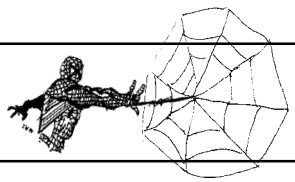
You don't have to go all the way to get hepatitis A. A brochure for men who have sex with men. En (6/97). *Item #P4116*

You are not alone! Article for teens with chronic HBV infection. By S.J. Schwarzenberg, MD, Univ. of Minnesota; and K. Wainwright, RN, Alaska Area Native Health Service, Anchorage. En (12/98). *Item #P4118*

★ **If you are a hepatitis B carrier . . .** How hepatitis B carriers can take care of themselves and protect others. En, Sp, Ch, Hm (1/96). *Item #P4120*

Packet of hepatitis B adoption information. Includes information from adoption specialists throughout the United States. En (1/00). *Item #P4152 - $5*

★ **Hepatitis B information for adults and children from endemic areas.** Encourages testing and vaccination. En, Ca, Ch, Hm, Ko, La, Ru, Vi (5/95). *Item #P4170*



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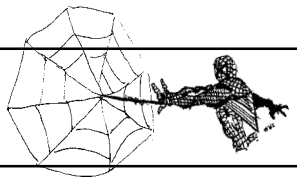


Materials for your clinic staff

★ ***Revised!*** **Summary of rules for childhood immunization.** This two-sided reference table discusses the appropriate use, scheduling, and contraindications of childhood vaccines. En (7/00), Spanish (in revision). *Item #P2010*

Summary of recommendations for adult immunization. A two-sided reference table on appropriate use, scheduling, and contraindications of adult vaccines. En (8/99). *Item #P2011*

Revised! **Give these people influenza vaccine!** A one-page checklist to help you decide who to vaccinate. En (4/00). *Item #P2013*

Pneumococcal vaccine: who needs it and who needs it again? A one-page Q&A with a table about revaccination. En (4/98). *Item #P2015*

Vaccine storage, handling, and transport. En (9/96). *Item #P2020*

Revised! **Ask the experts.** Compilation of hundreds of Q&A's on routine childhood and adult immunization issues published in past issues of *NEEDLE TIPS.* Written by CDC experts. En (3/00). *Item #P2021 - $5*

Vaccine administration record for children and teens. Keep children and teens' immunization records in the front of their medical charts on this handy, one-page sheet. En (4/99). *Item #P2022*

Vaccine administration record for adults. Keep adult patients' immunization records in the front of their medical charts on this handy, one-page sheet. En (8/98). *Item #P2023*

Revised! **It's federal law! You must give your patients current Vaccine Information Statements (VISs).** By N.A. Halsey, MD, Institute for Vaccine Safety, Johns Hopkins School of Public Health. Everything you need to know about VISs. En (4/00). *Item #P2027*

Tips to improve your clinic's immunization rates. For use in both pediatric and adult health settings. En (2/97). *Item #P2045*

Vaccinate, don't vacillate! Varicella kills 100 people each year in the U.S. What are you waiting for? By W.A. Orenstein, MD, Ass't Surgeon General, Director, NIP, CDC. If you aren't yet convinced that it's important to vaccinate for varicella, read this! En (10/98). *Item #P2058*

Hospitals and doctors sued for failing to immunize. Seven lawsuits against physicians and hospitals. En (9/94). *Item #P2060*

Revised! **Hepatitis A and B vaccines . . . be sure your patient gets the correct dose!** Recommended child and adult dosages of the two brands of hepatitis A and B vaccines. En (5/00). *Item #P2081*

No risk?? No way!! Reviews unusual transmissions of hepatitis B in "low-risk" individuals. En (9/94). *Item #P2100*

Hepatitis B and the health care worker. How to protect health care workers. Includes post-exposure prophylaxis guidelines. En (4/98). *Item #P2109*

Basic knowledge about hepatitis B. A list of high-risk groups, interpretation of the hepatitis B panel, and tests to diagnose chronic hepatitis B, C, and D. En (4/99). *Item #P2110*

Revised! **Facts about adult hepatitis B.** A list of adult high-risk groups, interpretation of the hepatitis B panel, and tests to diagnose chronic hepatitis B, C, and D. En (4/00). *Item #P2112*

Universal prenatal screening for hepatitis B. By D. Freese, MD, Mayo Clinic, Rochester, MN. Reviews neonatal transmission and screening rationale. En (2/93). *Item #P2120*

Revised! **Labor & Delivery Unit and Nursery Unit Guidelines to Prevent HBV Transmission.** For HBsAg screening in labor and delivery units and hepatitis B immunization in newborn nurseries. En (6/00). *Item #P2130*

Management of chronic hepatitis B in children and adults. Four liver experts share their management guidelines for chronic hepatitis B. Authored by H. Conjeevaram, MD, Univ. of Chicago (4/99); C. Smith, MD, Minnesota Gastroenterology, Minneapolis, MN (4/99); B.J. McMahon, MD, Alaska Area Native Health Service, Anchorage, AK (4/99); and S.J. Schwarzenberg, MD, Univ. of Minnesota. En (8/94). *Item #P2164 - $5*

Tracking hepatitis B patients and their contacts. Manual tracking system for high-risk families. En (11/98). *Item #P2180*

Coalition kid art. Immunization artwork (babies, bears, balloons, etc.) you can use to make your own brochures, posters, etc. (4/98). *Item #P3015 - $5*

How to operate a community-based shot clinic. Resource materials to help you run an immunization clinic. En (10/97). *Item #P3040 - $5*

★ ***Revised!*** **Screening questionnaire for child and teen immunization.** A form for the patient's parent/guardian to fill out to help staff evaluate which vaccines can be given at that day's visit. Thanks to the State of NY Immunization Program, St. Paul Ramsey County Public Health, MN, and CDC for their translations. En, Sp, Ch, Hm (8/99). *Item #P4060*

★ ***Revised!*** **Screening questionnaire for adult immunization.** A form your adult patients fill out to help you evaluate which vaccines can be given at that day's visit. Thanks to the State of NY Immunization Program, St. Paul Ramsey County Public Health, MN, and CDC for their translations. En, Sp Ch, Hm (6/00). *Item #P4065*

Patient notification letter regarding hepatitis B test results. Sample letter explaining test results to patients. En (10/97). *Item #P4140*

Videos for your clinic staff

How to Protect Your Vaccine Supply (Ice, Champagne, and Roses) (California Dept. of Health, Minnesota Dept. of Health, 1996, 15 min). This "how-to" video also covers varicella and hepatitis A vaccines. Includes print materials. *Item #V2010 - $10*

Vaccine Administration Techniques (California Dept. of Health, 1989, 18 min). A refresher course on the correct techniques for administering vaccines. Includes print materials. *Item #V2020 - $10*

In Praise of the Public Health Nurse! (IAC, 1994, 31 min). Features M. Morrison, MD, Mississippi Dept. of Health, who stresses that immunization is a team effort. *Item #V2040 - $10*

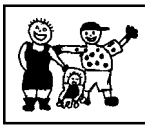
Videos for teens and pre-teens

Special price! **Immunization Day!** (UCLA, 1997, 13 min). An attention-holding vaccination video for middle school students. Includes print materials. En (3/98). *Item #V2050 - ~~$10~~ $5*

Partnership for Prevention (SKB, 1995, 6 min). A hepatitis B video for 11- and 12-year-olds. May not be broadcast on television. *Item #V3012 - $10*

Get the Facts, Then Get the Vax (ASHA, 1995, 6 min). A hepatitis B video for high school students. *Item #V3015 - $10*

(continued on page 26)



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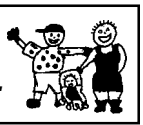

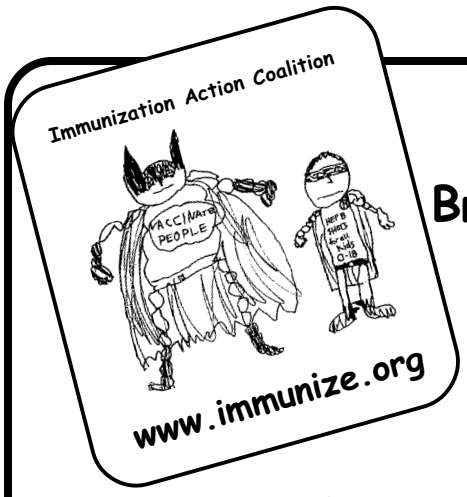

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Contact us! We have resources in more than 12 languages to help you conduct immunization and hepatitis B campaigns in Asian and Pacific Islander communities. These include videos, resource manuals, and materials to train bilingual workers. Fax your request for our **"API Resource List and Order Form"** to (651) 647-9131 or call (651) 647-9009 for more information.

Photos, slides, posters, and more

Teen poster! **Roll up your sleeves!** Full-color 11" x 17" poster of kids showing off their hepatitis B shots! Use it for your hepatitis B school vaccination campaigns. *Item #Q2010 - 10 posters for $1 (order in units of 10)*

Adult poster! **Immunization . . . not just kids' stuff.** A two-color 7"x 14" poster to hang in every exam room. The companion brochure is item #P4035. *Item #Q2020 –10 posters for $1 (order in units of 10)*

IAC mousepad. This mousepad is wildly colorful and irresistible! Order more than one to liven up your office and home computer work stations or give them to your on-line friends! *Item #R2000 - $3*

Photo notebook of vaccine-preventable diseases. Includes 20 full-page color photos of children and adults with vaccine-preventable diseases, and simple text that describes the diseases. Perfect for taking out into the community to give presentations. Outreach workers love it! (6/99). *Item #R2053 - $75*

★ **Vaccine-preventable diseases slide set and script.** Includes 31 slides of children and adults with vaccine-preventable diseases. Suitable for use by public health departments, community outreach workers, nursing schools, and medical teaching programs. Every clinic should have a set of these slides. Comes with scripts in En and Sp (8/99). *Item #S3010 - $25*

Revised! **Unprotected People: Stories of people who died or suffered from vaccine-preventable diseases.** Compilation of personal stories and case reports includes 11 new stories and is now available in three volumes: Vol. I (Stories #1–10), Vol. II (Stories #11–20), and Vol. III (Stories #21–30). All stories illustrate tragedies that occurred because someone wasn't immunized (8/98-5/00). *Items #T2011, #T2012, and #T2013 - $5 for all 3 volumes*

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___	R2053 Photo notebook of vaccine-preventable diseases $75	
___	S3010 Vaccine-preventable diseases slide set (script included) ☐En ☐Sp (check both boxes to receive both scripts) $25	
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It's the Immunization Action Coalition's 10th anniversary!

Thank you, readers!
We receive tremendous support from you.

Thank you to CDC!
CDC provides invaluable technical support as well as a three-year federal grant.

Thank you for your educational grants to all the following:

- American Pharmaceutical Association
- Aventis Pasteur
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IAC receives funding from a variety of sources, both public and private, and maintains strict editorial independence.

Dear Colleagues:

For ten years, the Immunization Action Coalition has been publishing immunization and hepatitis B treatment information and sending it to our readers. We appreciate your support and thank you for helping to make it possible. During our tenth anniversary year, I have three favors to ask of you.

1. Please keep in touch! The only way we know that you want to continue your subscription to *NEEDLE TIPS* is for you to tell us. Every year we remove several hundred names from our mailing list, people who haven't contacted us in the last few years. Drop us a note, fax us (651-647-9131), e-mail us (admin@immunize.org), or telephone us (651-647-9009) with the information from your mailing label to make sure you remain on our list. Also let us know if you are receiving extra copies of *NEEDLE TIPS* or if we are mailing copies to people who are no longer at your workplace. If you change mailing addresses, please notify us at your earliest convenience. By reducing our printing and mailing costs, we'll have more resources available to bring you the highest quality immunization information.

2. If you have e-mail, sign up for our free e-mail announcement service, *IAC EXPRESS*. Just visit **www.immunize.org/express** to sign up for the latest immunization news. We publish *IAC EXPRESS* once or twice a week to help keep you informed between issues of *NEEDLE TIPS*. We'll update you about new federal immunization recommendations, Vaccine Information Statements, new resources from IAC and others, and dozens of additional items. Tell your friends and colleagues to sign up, too!

3. Become a contributing member of the Coalition. You can best help us with a contribution—a tenth anniversary gift to IAC! We don't send out fundraising solicitations, but we do hope you think IAC is worthy of your support. When you send $50 or more, you'll receive a free packet of all our print materials, as well as one of our popular mousepads (probably the most colorful you've ever seen!). If you are unable to send a contribution now, please make sure you stay on our list by sending us mailing information from your current issue of *NEEDLE TIPS* and tell us you want to continue your subscription.

As always, we love feedback and news from our readers via e-mail, fax, and letter. We look forward to hearing from you.

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

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