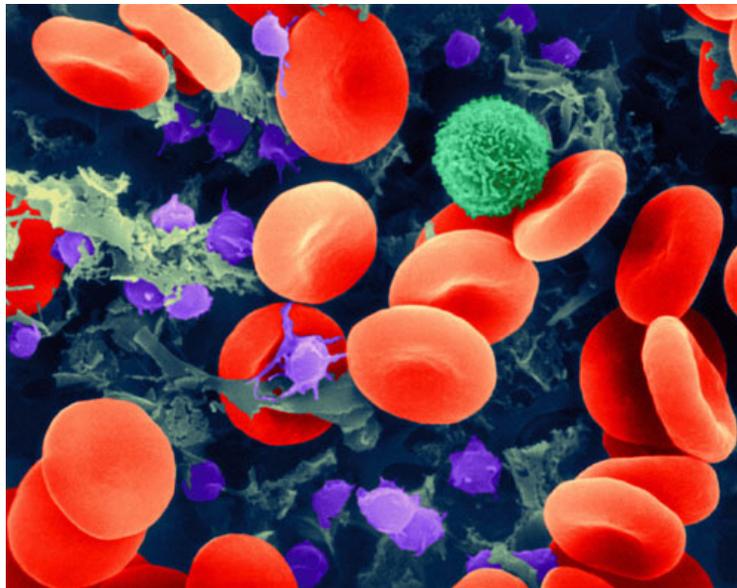


Unit 2: Disease Prevention

Instructor's Background Text Part 3 of 3



PKIDs' Infectious Disease Workshop

Made possible by grants from the Northwest Health Foundation,
the Children's Vaccine Program at PATH and PKIDs.

PKIDs' Infectious Disease Workshop

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Acknowledgements

Producing this workshop has been a dream of ours since PKIDs' inception in 1996. It has been more than two years since we began work on this project, and many people helped us reach our goal. It's not done, because it is by nature a living document that will evolve as science makes strides in the research of infectious diseases, but it's a great beginning.

There are people who've helped us whose names are not on this printed list. That omission is not deliberate, but rather from our own clumsiness in losing important pieces of paper, and we apologize.

Without the funding and support of the Northwest Health Foundation and the Children's Vaccine Program at PATH (Program for Appropriate Technology in Health), this would have been an impossible task. Dr. Katherine Vaughn, PKIDs' Medical Director and Dr. Karen Steingart, scientific advisor to PKIDs, provided excellent guidance through their editorial oversight and knowledgeable contributions to the Infectious Disease Workshop.

On PKIDs' staff are three individuals without whom this publication would never have been finished—Franji Mayes, Mylei Basich and Christine Kukka, all of whom gave their very best to ensure this workshop is accurate and user-friendly.

We are indebted to the following individuals who cheerfully gave us hours of their time and access to their resources: the American Society for Microbiology; Kathy A. Bobula, Ph.D., Coordinator, Early Childhood Education, Clark College, Vancouver, Wash.; Claudia Bratt, elementary school teacher, Truman Elementary, Vancouver, Wash.; Sue Campbell, Early Childhood Educator, Kindercare; many wonderful and helpful people at the Centers for Disease Control and Prevention, Atlanta, Georgia; Rachel Coyle, Case Aide and Residential Care Staff Lead, Jonathan's Place; Tammy Dunn, Early Childhood Director, Portland Christian Schools, Portland, Oregon; Bruce Gellin, M.D., Director of the National Vaccine Program Office in the Office of the Assistant Secretary for Health, Department of Health and Human Services; Shannon Harrison, M.D., Internal Medicine and Infectious Diseases, Teton Hospital, Jackson, Wyoming; the Immunization Action Coalition; Brad Jensen, M.D., Southwest Washington Medical Center Pathology Department; Edgar Marcuse, M.D., Professor of Pediatrics, University of Washington and Director of Medical Services, Seattle Children's Hospital and Regional Medical Center; Zack Mittge, law student, University of Oregon; the National Network for Immunization Information; Paul Offit, M.D., Chief, Section of Infectious Diseases and the Henle Professor of Immunologic and Infectious Diseases at The Children's Hospital of Philadelphia; Carol Porter, Red Cross health room volunteer, Garland Independent School District, Garland, Texas; Sarah Theberge, Curriculum Instructor, Early Childhood Education, Clark College, Vancouver, Wash.; James Whorton, Ph.D., Professor, Department of Medical History and Ethics, University of Washington School of Medicine.

We thank the following for providing nonprofit rates for their microscopic images: Dennis Kunkel Microscopy, Inc., and Science Photo Library/Photo Researchers, Inc.
(Cover photo: *Dennis Kunkel Microscopy, Inc./www.denniskunkel.com.*)

Additional funding for this project provided by PKIDs (Parents of Kids with Infectious Diseases).

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Warning: This section contains certain disease-related images that may not be suitable for young children

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Click here to go back to the PKIDs' IDW website.

This publication contains the opinions and ideas of its authors. It is intended to provide helpful and informative material on the subject matter covered. Any information obtained from this workshop is not to be construed as medical or legal advice. If the reader requires personal assistance or advice, a competent professional should be consulted.

The authors specifically disclaim any responsibility for any liability, loss, or risk, personal or otherwise, which is incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this workshop.

Introduction

PKIDs (Parents of Kids with Infectious Diseases) is a national nonprofit agency whose mission is to educate the public about infectious diseases, the methods of prevention and transmission, and the latest advances in medicine; to eliminate the social stigma borne by the infected; and to assist the families of the children living with hepatitis, HIV/AIDS, or other chronic, viral infectious diseases with emotional, financial and informational support.

Remaining true to our mission, we have designed the *Infectious Disease Workshop (IDW)*, an educational tool for people of all ages and with all levels of understanding about infectious diseases. In this workshop, you will learn about bacteria and viruses, how to prevent infections, and how to eliminate the social stigma that too often accompanies diseases such as HIV or hepatitis C.

We hope that both instructors and participants come away from this workshop feeling comfortable with their new level of education on infectious diseases.

The IDW is designed to “train-the-trainer,” providing instructors not only with background materials but also with age-appropriate activities for the participants. Instructors do not need to be professional educators to use these materials. They were designed with both educators and laypersons in mind.

The IDW is comprised of a master Instructor’s Background Text, which is divided into six units: Introduction to Infectious Diseases, Disease Prevention, Sports and Infectious Disease, Stigma and Infectious Disease, Civil Rights and Infectious Disease, and Bioterrorism and Infectious Disease.

For each unit, instructors will find fun and helpful activities for participants in five age groups: 2 to 6 years of age, 6 to 9 years of age, 9 to 12 years of age, 13 to 18 years of age and adults.

We welcome any questions, comments, or feedback you may have about the IDW or any other issue relating to infectious diseases in children.

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Recommended Vaccines For All Ages

(Source: CDC)

Immunizations are a part of childhood, but they don't end there. Adults need certain immunizations for several reasons.

Some vaccines lose their effectiveness over time, including the tetanus and diphtheria vaccines. As a result, booster immunizations for these two diseases are recommended every 10 years.

Adults who may be at risk of infection might not be immunized against hepatitis B. While this vaccine is recommended for newborns and young children today, many adults were not immunized against it during early childhood. This immunization protects against this sexually transmitted and bloodborne infection that can lead to liver damage and cancer.

Other vaccines are recommended unless a person has a history of past infection (such as chickenpox) or if they have were immunized during childhood.

Additionally, those 50 and older should be immunized against influenza (the flu) to help their immune systems repel those viruses.

On the following pages are immunizations recommended by the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP) for children, adolescents and adults.

Hepatitis A

Hepatitis A Vaccine: What You Need To Know

What is hepatitis A?

Hepatitis A is a serious liver disease caused by the hepatitis A virus (HAV). HAV is found in the stool of persons with hepatitis A. It is usually spread by close personal contact and sometimes by eating food or drinking water containing HAV.

Hepatitis A can cause:

- Mild “flu-like” illness.
- Jaundice (yellow skin or eyes).
- Severe stomach pains and diarrhea.

People with hepatitis A infection often have to be hospitalized. In rare cases, hepatitis A causes death.

A person who has hepatitis A can easily pass the disease to others within the same household.

Hepatitis A vaccine can prevent hepatitis A.

Who should get hepatitis A vaccine and when?

- Persons 2 years of age and older traveling or working in countries with high rates of hepatitis A, such as those located in Central or South America, the Caribbean, Mexico, Asia (except Japan), Africa and southern or eastern Europe. The vaccine series should be started at least one month before traveling.
- Persons who live in communities that have prolonged outbreaks of hepatitis A.
- Persons who live in communities with high rates of hepatitis A: for example, American Indian, Alaska Native, and Pacific Islander communities and some religious communities.
- Men who have sex with men.
- Persons who use street drugs.
- Persons with chronic liver disease.
- Persons who receive clotting factor concentrates.

Two doses of the vaccine, given at least 6 months apart, are needed for lasting protection.

Hepatitis A vaccine may be given at the same time as other vaccines.

Some people should not get hepatitis A vaccine or should wait:

- People who have ever had a serious allergic reaction to a previous dose of hepatitis A vaccine should not get another dose.
- People who are mildly ill at the time the shot is scheduled should get hepatitis A vaccine. People with moderate or severe illnesses should usually wait until they recover. Your doctor or nurse can advise you.

The safety of hepatitis A vaccine for pregnant women is not yet known. But any risk to either the pregnant woman or the fetus is thought to be very low.

Ask your doctor or nurse for details.

What are the risks from hepatitis A vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of hepatitis A vaccine causing serious harm, or death, is extremely small.

Getting hepatitis A vaccine is much safer than getting the disease.

Mild problems:

- Soreness where the shot was given (about 1 out of 2 adults, and up to 1 out of 5 children).
- Headache (about 1 out of 6 adults and 1 out of 20 children).
- Loss of appetite (about 1 out of 12 children).
- Tiredness (about 1 out of 14 adults).

If these problems occur, they usually come 3-5 days after vaccination and last for 1 or 2 days.

Severe problems:

Serious allergic reaction, within a few minutes to a few hours of the shot (very rare).

What if there is a moderate or severe reaction?

What should I look for?

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

What should I do?

- Call a doctor, or get the person to a doctor right away.
- Tell your doctor what happened, the date and time it happened, and when the vaccination was given.
- Ask your doctor, nurse, or health department to report the reaction by filing an Vaccine Adverse Event Reporting System (VAERS) form. Or call VAERS yourself at 1-800-822-7967, or visit their website at www.vaers.org.

How can I learn more?

- Ask your doctor or other healthcare provider. They can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):

Call 1-800-232-2522 (English)

Call 1-800-232-0233 (Español)

- Visit the National Immunization Program's website at www.cdc.gov/nip, or CDC's hepatitis

website at www.cdc.gov/ncidod/diseases/hepatitis/hepatitis.htm

Immune Globulin (IG)

Immune globulin can provide temporary immunity to hepatitis A.

Who should get IG?

- Persons who have been exposed to HAV and can get IG within 2 weeks of that exposure.
- Travelers to areas with high rates of hepatitis A, if they do not receive hepatitis A vaccine.

When should IG be given?

It can be given before exposure to HAV or within 2 weeks after exposure.

Benefits:

IG protects against HAV for 3-5 months, depending on dosage.

Risks:

Rare: swelling, hives, or allergic reaction.

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Hepatitis A (8/25/98)
Vaccine Information Statement

***Haemophilus influenzae* type b (Hib)**

***Haemophilus influenzae* type b Vaccine: What you Need to Know**

What is Hib disease?

Haemophilus influenzae type b (Hib) disease is a serious disease caused by a bacteria. It usually strikes children under 5 years old.

Your child can get Hib disease by being around other children or adults who may have the bacteria and not know it. The germs spread from person to person. If the germs stay in the child's nose and throat, the child probably will not get sick. But sometimes the germs spread into the lungs or the bloodstream, and then Hib can cause serious problems.

Before Hib vaccine, Hib disease was the leading cause of bacterial meningitis among children under 5 years old in the United States. Meningitis is an infection of the brain and spinal cord coverings, which can lead to lasting brain damage and deafness. Hib disease can also cause:

- Pneumonia.
- severe swelling in the throat, making it hard to breathe.
- infections of the blood, joints, bones, and covering of the heart.
- death.

Before Hib vaccine, about 20,000 children in the United States under 5 years old got severe Hib disease each year and nearly 1,000 people died.

Hib vaccine can prevent Hib disease.

Many more children would get Hib disease if we stopped vaccinating.

Who should get Hib vaccine and when?

Children should get Hib vaccine at:

- 2 months of age.
- 4 months of age.
- 6 months of age.
- 12 to 15 months of age.

Depending on what brand of Hib vaccine is used, your child might not need the dose at 6 months of age. Your doctor or nurse will tell you if this dose is needed.

If you miss a dose or get behind schedule, get the next dose as soon as you can. There is no need to start over.

Hib vaccine may be given at the same time as other vaccines.

Older children and adults:

Children over 5 years old usually do not need Hib vaccine. But some older children or adults with special health conditions should get it. These conditions include sickle cell disease, HIV/AIDS, removal of the spleen, bone marrow transplant, or cancer treatment with drugs. Ask your doctor or nurse for details.

Some people should not get Hib vaccine or should wait:

- People who have ever had a life-threatening allergic reaction to a previous dose of Hib vaccine should not get another dose.
- Children less than 6 weeks of age should not get Hib vaccine.
- People who are moderately or severely ill at the time the shot is scheduled should usually wait until they recover before getting Hib vaccine.

Ask your doctor or nurse for more information.

What are the risks from Hib vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of Hib vaccine causing serious harm or death is extremely small.

Most people who get Hib vaccine do not have any problems with it.

Mild problems:

- Redness, warmth, or swelling where the shot was given (up to one fourth of children).
- Fever over 101 degrees Fahrenheit (up to 1 out of 20 children).

If these problems happen, they usually start within a day of vaccination. They may last 2 to 3 days.

What if there is a moderate or severe reaction?

What should I look for?

Any unusual condition, such as a serious allergic reaction, high fever or behavior changes.

Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat, or dizziness within a few minutes to a few hours after the shot.

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.

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has

been created to help you pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit the program's website at www.hrsa.dhhs.gov/bhpr/vicp

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 (English)
Call 1-800-232-0233 (Español)
- Visit the National Immunization Program's website at www.cdc.gov/nip

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement
Hib
12/16/98
2 U.S.C. Section 300aa-26

Polio

Polio Vaccine: What You Need To Know

What is polio?

Polio is a disease caused by a virus. It enters a child's (or adult's) body through the mouth. Sometimes it does not cause serious illness. But sometimes it causes paralysis (can't move arm or leg). It can kill people who get it, usually by paralyzing the muscles that help them breathe.

Polio used to be very common in the United States. It paralyzed and killed thousands of people a year before we had a vaccine for it.

Why get vaccinated?

Inactivated Polio Vaccine (IPV) can prevent polio.

History: A 1916 polio epidemic in the United States killed 6,000 people and paralyzed 27,000 more. In the early 1950s, there were more than 20,000 cases of polio each year. Polio vaccination was begun in 1955. By 1960, the number of cases had dropped to about 3,000, and by 1979, there were only about 10. The success of polio vaccination in the U.S. and other countries sparked a world-wide effort to eliminate polio.

Today: No wild polio have been reported in the United States for over 20 years. But the disease is still common in some parts of the world. It would only take one case of polio from another country to bring the disease back if we were not protected by vaccine. If the effort to eliminate the disease from the world is successful, some day we won't need polio vaccine. Until then, we need to keep getting our children vaccinated.

Oral Polio Vaccine: No longer recommended.

There are two kinds of polio vaccine: IPV, which is the shot recommended in the United States today, and a live, oral polio vaccine (OPV), which is drops that are swallowed.

Until recently, OPV was recommended for most children in the United States. OPV helped us rid the country of polio, and it is still used in many parts of the world.

Both vaccines give immunity to polio, but OPV is better at keeping the disease from spreading to other people. However, for a few people (about one in 2.4 million), OPV actually causes polio. Since the risk of getting polio in the United States is now extremely low, experts believe that using oral polio vaccine is no longer worth the risk, except in limited circumstances which your doctor can describe. The polio shot (IPV) does not cause polio. If you or your child will be getting OPV, ask for a copy of the OPV supplemental Vaccine Information Statement.

Who should get polio vaccine and when?

IPV is a shot, given in the leg or arm, depending on age. Polio vaccine may be given at the same time as other vaccines.

Children:

Most people should get polio vaccine when they are children. Children get 4 doses of IPV, at these ages:

- A dose at 2 months.
- A dose at 4 months.
- A dose at 6-18 months.
- A booster dose at 4-6 years.

Adults:

Most adults do not need polio vaccine because they were already vaccinated as children. But three groups of adults are at higher risk and should consider polio vaccination:

- People traveling to areas of the world where polio is common.
- Laboratory workers who might handle polio virus.
- Healthcare workers treating patients who could have polio.

Adults in these three groups who have never been vaccinated against polio should get 3 doses of IPV:

- The first dose at any time.
- The second dose 1 to 2 months later.
- The third dose 6 to 12 months after the second.

Adults in these three groups who have had 1 or 2 doses of polio vaccine in the past should get the remaining 1 or 2 doses. It doesn't matter how long it has been since the earlier dose(s).

Adults in these three groups who have had 3 or more doses of polio vaccine (either IPV or OPV) in the past may get a booster dose of IPV.

Ask your healthcare provider for more information.

Some people should not get IPV or should wait:

These people should not get IPV:

- Anyone who has ever had a life-threatening allergic reaction to the antibiotics neomycin, streptomycin or polymyxin B should not get the polio shot.
- Anyone who had a severe allergic reaction to a polio shot should not get another one.

These people should wait:

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

Ask your healthcare provider for more information.

What are the risks from IPV?

Some people who get IPV get a sore spot where the shot was given. The vaccine used today

has never been known to cause any serious problems, and most people don't have any problems at all with it.

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

What if there is a serious reaction?

What should I look for?

Any unusual condition, such as a serious allergic reaction, high fever or behavior changes. Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat, or dizziness within a few minutes to a few hours after the shot.

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.

Reporting reactions helps experts learn about possible problems with vaccines.

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has been created to help you pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit the program's website at www.hrsa.dhhs.gov/bhpr/vicp

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 (English)

Call 1-800-232-0233 (Español)

- Visit the National Immunization Program's website at www.cdc.gov/nip

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement
Polio 1/1/2000
42 U.S.C. Section 300aa-26

Pneumococcal Disease

Pneumococcal Conjugate Vaccine (ages 5 and under): What You Need to Know

Why get vaccinated?

Infection with *Streptococcus pneumoniae* bacteria can cause serious illness and death. Invasive pneumococcal disease is responsible for about 200 deaths each year among children under 5 years old. It is the leading cause of bacterial meningitis in the United States. (Meningitis is an infection of the covering of the brain).

Each year pneumococcal infection causes severe disease in children under five years old. Before a vaccine was available, pneumococcal infection each year caused:

- over 700 cases of meningitis.
- 13,000 blood infections.
- about 5 million ear infections.

It can also lead to other health problems, including:

- Pneumonia.
- deafness.
- brain damage.

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 bacteria have become resistant to some of the drugs that have been used to treat them. This makes prevention of pneumococcal infections even more important.

Pneumococcal conjugate vaccine can help prevent serious pneumococcal disease, such as meningitis and blood infections. It can also prevent some ear infections. But ear infections have many causes, and pneumococcal vaccine is effective against only some of them.

Pneumococcal conjugate vaccine

Pneumococcal conjugate vaccine is approved for infants and toddlers. Children who are vaccinated when they are infants will be protected when they are at greatest risk for serious disease.

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

Who should get the vaccine and when?

Children under 2 years of age:

- 2 months.
- 4 months.

- 6 months.
- 12 to 15 months.

Children who weren't vaccinated at these ages can still get the vaccine. The number of doses needed depends on the child's age. Ask your healthcare provider for details.

Children between 2 and 5 years of age:

Pneumococcal conjugate vaccine is also recommended for children between 2 and 5 years old who have not already gotten the vaccine and are at high risk of serious pneumococcal disease. This includes children who have:

- sickle cell disease.
- a damaged spleen or no spleen.
- HIV/AIDS.
- other diseases that affect the immune system, such as diabetes, cancer, or liver disease, or who take medications that affect the immune system, such as chemotherapy or steroids, or have chronic heart or lung disease.

The vaccine should be considered for all other children under age 5 years, especially those at higher risk of serious pneumococcal disease. This includes children who:

- are under 3 years of age.
- are of Alaska Native, American Indian or African American descent.
- attend group day care.

The number of doses needed depends on the child's age. Ask your healthcare provider for more details.

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

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 this vaccine, or have a severe allergy to a vaccine component. Tell your healthcare provider if your child has ever had a severe reaction to any vaccine, or has any severe allergies.
- Children with minor illnesses, such as a cold, may be vaccinated. But children who are moderately or severely ill should usually wait until they recover before getting the vaccine.

What are the risks from pneumococcal conjugate vaccine?

In studies (nearly 60,000 doses), pneumococcal conjugate vaccine was associated with only mild reactions:

- Up to about 1 infant out of 4 had redness, tenderness, or swelling where the shot was given.
- Up to about 1 out of 3 had a fever of over 100.4 degrees Fahrenheit, and up to about 1 in 50 had a higher fever (over 102.2 degrees Fahrenheit).
- Some children also became fussy or drowsy, or had a loss of appetite.

So far, no moderate or severe reactions have been associated with this vaccine. 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.

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.

Serious allergic reactions are extremely rare with any vaccine. If one were to occur, it would most likely be within a few minutes to a few hours after the shot. Signs can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat, dizziness, and 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 health care provider to file a Vaccine Adverse Event Reporting System (VAERS) form. Or call VAERS yourself at 1-800-822-7967, or visit their web site at www.vaers.org.

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has been created to help pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit their website at www.hrsa.gov/bhpr/vicp

How can I learn more?

- Ask your healthcare provider. They can give you the vaccine package insert or suggest other sources of information.
- Call your local or state health department's immunization program.
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- Visit the National Immunization Program's website at www.cdc.gov/nip

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement
Pneumococcal Conjugate Vaccine
September 30, 2002
42 U.S.C. Section 300aa-26

Meningococcal Disease

Meningococcal Vaccine: What You Need To Know

What is meningococcal disease?

Meningococcal disease is a serious illness, caused by a bacteria. It is the leading cause of bacterial meningitis in children 2-18 years old in the United States. Meningitis is an infection of the brain and spinal cord coverings. Meningococcal disease can also cause blood infections.

About 2,600 people get meningococcal disease each year in the U.S. 10-15 percent of these people die, in spite of treatment with antibiotics. Of those who live, another 10 percent lose their arms or legs, become deaf, have problems with their nervous systems, become mentally retarded, or suffer seizures or strokes.

Anyone can get meningococcal disease. But it is most common in infants less than one year of age, and in people with certain medical conditions. College freshmen, particularly those who live in dormitories, have a slightly increased risk of getting meningococcal disease.

Meningococcal vaccine can prevent 2 of the 3 important types of meningococcal disease in older children and adults. Meningococcal vaccine is not effective in preventing all types of disease. But it does help to protect many people who might become sick if they don't get the vaccine.

Drugs such as penicillin can be used to treat meningococcal infection. Still, about 1 out of every 10 people who get the disease dies from it, and many others are affected for life. This is why it is important that people with the highest risk for meningococcal disease get the vaccine.

Who should get meningococcal vaccine and when?

Meningococcal vaccine is not routinely recommended for most people. People who should get the vaccine include:

- U.S. Military recruits.
- People who might be affected during an outbreak of certain types of meningococcal disease.
- Anyone traveling to, or living in, a part of the world where meningococcal disease is common, such as West Africa.
- Anyone who has a damaged spleen, or whose spleen has been removed.
- Anyone who has terminal complement component deficiency (an immune system disorder).

The vaccine should also be considered for:

Some laboratory workers who are routinely exposed to the meningococcal bacteria.

The vaccine may also be given to college students who choose to be vaccinated. College freshmen, especially those who live in dormitories, and their parents should discuss the risks and benefits of vaccination with their healthcare providers.

Meningococcal vaccine is usually not recommended for children under two years of age. But under special circumstances it may be given to infants as young as 3 months (the vaccine does not work as well in very young children). Ask your healthcare provider for details.

How many doses?

- For people 2 years of age and over: 1 dose. (Sometimes an additional dose is recommended for people who continue to be at high risk. Ask your provider.)
- For children 3 months to 2 years of age who need the vaccine: 2 doses, 3 months apart.

Some people should not get meningococcal vaccine or should wait:

- People should not get meningococcal vaccine if they have ever had a serious allergic reaction to a previous dose of the vaccine.
- People who are mildly ill at the time the shot is scheduled can still get meningococcal vaccine. People with moderate or severe illnesses should usually wait until they recover. Your provider can advise you.

Meningococcal vaccine may be given to pregnant women.

What are the risks from meningococcal vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of the meningococcal vaccine causing serious harm, or death, is extremely small.

Getting meningococcal vaccine is much safer than getting the disease.

Mild problems:

- Some people who get meningococcal vaccine have mild side effects, such as redness or pain where the shot was given. These symptoms usually last for 1-2 days.
- A small percentage of people who receive the vaccine develop a fever.

What if there is a serious reaction?

What should I look for?

Look for any unusual condition, such as a severe 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, weakness, hoarseness or wheezing, a fast heart beat, hives, dizziness, paleness, or 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 healthcare provider to file a Vaccine Adverse Event Reporting System (VAERS) form. Or call VAERS yourself at 1-800-822-7967, or visit their web site at www.vaers.org.

How can I learn more?

- Ask your health care provider. 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 (English)

Call 1-800-232-0233 (Español)

- Visit the National Immunization Program's website at www.cdc.gov/nip
- Visit the National Center for Infectious Disease's meningococcal disease website at www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement
Meningococcal Vaccine
March 31, 2000

Chickenpox (Varicella)

The Chickenpox Vaccine: What You Need to Know

Why get vaccinated?

Chickenpox (also called varicella) is a common childhood disease. It is usually mild, but it can be serious, especially in young infants and adults.

The chickenpox virus can be spread from person to person through the air, or by contact with fluid from chickenpox blisters. It causes a rash, itching, fever, and tiredness. It can lead to severe skin infection, scars, pneumonia, brain damage, or death. A person who has had chickenpox can get a painful rash called shingles years later. About 12,000 people are hospitalized for chickenpox each year in the United States. About 100 people die each year in the United States as a result of chickenpox.

The chickenpox vaccine can prevent chickenpox.

Most people who get the chickenpox vaccine will not get chickenpox. But if someone who has been vaccinated does get chickenpox, it is usually very mild. They will have fewer spots, are less likely to have a fever, and will recover faster.

Who should get the chickenpox vaccine and when?

Children should get 1 dose of the chickenpox vaccine between 12 and 18 months of age, or at any age after that if they have never had chickenpox.

People who do not get the vaccine until 13 years of age or older should get 2 doses, 4-8 weeks apart.

Ask your doctor or nurse for details.

The chickenpox vaccine may be given at the same time as other vaccines.

Some people should not get the chickenpox vaccine or should wait.

People should not get the chickenpox vaccine if they have ever had a life-threatening allergic reaction to gelatin, the antibiotic neomycin, or (for those needing a second dose) a previous dose of chickenpox vaccine.

People who are moderately or severely ill at the time the shot is scheduled should usually wait until they recover before getting the chickenpox vaccine.

Pregnant women should wait to get the chickenpox vaccine until after they have given birth. Women should not get pregnant for 1 month after getting the chickenpox vaccine.

Some people should check with their doctor about whether they should get the chickenpox vaccine, including anyone who:

- Has HIV/AIDS or another disease that affects the immune system.
- Is being treated with drugs that affect the immune system, such as steroids, for 2 weeks or longer.
- Has any kind of cancer.
- Is taking cancer treatment with x-rays or drugs.

People who recently had a transfusion or were given other blood products should ask their doctor when they may get the chickenpox vaccine.

What are the risks from the chickenpox vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of the chickenpox vaccine causing serious harm or death is extremely small. Getting the chickenpox vaccine is much safer than getting the chickenpox disease.

Most people who get the chickenpox vaccine do not have any problems with it.

Mild problems:

- Soreness or swelling where the shot was given (about 1 out of 5 children and up to 1 out of 3 adolescents and adults).
- Fever (1 person out of 10, or less).
- Mild rash, up to a month after vaccination (1 person out of 20, or less). It is possible for these people to infect other members of their household, but this is extremely rare.

Moderate problems:

- Seizure (jerking or staring) caused by fever (less than 1 person out of 1,000).

Severe problems:

- Pneumonia (very rare).
- Other serious problems, including severe brain reactions and low blood count, have been reported after chickenpox vaccination. These happen so rarely experts cannot tell whether they are caused by the vaccine or not. If they are, it is extremely rare.

What if there is a moderate or severe reaction? What should I look for?

Any unusual condition, such as a serious allergic reaction, high fever or behavior changes. Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness within a few minutes to a few hours after a shot. A high fever or seizure, if it occurs, would happen 1 to 6 weeks after the shot.

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.

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has been created to help you pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit the program's website at www.hrsa.gov/bhpr.vicp

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 (English)
Call 1-800-232-0233 (Español)
- Visit the National Immunization Program's website at www.cdc.gov/nip

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement
Varicella (12/16/98) 42 U.S.C. § 300aa-26

Hepatitis B

Hepatitis B Vaccine: What You Need to Know

Why get vaccinated?

Hepatitis B is a serious disease.

The hepatitis B virus (HBV) can cause short-term (acute) illness that leads to:

- loss of appetite.
- diarrhea and vomiting.
- tiredness.
- jaundice (yellow skin or eyes).
- pain in muscles, joints, and stomach.

It can also cause long-term (chronic) illness that leads to:

- liver damage (cirrhosis).
- liver cancer.
- death.

About 1.25 million people in the U.S. have a chronic HBV infection.

Each year it is estimated that:

- 80,000 people, mostly young adults, get infected with HBV.
- More than 11,000 people have to stay in the hospital because of hepatitis B.
- 4,000 to 5,000 people die from chronic hepatitis B.

The hepatitis B vaccine can prevent hepatitis B. It is the first anti-cancer vaccine, because it can prevent a form of liver cancer.

How is the hepatitis B virus spread?

The hepatitis B virus is spread through contact with the blood and body fluids of an infected person. A person can get infected in several ways, such as:

- by having unprotected sex with an infected person.
- by sharing needles when injecting illegal drugs.
- by being stuck with a used needle on the job.
- during birth when the virus passes from an infected mother to her baby.

About one third of people who are infected with hepatitis B in the United States don't know how they got it.

Who should get the hepatitis B vaccine and when?

- Everyone 18 years of age and younger.
- Adults over 18 who are at risk.

Adults at risk for HBV infection include:

- people who have more than one sex partner in 6 months.
- men who have sex with other men.
- sex contacts of infected people.
- people who inject illegal drugs.
- healthcare workers and public safety workers who might be exposed to infected blood or body fluids.
- household contacts of persons with chronic hepatitis B virus infection.
- hemodialysis patients.

If you are not sure whether you are at risk, ask your doctor or nurse.

People should get 3 doses of the hepatitis B vaccine according to the following schedule. If you miss a dose or get behind schedule, get the next dose as soon as you can. There is no need to start over.

For an infant whose mother is infected with HBV:

- First Dose: Within 12 hours of birth.
- Second Dose: 1 to 2 months of age.
- Third Dose: 6 months of age.

For an infant whose mother is not infected with HBV:

- First Dose: Birth to 2 months of age.
- Second Dose: 1 to 4 months of age (at least 1 month after the first dose).
- Third Dose: 6 to 18 months of age.

For an older child, adolescent, or adult:

- First Dose: Any time.
- Second Dose: 1 to 2 months after the first dose.
- Third Dose: 4 to 6 months after the first dose.

For anyone:

- The second dose must be given at least 1 month after the first dose.
- The third dose must be given at least 2 months after the second dose and at least 4 months after the first.
- The third dose should not be given to infants younger than 6 months of age, because this could reduce long-term protection.

Adolescents 11 to 15 years of age may need only two doses of the hepatitis B vaccine, separated by 4 to 6 months. Ask your healthcare provider for details.

The hepatitis B vaccine may be given at the same time as other vaccines.

Some people should not get the hepatitis B vaccine or should wait:

- People should not get the hepatitis B vaccine if they have ever had a life-threatening allergic reaction to baker's yeast (the kind used for making bread) or to a previous dose of the hepatitis B vaccine.
- People who are moderately or severely ill at the time the shot is scheduled should usually wait until they recover before getting the hepatitis B vaccine.

Ask your doctor or nurse for more information.

What are the risks from the hepatitis B vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of the hepatitis B vaccine causing serious harm, or death, is extremely small.

Getting the hepatitis B vaccine is much safer than getting the hepatitis B disease.

Most people who get the hepatitis B vaccine do not have any problems with it.

Mild problems:

- soreness where the shot was given, lasting a day or two (up to 1 out of 11 children and adolescents, and about 1 out of 4 adults).
- mild to moderate fever (up to 1 out of 14 children and adolescents and 1 out of 100 adults).

Severe problems:

- serious allergic reaction (very rare).

What if there is a moderate or severe reaction? What should I look for?

Any unusual condition, such as a serious allergic reaction, high fever or unusual behavior. Serious allergic reactions are extremely rare with any vaccine. If one were to occur, it would be within a few minutes to a few hours after the shot. Signs can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness.

What should I do?

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

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has been created to help you pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit the program's website at www.hrsa.gov/bhpr/vicp

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 www.cdc.gov/nip or CDC's Division of Viral Hepatitis website at www.cdc.gov/hepatitis

U.S. Department of Health & Human Services Centers for Disease Control and Prevention

National Immunization Program

Vaccine Information Statement

Hepatitis B

7/11/01

42 U.S.C. Section 300aa-26

Measles-Mumps-Rubella (German Measles)

Measles, Mumps and Rubella Vaccines: What You Need to Know

Why get vaccinated?

Measles, mumps, and rubella are serious diseases.

The measles virus causes rash, cough, runny nose, eye irritation, and fever. It can lead to ear infection, pneumonia, seizures (jerking and staring), brain damage, and death.

The mumps virus causes fever, headache, and swollen glands. It can lead to deafness, meningitis (infection of the brain and spinal cord covering), painful swelling of the testicles or ovaries, and, rarely, death.

The rubella virus (German Measles) causes rash, mild fever, and arthritis (mostly in women). If a woman gets rubella while she is pregnant, she could have a miscarriage or her baby could be born with serious birth defects.

You or your child could catch these diseases by being around someone who has them. They spread from person to person through the air.

The measles, mumps, and rubella (MMR) vaccine can prevent these diseases.

Most children who get their MMR shots will not get these diseases. Many more children would get them if we stopped vaccinating.

Who should get MMR vaccine and when?

Children should get 2 doses of MMR vaccine:

The first at 12-15 months of age and the second at 4-6 years of age. These are the recommended ages. But children can get the second dose at any age, as long as it is at least 28 days after the first dose.

Some adults should also get MMR vaccine:

Generally, anyone 18 years of age or older, who was born after 1956, should get at least one dose of the MMR vaccine, unless they can show that they have had either the vaccines or the diseases.

Ask your doctor or nurse for more information.

The MMR vaccine may be given at the same time as other vaccines.

Some people should not get the MMR vaccine or should wait:

- People should not get the MMR vaccine if they have ever had a life-threatening allergic reaction to gelatin, the antibiotic neomycin, or a previous dose of the MMR vaccine.

- People who are moderately or severely ill at the time the shot is scheduled should usually wait until they recover before getting the MMR vaccine.
- Pregnant women should wait to get the MMR vaccine until after they have given birth. Women should not get pregnant for 4 weeks after getting the MMR vaccine.

Some people should check with their doctor about whether they should get the MMR vaccine, including anyone who:

- Has HIV/AIDS, or another disease that affects the immune system.
- Is being treated with drugs that affect the immune system, such as steroids, for 2 weeks or longer.
- Has any kind of cancer.
- Is taking cancer treatment with x-rays or drugs.
- Has ever had a low platelet count (a blood disorder).
- People who recently had a transfusion or were given other blood products should ask their doctor when they may get the MMR vaccine.

Ask your doctor or nurse for more information.

What are the risks from MMR vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of the MMR vaccine causing serious harm or death is extremely small.

Getting the MMR vaccine is much safer than getting any of these three diseases.

Most people who get the MMR vaccine do not have any problems with it.

Mild problems:

- Fever (up to 1 person out of 6).
- Mild rash (about 1 person out of 20).
- Swelling of glands in the cheeks or neck (rare).

If these problems occur, it is usually within 7-12 days after the shot. They occur less often after the second dose.

Moderate problems:

- Seizure (jerking or staring) caused by fever (about 1 out of 3,000 doses).
- Temporary pain and stiffness in the joints, mostly in teenage or adult women (up to 1 out of 4).
- Temporary low platelet count, which can cause a bleeding disorder (about 1 out of 30,000 doses).

Severe problems (very rare):

- Serious allergic reaction (less than 1 out of a million doses).
- Several other severe problems have been known to occur after a child gets the MMR vac-

cine. But this happens so rarely, experts cannot be sure whether they are caused by the vaccine or not. These include deafness, long-term seizures, coma, or lowered consciousness and permanent brain damage

What if there is a moderate or severe reaction? What should I look for?

Any unusual conditions, such as a serious allergic reaction, high fever or behavior changes. Signs of a serious allergic reaction include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness within a few minutes to a few hours after the shot. A high fever or seizure, if it occurs, would happen 1 or 2 weeks after the shot.

What should I do?

- Call a doctor, or get a 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.

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has been created to help you pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit the program’s website at www.hrsa.gov/bhpr.vicp

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 (English)
Call 1-800-232-0233 (Español)
- Visit the National Immunization Program’s website at www.cdc.gov/nip

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement (Interim)
MMR (6/13/02) 42 U.S.C. § 300aa-26

Diphtheria, Tetanus and Pertussis

Diphtheria, Tetanus, and Pertussis Vaccines: What You Need to Know

Why get vaccinated?

Diphtheria, tetanus, and pertussis are serious diseases caused by bacteria.

Diphtheria and pertussis are spread from person to person. Tetanus enters the body through cuts or wounds.

Diphtheria causes a thick covering in the back of the throat. It can lead to breathing problems, paralysis, heart failure, and even death.

Tetanus (lockjaw) causes painful tightening of the muscles, usually all over the body. It can lead to "locking" of the jaw so the victim cannot open his mouth or swallow. Tetanus leads to death in about 1 out of 10 cases.

Pertussis (whooping cough) causes coughing spells so bad that it is hard for infants to eat, drink, or breathe. These spells can last for weeks. It can lead to pneumonia, seizures (jerking and staring spells), brain damage, and death.

The diphtheria, tetanus, and pertussis vaccine (DTaP) can help prevent these diseases. Most children who are vaccinated with DTaP will be protected throughout childhood. Many more children would get these diseases if we stopped vaccinating.

DTaP is a safer version of an older vaccine called DTP. DTP is no longer used in the United States.

Who should get the DTaP vaccine and when?

Children should get 5 doses of the DTaP vaccine, one dose at each of the following ages:

- 2 months
- 4 months
- 6 months
- 15 to 18 months
- 4 to 6 years

DTaP may be given at the same time as other vaccines.

Some children should not get the DTaP vaccine or should wait:

- Children with minor illnesses, such as a cold, may be vaccinated. But children who are moderately or severely ill should usually wait until they recover before getting the DTaP vaccine.
- Any child who had a life-threatening allergic reaction after a dose of DTaP should not get another dose.

Talk with your doctor if your child:

- had a seizure or collapsed after a dose of DTaP.
- cried non-stop for 3 hours or more after a dose of DTaP.
- had a fever over 105 degrees Fahrenheit after a dose of DTaP.

Ask your healthcare provider for more information. Some of these children should not get another dose of pertussis, but may get a vaccine without pertussis, called DT.

Older children and adults:

DTaP should not be given to anyone 7 years of age or older, because the pertussis vaccine is only licensed for children under 7.

But older children, adolescents and adults still need protection from tetanus and diphtheria. A booster shot, called Td, is recommended at 11 to 12 years of age, and then every 10 years. There is a separate Vaccine Information Statement for the Td vaccine.

What are the risks from the DTaP vaccine?

Getting diphtheria, tetanus or pertussis disease is much riskier than getting the DTaP vaccine.

However, a vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of the DTaP vaccine causing serious harm, or death, is extremely small.

Mild problems (common):

- Fever (up to about 1 child in 4).
- Redness or swelling where the shot was given (up to about 1 child in 4).
- Soreness or tenderness where the shot was given (up to about 1 child in 4).

These problems occur more often after the 4th and 5th doses of the DTaP series than after earlier doses.

Sometimes the 4th or 5th dose of the DTaP vaccine is followed by swelling of the entire arm or leg in which the shot was given, for 1 to 7 days (up to about 1 child in 30).

Other mild problems include:

- Fussiness (up to about 1 child in 3).
- Tiredness or poor appetite (up to about 1 child in 10).
- Vomiting (up to about 1 child in 50).

These problems generally occur 1 to 3 days after the shot.

Moderate problems (uncommon):

- Seizure (jerking or staring) (about 1 child out of 14,000).
- Non-stop crying, for 3 hours or more (up to about 1 child out of 1,000).

- High fever, over 105 degrees Fahrenheit (about 1 child out of 16,000).

Severe problems (very rare):

- Serious allergic reaction (less than 1 out of a million doses).
- Several other severe problems have been reported after DTaP vaccine. These include long-term seizures, coma, or lowered consciousness and permanent brain damage.

These are so rare it is hard to tell if they are caused by the vaccine.

Controlling fever is especially important for children who have had seizures, for any reason. It is also important if another family member has had seizures.

You can reduce fever and pain by giving your child an aspirin-free pain reliever when the shot is given, and for the next 24 hours, following the package instructions.

What if there is a moderate or severe reaction? What should I look for?

Any unusual conditions, such as a serious allergic reaction, high fever or unusual behavior. Serious allergic reactions are extremely rare with any vaccine. If one were to occur, it would most likely be within a few minutes to a few hours after the shot. Signs can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness. If a high fever or seizure were to occur, it would usually be within a week after the shot.

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.

The National Vaccine Injury Compensation Program

In the rare event that you or your child has a serious reaction to a vaccine, a federal program has been created to help you pay for the care of those who have been harmed.

For details about the National Vaccine Injury Compensation Program, call 1-800-338-2382 or visit the program's website at www.hrsa.gov/bhpr/vicp

How can I learn more?

- Ask your healthcare provider. 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 (English)

Call 1-800-232-0233 (Español)

- Visit the National Immunization Program's website at www.cdc.gov/nip

U.S. Department of Health & Human Services
Centers for Disease Control and Prevention
National Immunization Program
Vaccine Information Statement
DTaP
7/30/01
42 U.S.C. Section 300aa-26

Tetanus and Diphtheria (Td)

What you need to know before you or your child gets the vaccine.

What are tetanus and diphtheria?

Tetanus (lockjaw) and diphtheria are serious diseases. Tetanus is caused by a germ that enters the body through a cut or wound. Diphtheria spreads when germs pass from an infected person to the nose or throat of others.

Tetanus causes serious, painful spasms of all muscles. It can lead to “locking” of the jaw so the patient cannot open his or her mouth to eat or swallow.

Diphtheria causes a thick coating in the nose, throat, or airway. It can lead to breathing problems, heart failure, paralysis and death.

What are the benefits of the vaccines?

Vaccination is the best way to protect against tetanus and diphtheria. Because of vaccination, there are fewer cases of these diseases. Cases are rare in children, because most get the DTP (Diphtheria, Tetanus, and Pertussis), DTaP (Diphtheria, Tetanus, and acellular Pertussis), or DT (Diphtheria and Tetanus) vaccines. There would be many more cases if we stopped vaccinating people.

When should you get the Td vaccine?

Td is made for people 7 years of age and older. People who have not gotten at least 3 doses of any tetanus and diphtheria vaccine (DTP, DtaP or DT) during their lifetime should do so using Td. After a person gets the third dose, a Td dose is needed every 10 years all through life.

Other vaccines may be given at the same time as Td.

Tell your doctor or nurse if the person getting the vaccine:

- Ever had a serious allergic reaction or other problem with Td, or any other tetanus and diphtheria vaccine (DTP, DtaP or DT).
- Now has a moderate or severe illness.
- Is pregnant.

If you are not sure, ask your doctor or nurse.

What are the risks from the Td vaccine?

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

The risks from the vaccine are much smaller than the risks from the diseases if people stopped using vaccine. Almost all people who get Td have no problems from it.

Mild problems:

If these problems occur, they usually start within hours to a day or two after vaccination in the area where the shot was given. They may last 1-2 days.

- Soreness.
- Redness.
- Swelling.

These problems can be worse in adults who get the Td vaccine very often. Acetaminophen or ibuprofen (non-aspirin) may be used to reduce soreness.

Severe problems:

These problems happen very rarely.

- Serious allergic reaction.
- Deep, aching pain and muscle wasting in upper arm(s). This starts 2 days to 4 weeks after the shot, and may last many months.

What to do if there is a serious reaction:

- Call a doctor or get the person to a doctor right away.
- Write down what happened and the date and time it happened.
- Ask your doctor, nurse, or health department to file a Vaccine Adverse Event Report form or call: (800) 822-7967 (toll-free)

The National Vaccine Injury Compensation Program gives compensation (payment) for persons thought to be injured by vaccines. For details call: (800) 338-2382.

If you want to learn more, ask your doctor or nurse. She/he can give you the vaccine package insert or suggest other sources of information.

Contact the Centers for Disease Control and Prevention (CDC):

Call 1-800-232-2522 (English)

Call 1-800-232-0233 (Español)

Visit the National Immunization Program's website at www.cdc.gov/nip

U.S. Department of Health and Human Services

Centers for Disease Control and Prevention

National Immunization Program

Tetanus and Diphtheria (6/10/94)

Vaccine Information Statement

Influenza (Flu)

Influenza Vaccine: What You Need to Know 2002—2003

Why get vaccinated?

Influenza (“flu”) is a serious disease. It is caused by a virus that spreads from infected persons to the nose or throat of others. Influenza can cause:

- Fever.
- Sore throat.
- Chills.
- Cough.
- Headache.
- Muscle aches.

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

The influenza vaccine can prevent influenza.

Influenza vaccine

Influenza viruses change often. Therefore, the influenza vaccine is updated each year. Protection develops about 2 weeks after getting the shot and may last up to a year. Some people who get the flu vaccine may still get the flu, but they will usually get a milder case than those who did not get the shot.

Flu vaccine may be given at the same time as other vaccines, including pneumococcal vaccine.

Who should get the influenza vaccine?

People 6 months of age and older at risk for getting a serious case of influenza or influenza complications, and people in close contact with them (including all household members) should get the vaccine.

An annual flu shot is recommended for:

- Everyone 50 years of age or older.
- Residents of long-term care facilities housing persons with chronic medical conditions.
- Anyone who has a long-term health problem with heart disease, kidney disease, lung disease, metabolic disease such as diabetes, asthma, anemia and other blood disorders.
- Anyone with a weakened immune system due to HIV/AIDS or another disease that affects the immune system, long-term treatment with drugs such as steroids, cancer treatment with x-rays or drugs.
- Anyone 6 months to 18 years of age on long-term aspirin treatment (who could develop Reye Syndrome if they catch influenza).
- Pregnant women who will be past the 3rd month of pregnancy during the flu season (usually

November through March, but past March in some years).

- Physicians, nurses, family members, or anyone else coming in close contact with people at risk of serious influenza.

An annual flu shot is also encouraged for:

- Healthy children 6-23 months of age and their household contacts and out-of-home caretakers.
- Household contacts and out-of-home caretakers of infants less than 6 months of age.
- People who provide essential community services.
- People at high risk for flu complications who travel to the Southern hemisphere between April and September, or who travel to the tropics or in organized tourist groups at any time.
- People living in dormitories or under other crowded conditions, to prevent outbreaks.
- Anyone who wants to reduce their chance of catching influenza.

When should I get influenza vaccine?

Most people need only one flu shot each year to prevent influenza. Children under 9 years old getting the flu vaccine for the first time should get 2 shots, one month apart.

The best time to get a flu shot is in October or November. But because the flu season typically peaks between January and March, vaccination in December, or even later can be beneficial in most years.

Some people should be vaccinated beginning in September or October: people 65 years of age and older, people at high risk from the flu and its complications, household contacts of these groups, healthcare workers, and children under 9 getting the flu shot for the first time. To make sure these people have access to available vaccine, others should wait until November.

Some people should talk with a doctor before getting influenza vaccine.

Talk with a doctor before getting a flu shot if you:

- Ever had a serious allergic reaction to eggs or to a previous dose of the influenza vaccine.
- Have a history of Guillain-Barré Syndrome (GBS).

If you have a fever or are severely ill at the time the shot is scheduled, you should probably wait until you recover before getting the influenza vaccine. Talk to your doctor or nurse about whether to reschedule the vaccination.

What are the risks from the influenza vaccine?

A vaccine, like any medicine, is capable of causing serious problems, such as severe allergic reactions. The risk of a vaccine causing serious harm, or death, is extremely small. Serious problems from the flu vaccine are very rare. The viruses in the vaccine have been killed, so you cannot get influenza from the vaccine.

Mild problems (if these problems occur, they usually begin soon after the shot and last 1-2 days):

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

Severe problems:

Life-threatening allergic reactions are very rare. If they do occur, it is within a few minutes to a few hours after the shot.

In 1976, the swine flu vaccine was associated with a severe paralytic illness called Guillain-Barré Syndrome (GBS). Influenza vaccines since then have not been clearly linked to GBS. However, if there is a risk of GBS from current influenza vaccines, it is estimated at 1 or 2 cases per million persons vaccinated—much less than the risk of severe influenza, which can be prevented by vaccination.

What if there is a moderate or severe reaction? What should I look for?

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

What should I do?

- Call a doctor, or get the person to a doctor right away.
- Tell your doctor what happened, the date and time it happened, and when the vaccination was given.
- Ask your doctor, nurse, or health department to report the reaction by filing an Vaccine Adverse Event Reporting System (VAERS) form. Or call VAERS yourself at 1-800-822-7967, or visit their website at www.vaers.org.

How can I learn more?

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

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Immunization Program
Influenza June 26, 2002
Vaccine Information Statement

Pneumococcal Disease

Pneumococcal Polysaccharide Vaccine: What You Need to Know

Why get vaccinated?

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

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

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

Pneumococcal polysaccharide vaccine (PPV)

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

Who should get PPV?

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

How many doses of PPV are needed?

Usually one dose of PPV is all that is needed. However, under some circumstances a second dose may be given. A second dose is recommended for those people aged 65 or older who got their first dose when they were under 65, if 5 or more years have passed since that dose. A second dose is recommended for people who:

- Have a damaged or no spleen.
- Have sickle cell disease.
- Have HIV infection or AIDS.
- Have cancer, leukemia, lymphoma, multiple myeloma.
- Have kidney failure.
- Have nephrotic syndrome.
- Have had an organ or bone marrow transplant.
- Are taking medication that lowers immunity (such as chemotherapy or long-term steroids).

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

Other facts about getting the vaccine.

Otherwise healthy children who often get ear infections, sinus infections, or other upper respiratory diseases do not need to get PPV because of these conditions.

PPV may be less effective in some people, especially those with lower resistance to infection. But these people should still get vaccinated, because they are more likely to get seriously ill from the pneumococcal disease.

Pregnancy: The safety of PPV for pregnant women has not yet been studied. There is no evidence that the vaccine is harmful to either the mother or the fetus, but pregnant women should consult with their doctor before being vaccinated. Women who are at high risk of pneumococcal disease should be vaccinated before becoming pregnant, if possible.

What are the risks from PPV?

PPV is a very safe vaccine. About half of those who get the vaccine have very mild side effects, such as redness or pain where the shot is given. Less than 1 percent develop a fever, muscle aches, or more severe local reactions.

Severe allergic reactions have been reported very rarely. As with any medicine, there is a very small risk that serious problems, even death, could occur after getting a vaccine.

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

What if there is a serious reaction? What should I look for?

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

What should I do?

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

How can I learn more?

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

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Immunization Program
Pneumococcal (7/29/97)
Vaccine Information Statement

Smallpox

Smallpox Vaccine: What You Need To Know.

What is smallpox?

Smallpox is a serious disease. It is caused by a virus called variola, which is spread from person to person through close contact.

Smallpox can cause:

- A severe rash, which can leave scars when healed.
- High fever.
- Tiredness.
- Severe headaches and backache.
- Blindness.
- Death (in up to 30 percent of those infected).

Why get vaccinated?

Smallpox vaccine protects people who work with smallpox or related viruses. It is also used to protect emergency response teams and others who are likely to be exposed to smallpox virus during a terrorist attack or emergency. During an outbreak or emergency, smallpox vaccine can protect anyone exposed to smallpox virus.

Smallpox vaccine.

Smallpox vaccine is made from a virus called vaccinia. Vaccinia virus is similar to smallpox virus, but less harmful. In a vaccine it can protect people from smallpox. The vaccine does not contain smallpox virus.

Getting the vaccine before exposure will protect most people from smallpox. Getting the vaccine within 3 days after exposure can prevent the disease or at least make it less severe. Getting the vaccine within a week after exposure can still make the disease less severe. Protection from infection lasts 3 to 5 years, and protection from severe illness and death can last 10 years or more.

Who should get smallpox vaccine and when?

Routine non-emergency use (no outbreak):

- Laboratory workers who handle cultures or animals contaminated or infected with vaccinia or other related viruses (e.g., monkeypox, cowpox, variola).
- Public health, hospital, and other personnel who may have to respond to a smallpox case or outbreak.

Emergency use (smallpox outbreak):

Who?

- Anyone directly exposed to smallpox virus.

When?

- One dose as soon as possible after exposure.

Who?

People at risk of exposure to smallpox virus, such as:

- People in close contact with smallpox patients, such as family members.
- People involved in medical care, evaluation, or transportation of smallpox patients.
- Laboratory personnel who collect or process specimens from smallpox patients.
- Anyone else at increased likelihood of contact with infectious materials from smallpox patients.
- Other groups (e.g., medical, law enforcement, emergency response, or military personnel), as recommended by public health authorities.

When?

- One dose when risk of exposure occurs or becomes known.

Vaccinated persons may need to be revaccinated after 3-10 years, if still at risk.

After the vaccination.

A blister should form at the vaccination site. Later it will form a scab. Finally the scab will fall off, leaving a scar.

Until the scab falls off, you can spread vaccinia virus to other people or to other parts of your own body.

To prevent this, keep this area loosely covered with a gauze bandage. (Healthcare workers may need additional measures, such as semi-permeable dressing covering the gauze.)

Change the bandage every 1-2 days, and keep the area dry. Cover with a waterproof bandage while bathing. Don't touch the vaccination site and then another part of your body without washing your hands first. Don't scratch or put ointments on the vaccination site. **Don't touch your eyes or any part of your body after changing the bandage or touching the vaccination site.** Wash your hands after touching the vaccination site or bandages, clothing, sheets or towels that have touched the site. Put used bandages in a plastic zip bag before throwing them away. Do the same with the scab when it falls off. Launder items that have touched the vaccination site.

The vaccination site should be checked after about 7 days to make sure the vaccine is working.

Some people should not get smallpox vaccine or should wait.

Routine non-emergency use (no outbreak):

- Anyone who has eczema or atopic dermatitis, or has a past history of either condition, should not get smallpox vaccine.
- Anyone with a skin condition that causes breaks in the skin (such as allergic rash, severe burn, impetigo, chickenpox, shingles, or severe acne) should wait until the condition clears up before getting smallpox vaccine.

- Anyone whose immune system is weakened should not get smallpox vaccine, including anyone who:
 - Has HIV/AIDS or another disease, such as lupus, that affects the immune system.
 - Is being treated with drugs that affect the immune system, such as steroids, for 2 weeks or longer.
 - Has leukemia, lymphoma, or most other cancers.
 - Is taking cancer treatment with x-rays or drugs.
- Pregnant women should not get smallpox vaccine.
- Anyone who has close personal contact with a person who has any of the above conditions also should not get smallpox vaccine.
- People should not get smallpox vaccine who have ever had a life-threatening allergic reaction to polymyxin B, streptomycin, chlortetracycline, neomycin, or a previous dose of smallpox vaccine.
- People who are moderately or severely ill at the time the vaccination is scheduled should usually wait until they recover before getting smallpox vaccine.
- Breastfeeding mothers should not get smallpox vaccine.

Emergency use (smallpox outbreak):

- Anyone who has been directly exposed to smallpox virus should be vaccinated, regardless of age, allergies, pregnancy, or medical conditions.
- Anyone who may have been exposed should follow the advice of their physician or public health officials.

What are the risks from smallpox vaccine?

A vaccine, like any medicine, can cause serious problems, such as severe allergic reactions. The risk of smallpox vaccine causing serious harm, or death, is very small.

Mild to moderate problems:

- Mild rash, lasting 2-4 days.
- Swelling and tenderness of lymph nodes, lasting 2-4 weeks after the blister has healed.
- Fever of over 100°F (about 70 percent of children, 17 percent of adults) or over 102°F (about 15-20 percent of children, under 2 percent of adults).
- Secondary blister elsewhere on the body (about 1 per 1,900).

Moderate to severe problems:

- Serious eye infection or loss of vision, due to spread of vaccine virus to the eye.
- Rash on entire body (as many as 1 per 4,000).
- Severe rash on people with eczema (as many as 1 per 26,000).
- Encephalitis (severe brain reaction), which can lead to permanent brain damage (as many as 1 per 83,000).
- Severe infection beginning at the vaccination site (as many as 1 per 667,000, mostly in people with weakened immune systems).

For every million people vaccinated, between 14 and 52 could have a life-threatening reaction to smallpox vaccine.

People who come in direct contact with the vaccination site of a vaccinated person, or with materials that have touched the site, can also have a reaction. This is from exposure to virus from the vaccination site.

What if there is a moderate or severe reaction?

What should I look for?

Any unusual condition, such as a high fever or behavior changes, severe rash over entire body, or a reaction that spreads from the vaccination site and does not get better. Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, hives, paleness, weakness, a fast heart beat or dizziness.

What should I do?

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

How can I learn more?

- Ask your doctor or nurse. They can show you the vaccine package insert or suggest other sources of information.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
Call 1-888-246-2675 (English)
Call 1-888-246-2857 (Español)
Call 1-866-874-2646 (TTY)
- Visit CDC's smallpox website at www.bt.cdc.gov/agent/smallpox/

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Immunization Program
Smallpox (12/11/02)
Vaccine Information Statement

White House FAQ on Smallpox Vaccination Program

13 December 2002

Smallpox Response Teams

Why vaccinate healthcare workers and first responders?

We're asking these groups to volunteer to serve on smallpox response teams to help our country respond in the event of an attack. By vaccinating groups of healthcare workers and emergency responders, we will make sure that smallpox response teams are available who can vaccinate others and provide critical services in the days following an attack. This approach will make us better able to protect the American people in an emergency, which is our highest priority.

What will the smallpox response teams do?

Members of the Smallpox Response Teams will include people who will administer the smallpox vaccine in the event of an emergency and will be the first to investigate and evaluate initial suspected case(s) of smallpox and initiate measures to control the outbreak.

HHS and CDC will continue to advise and assist states in development of these teams.

How will the government decide who should serve on a smallpox response team?

State officials—in consultation with CDC and local health departments—are working to identify healthcare workers and first responders who could serve on response teams following a smallpox release. Participation on these teams and in the vaccination program is purely voluntary.

How many first responders and healthcare workers will be vaccinated?

We have asked states to identify workers who might serve on smallpox response teams to vaccinate others and provide critical services in the days following an attack. We are working with states to determine the exact number of individuals who will fall in these categories. To protect the American people, the important thing is to ensure that we have healthcare workers and first responders ready to serve as smallpox response teams. However, we expect that some of the people identified by the states will not be eligible for vaccination because of a medical condition, and others may choose not to be vaccinated.

It has been reported that we will be vaccinating up to 10 million healthcare workers and first responders. However, we do not expect that the numbers of first responders and healthcare workers vaccinated in this part of the program to be that high.

Are we less prepared to protect the American people if we don't get participation from millions of public health and healthcare workers or first responders?

Whatever the number of people who choose to participate and get vaccinated, we will be much more prepared to protect the American people than we are today.

Also, the very fact that states, hospitals and communities will have vaccination plans—for

emergency responders and for mass-vaccinating the general public—makes us better prepared to protect Americans in an emergency.

These efforts will increase deterrence.

Will you administer tests to ensure that healthcare workers and first responders receiving the vaccine are not pregnant or HIV positive?

Every person volunteering to receive the vaccine will be asked detailed questions regarding their medical history and physical health and will be educated to the risks and possible side effects of the vaccine. If there is any indication that a person has a contraindication for the vaccine, the individual will be referred to the local public health department or another healthcare provider for testing.

How can a person protect against the risk of inadvertent transmission of the vaccine to another person?

Anyone receiving the vaccine will be instructed on several readily available steps to prevent the accidental transmission of the vaccine to another person. For example, the vaccinated person should use breathable bandages, wear a long-sleeve shirt, and use good hand hygiene.

How will the government monitor and report side effects?

The CDC is enlisting an outside group that will constitute an external data monitoring and safety review board. This external review board will review, in real time, vaccine adverse event reports and data, interpret findings, and provide guidance and advice for strengthening the overall safety of the program if needed.

How does this decision differ from the vaccination program in Israel? The vaccination program in the U.K.?

Israel is vaccinating healthcare workers and military personnel who were previously vaccinated. In the U.K., a small group of roughly 1000 people are being vaccinated.

Is it true that those who were vaccinated previously have a lower risk of adverse reaction?

Those who were vaccinated previously may have a lower risk of adverse reactions. It is appropriate for individuals, in deciding whether to be vaccinated, to consider whether they were vaccinated previously.

How will vaccine adverse events be handled? What protocols will be followed for actual or claimed serious adverse events?

Prospective vaccinees will be educated about the contraindications to smallpox vaccination in order to minimize serious adverse reactions to the vaccine. A good system to monitor and treat adverse events will be an integral part of this policy, and will be done in close collaboration between the CDC, states, and public health agencies and hospitals. The states will maintain records of people vaccinated and will work with hospitals to set up systems to diagnose, manage, and treat people who experience adverse reactions from the vaccine. This will include rapid access to the primary treatment for most serious adverse events, Vaccinia Immune Globulin

(VIG).

It is expected that most of the side effects caused by smallpox vaccinations will not require special treatment or therapy. There are two treatments that may help people who have certain serious reactions to the smallpox vaccine. These are: Vaccinia Immune Globulin (VIG) and Cidofovir. Patients receiving these drugs would need to stay in the hospital for observation and possible additional treatment, as the VIG and Cidofovir may cause a number of side effects as well. CDC will review summary reports of adverse events and will investigate all individual reports of serious events.

General Public

What is the current threat assessment? Who are likely countries to obtain and use the virus?

Terrorists or governments hostile to the United States may have, or could obtain, some of the variola virus that causes smallpox disease. If so, these adversaries could use it as a biological weapon. This potential along with an appreciation for the potentially devastating consequences of a smallpox attack, suggests that we should take prudent steps to prepare our critical responders to protect the American public should an attack occur. People exposed to variola virus, or those at risk of being exposed, can be protected by vaccinia (smallpox) vaccine. The United States is taking precautions to deal with this possibility.

If a person wants to sign up to receive the vaccine as soon as possible, what should they do?

The federal government is not recommending that members of the general public be vaccinated at this point. Our government has no information that a biological attack is imminent, and there are significant side effects and risks associated with the vaccine. HHS is in the process of establishing an orderly process to make unlicensed vaccine available to those adult members of the general public without medical contraindications who insist on being vaccinated either in 2003, with an unlicensed vaccine, or in 2004, with a licensed vaccine. (A member of the general public may also be eligible to volunteer for an on-going clinical trial for next generation vaccines).

How long will it take before HHS begins administering vaccines to the general public under the new program?

Again, we do not recommend at this point that the general public be vaccinated. However, we expect to be able to make the unlicensed vaccine available to those who insist on being vaccinated sometime this spring. The immediate task for state and federal government will remain the implementation of our program to vaccinate our emergency responders. This is necessary to best protect Americans in the event of a release.

Of course, in the event of an actual attack, we will immediately make vaccine available to those at risk from disease.

Who will administer the vaccines?

State health departments, with guidance from CDC, will set up vaccination clinics and determine who will be staffing clinics and administering smallpox vaccine. The number of vaccination sites will be determined in the state plans, and depends in large part on the demand for the vaccines. CDC is assisting states with planning, technical assistance and education.

If you aren't recommending that the general public be vaccinated, why are you setting up this special program to allow them to get the vaccine?

We understand that some Americans will want to be vaccinated despite the risks. The President decided that the best course was to provide Americans with as much information as we can, help them weigh the risks, then let them decide for themselves.

Will you administer tests to ensure that members of the general public receiving the vaccine are not pregnant or HIV positive?

Every person volunteering to receive the vaccine will be asked detailed questions regarding their medical history and physical health. They will be educated to the risks and possible side effects of the vaccine. If there is any indication that a person has a contraindication for the vaccine, the individual will be referred to the local public health department or another healthcare provider for testing.

How will the government monitor and report side effects?

The CDC will enlist an outside group to constitute an external data monitoring and safety review board. This external review board will review vaccine adverse event reports and data, interpret findings, and provide guidance and advice for strengthening the overall safety of the program.

Military Personnel**Why are we vaccinating servicemembers?**

We are concerned that terrorists or governments hostile to the United States may have, or could obtain, some of the variola virus that causes smallpox disease. If so, these adversaries could use it as a biological weapon. People exposed to variola virus, or those at risk of being exposed, can be protected by vaccinia (smallpox) vaccine.

Who in DoD is going to get the smallpox vaccine?

As part of this plan, the decision at this time is to vaccinate certain emergency response and medical personnel and other designated personnel that constitute critical mission capabilities, to include those essential to the accomplishment of U.S. Central Command's missions. The Department may expand the program at a later date.

The decision will be implemented using a portion of the existing licensed supplies of smallpox vaccine.

Will servicemembers still be deployable if they have not received the smallpox vaccine?

Yes, if they are in one of the groups that should not receive the smallpox vaccine they will still be deployable. In the event of an actual smallpox attack their vaccination status will be reevaluated.

When are the smallpox vaccinations going to start?

Smallpox vaccinations of DoD personnel will begin as soon as the vaccine is in place and medical training and troop education have been accomplished.

Has the Department of Defense vaccinated people against smallpox before?

Yes, the Department conducted major vaccination programs during WWI and WWII and servicemembers were routinely vaccinated from the 1940s until 1984. In 1984, routine military vaccinations were limited to recruits entering basic training. Between 1984 and 1990, recruit vaccinations were intermittent. In 1990, the Department of Defense discontinued vaccination of recruits.

How does the threat of a smallpox attack on US forces compare with that of an anthrax attack?

They are both known threats. Many factors go into such determinations including intelligence information, known capabilities and other variables. While we cannot quantify the threat of either one being used as a bioweapon, we know the consequences of their use could be great. Vaccination is a wise, logical step to ensure preparedness for the U.S.

Will the people receiving anthrax vaccinations be the same ones receiving the smallpox vaccinations?

Generally speaking, forces currently designated to receive anthrax vaccine also will receive smallpox vaccine. Additional forces will be vaccinated against smallpox given that smallpox, unlike anthrax, is contagious and can be prevented only with vaccine. The Secretary of Defense may decide in the future to expand the scope of both the anthrax and smallpox vaccination programs.

How does the smallpox vaccination interact with other drugs and vaccinations?

The smallpox vaccine should not be given to people taking medications that suppress their immune system. Smallpox vaccines should be spaced by one month from chickenpox vaccination. Other combinations of vaccines (e.g. smallpox and influenza or smallpox and anthrax) can be given.

Why is the Department of Defense administering the smallpox vaccine?

We cannot quantify the threat that smallpox would be used as a bioweapon, but we do know that the consequences of its use could be great. Military missions must go on even if a smallpox outbreak occurs. It may not be feasible to vaccinate military forces soon after exposure if they are deployed to remote locations and/or engaged in military operations. Some military personnel will not be able to postpone vital missions if smallpox is used as a weapon. Vaccination is a wise course for preparedness and may serve as a deterrent.

What should a person do if they don't get a blister?

If someone does not get the expected vaccination site reaction, they need to be revaccinated. If someone has a question or concern about the smallpox vaccination site they should contact their primary-care manager, medical department representative or their healthcare provider.

What should a person do if they have any adverse reactions?

If a person suspects an adverse reaction from the smallpox vaccine he or she should seek care from their primary-care manager, medical department representative, or go to their healthcare provider as soon as possible.

They should request that their healthcare provider file a Vaccine Adverse Event Reporting System (VAERS) form. If they don't believe their reaction is serious enough to visit a medical treatment facility, but they still wish to report it, they can contact VAERS themselves at 1.800.822.7967 or file a report at the following website: www.vaers.org.

What if somebody has already been vaccinated?

Immunity from smallpox vaccination decreases with the passage of time. Past experience indicates that the first dose of the vaccine offers protection from smallpox for three to five years, with decreasing immunity thereafter. If a person is vaccinated again later, immunity lasts longer. A report from Europe suggests that people vaccinated 10 or 20 or more years ago have enough immunity to lessen their chance of death if infected. However, these people need another dose of smallpox vaccine to restore their immunity.

State Department and Overseas Issues**Has the Department decided to vaccinate its personnel against smallpox or anthrax?**

The Department plans to offer, on a voluntary basis, vaccination against anthrax and smallpox to personnel at certain posts.

While it is impossible to quantify the threat that such bioweapons could be used, we know that the consequences of such use could be very grave. In that context, the Department believes offering the vaccine is a wise step.

What if someone cannot take the vaccine? Is the Department planning to evacuate those persons?

Pre-exposure administration of the vaccines is considered the most effective means to protect against these two health risks. However, we understand that there will be a number of people who cannot, or opt not to, receive the vaccines. We will be prepared to offer the vaccines or other appropriate treatment in the event of actual exposure.

Does Iraq have smallpox? Do you believe that Iraq may use a smallpox weapon if attacked by the United States?

It is possible, but not confirmed, that Iraq possesses the virus that causes smallpox. By protecting ourselves to respond to any smallpox attack, including through pre-exposure and post-

exposure vaccination plans, we also help deter such attacks.

What is the Department planning to do for private American citizens in that region?

We provide extensive information to the American public about travel, security, health, and other conditions abroad to assist private Americans in making individual decisions about their own security and risks. We are following the same approach in this instance.

Has the Department told American citizens to leave the Middle East because of these biological threats? Have any warden messages been prepared for a possible attack?

The Department of State has issued a Worldwide Caution Public Announcement and a Middle East and North Africa Update that alerts American citizens to the continuing threat of terrorist actions that may target private Americans. The Department of State works with posts to disseminate threat information through its warden network when specific information is available. At present, there is no specific information to indicate that there is a likelihood of use of anthrax or smallpox as a weapon in the immediate future. Also, a Chemical-Biological Agent Fact Sheet, which includes information on anthrax and smallpox, is available on the Consular Affairs website at: travel.state.gov.

Are we planning to assist any other country in obtaining supplies of vaccines?

The United States recognizes that a smallpox attack in any nation is a potential threat to all nations. The United States, therefore, will work with like-minded nations and the World Health Organization (WHO) to facilitate and coordinate nations' access to existing global smallpox vaccine supplies and to increase the global supply through new production.

Will smallpox vaccine be provided to other countries for their civilian populations?

The United States will work with like-minded nations and the WHO to facilitate and coordinate nations' access to existing global smallpox vaccine supplies and to increase the global supply through new production.

Will the United States assist nations in the event of an actual smallpox or anthrax attack?

Recognizing the global threat posed by a bioweapon attack, the U.S. Government stands prepared to lend all feasible assistance in the event of an actual anthrax or smallpox attack against a country.

Anthrax

Anthrax Vaccine: What you need to know

What is anthrax?

Anthrax is a serious disease that can affect both animals and humans. It is caused by bacteria called *Bacillus anthracis*. People can get anthrax from contact with infected animals, wool, meat, or hides. In its most common form, anthrax is a skin disease that causes skin ulcers and usually fever and fatigue. Up to 20 percent of these cases are fatal if untreated.

When *B. anthracis* is inhaled, as when used as a biological weapon, it is much more serious. The first symptoms may include a sore throat, mild fever and muscle aches. But within several days these symptoms are followed by severe breathing problems, shock, and often meningitis (inflammation of the brain and spinal cord covering). Once symptoms appear, this form of anthrax is almost always fatal, despite treatment with antibiotics.

What is anthrax vaccine?

Anthrax vaccine protects against anthrax disease. The U.S. vaccine does not contain actual *B. anthracis* cells and it does not cause anthrax disease. Anthrax vaccine was licensed in 1970.

Based on limited but convincing evidence, the vaccine protects against both cutaneous (skin) and inhalational anthrax.

Who should get anthrax vaccine and when?

People 18 to 65 years of age potentially exposed to large amounts of *B. anthracis* bacteria on the job, such as laboratory workers.

Military personnel who may be at risk of anthrax exposure from weapons.

The basic vaccine series consists of 6 doses:

- The first three doses are given at two-week intervals.
- Three additional doses are given, each one 6 months after the previous dose.

Annual booster doses are needed for ongoing protection.

If a dose is not given at the scheduled time, the series does not have to be started over. Resume the series as soon as practical.

Anthrax vaccine may be given at the same time as other vaccines.

Some people should not get anthrax vaccine or should wait:

- Anyone who has had a serious allergic reaction to a previous dose of anthrax vaccine should not get another dose.
- Anyone who has recovered from cutaneous (skin) anthrax should not get the vaccine.

- Pregnant women should not be routinely vaccinated with anthrax vaccine. This is merely a precaution. There is no evidence that the vaccine is harmful to either a pregnant woman or her unborn baby. Vaccination *may* be recommended for pregnant women who have been exposed, or are likely to be exposed, to anthrax.

There is no reason to delay childbearing after either the man or the woman gets anthrax vaccine.

Vaccines, including anthrax vaccine, are safe to give to breast-feeding women.

What are the risks from anthrax vaccine?

Getting anthrax disease is much more dangerous than any risk from the vaccine. Like any medicine, a vaccine is capable of causing serious problems, such as severe allergic reactions. The risk of anthrax vaccine causing serious harm, or death, is extremely small.

Mild problems:

- Soreness, redness, or itching where the shot was given (about 1 out of 10 men, about 1 out of 6 women).
- A lump where the shot was given (about 1 person out of 2).
- Muscle aches or joint aches (about 1 person out of 5).
- Headaches (about 1 person out of 5).
- Fatigue (about 1 out of 15 men, about 1 out of 6 women).
- Chills or fever (about 1 person out of 20).
- Nausea (about 1 person out of 20).

Moderate problems:

- Large areas of redness where the shot was given (up to 1 person out of 20).

Severe problems:

- Serious allergic reactions (very rare—less than once in 100,000 doses).

As with any vaccine, other severe problems have been reported. But these events appear to occur no more often among anthrax vaccine recipients than among unvaccinated people.

There is no evidence that anthrax vaccine causes sterility, birth defects, or long-term health problems.

Independent civilian committees have not found anthrax vaccination to be a factor in unexplained illnesses among Gulf War veterans.

What if there is a moderate or severe reaction?

What should I look for?

Any unusual condition, such as a severe allergic reaction or a high fever. If a severe allergic reaction occurred, it would happen within a few minutes to an hour after the shot. Signs of a serious allergic reaction can include difficulty breathing, weakness, hoarseness or wheezing, a fast

heart beat, hives, dizziness, paleness, or 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 report the reaction by filing a Vaccine Adverse Event Reporting System (VAERS) form. Or call VAERS yourself at 1-800-822-7967, or visit their website at www.vaers.org.

How can I learn more?

- Ask your doctor or other healthcare provider. They can give you the vaccine package insert or suggest other sources of information.
- Contact the Centers for Disease Control and Prevention (CDC):
Call 1-800-232-2522 (English)
Call 1-800-232-0233 (Español)
- Visit the CDC’s website at www.cdc.gov/ncidod/dbmd/diseaseinfo/anthrax_g.htm
- Contact the U.S. Department of Defense (DoD):
Call 1-877-438-8222
- Visit the DoD website at www.anthrax.osd.mil

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Immunization Program
Anthrax November 6, 2000
Vaccine Information Statement

Recommended Childhood Immunization Schedule United States *(Source: CDC)*

CHILDHOOD SCHEDULE

For additional information about vaccines, including precautions and contraindications for immunization and vaccine shortages, please visit the National Immunization Program Web site at www.cdc.gov/nip/ or call the National Immunization Information Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

Approved by the Advisory Committee on Immunization Practices (www.cdc.gov/nip/acip/), the American Academy of Pediatrics (www.aap.org), and the American Academy of Family Physicians (www.aafp.org).

Recommended Adolescent Immunization Schedule United States *(Source: CDC)*

ADOLESCENT SCHEDULE

Reporting Adverse Reactions: Report adverse reactions to vaccines through the federal Vaccine Adverse Event Reporting System. For information on reporting reactions following immunization, please visit www.vaers.org or call the 24-hour national toll-free information line (800) 822-7967.

Disease Reporting: Report suspected cases of vaccine-preventable diseases to your state or local health department.

For additional information about vaccines, including precautions and contraindications for immunization and vaccine shortages, please visit the National Immunization Program Web site at www.cdc.gov/nip or call the National Immunization Information Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

**Recommended Adult Immunization Schedule
United States (Source: CDC)**

[ADULT SCHEDULE](#)

Vaccine Recording and Screening Forms *(Source: CDC)*

[FORMS](#)

Vaccine Recommendations and Guidelines (Source: CDC)

RECOMMENDATIONS and GUIDELINES

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Unit 2: Disease Prevention Instructional Activities

To view the following activities, click on the websites below.

Ages 2-6

www.pkids.org/262.pdf

Ages 6-9

www.pkids.org/692.pdf

Ages 9-12

www.pkids.org/9122.pdf

Teens

www.pkids.org/teen2.pdf

Adults

www.pkids.org/adult2.pdf