

Facts About Childhood Immunizations



What Is The Arc's Position?

Prevention programs must include mandatory immunizations for children for all preventable contagious diseases. Read the full Position Statement at <http://www.thearc.org/page.aspx?pid=2384>

For more information:
CDC National Immunization
Information Hotline: 1-800-CDC-
INFO (English) or www.cdc.gov/vaccines/

Immunization Action Coalition:
www.immunize.org.

Every Child By Two: www.ecbt.org.

National Vaccine Injury
Compensation Program: www.hrsa.gov/Vaccinecompensation/

The Arc
1825 K Street NW
Suite 1200
Washington, D. C. 20006
Phone: 202.534.3700
Toll free: 800.433.5255
Fax: 202.534.3731
www.thearc.org

Why Are Immunizations Important for All Children?

Prior to widespread immunization in the United States, infectious diseases killed or disabled thousands of children each year. The near elimination of intellectual disabilities due to measles encephalitis, congenital rubella syndrome, and Haemophilus influenzae type b meningitis or Hib can be contributed to vaccines (Alexander, 2000).

Because the vaccines are so effective in preventing childhood diseases, many have forgotten how serious it is for children to get them. Today, viruses and bacteria that cause vaccine-preventable disease and death still exist and can be passed on to people who are not protected by vaccines. (Centers for Disease Control and Prevention, 2000a).

Which Childhood Diseases May Cause Intellectual Disability?

According to the Centers for Disease Control and Prevention (CDC), brain damage may occur when a child catches pertussis (whooping cough), measles, mumps, Hib disease, or varicella (chicken pox). Rubella affects pregnant women who have a 90 percent chance of having a baby with serious birth defects and intellectual disabilities if they get the disease early in pregnancy (CDC 2000a). The disease is usually mild in children.

Encephalitis, an inflammation of the brain, is the cause of brain damage in pertussis, measles and mumps. Pertussis is also a cause of death in one of 200 infants who are more seriously affected than older children. Measles results in death in one of every 3,000 children who get it (CDC, 2000b).

Before the vaccine was introduced, Hib disease was the most common cause of bacterial meningitis. One out of 20 children who got Hib meningitis died and 10-30 percent of survivors had permanent brain damage (CDC, 2000c).

Even varicella (chicken pox) may have complications that include bacterial infection of the skin, swelling of the brain, and pneumonia. Before the vaccine became available, there were 11,000 hospitalizations for chicken pox in the United States, with up to 100 deaths (CDC, 2000a).

It is clear that many lives can be saved through vaccination. Not only are children who are vaccinated protected; other children around them are protected when most

children are immunized. There are a small number of children who cannot be vaccinated (because of severe allergies to vaccine components, for example), and a small percentage who don't respond to vaccines. These children are susceptible to disease, and their only hope of protection is that children around them are immune and cannot pass disease along to them.

What Types of Vaccines Are Now Available?

- HepB – Protects against hepatitis B (liver infection)
- DTaP – Protects against diphtheria (severe infection of the throat and respiratory tract), tetanus (or “lock-jaw,” a serious neurological disorder that may occur from a contaminated wound) and pertussis (whooping cough)
- Hib – Protects against *Haemophilus influenzae* type b (a bacteria that causes meningitis, pneumonia and skin and throat infections)
- PCV – Protects against pneumococcal disease
- Polio – Protects against polio (a virus that attacks the spinal nerves, causing paralysis)
- MMR – Protects against measles, mumps and rubella (German measles) (viral infections characterized by rashes, fever, and potentially serious side effects such as heart damage, pneumonia, infertility and birth defects when pregnant women are infected)
- Varicella – Protects against chickenpox (a viral skin disease)
- RV – Protects against infections caused by rotavirus

- Influenza – Protects against the flu
- HepA – Protects against hepatitis A

What Is the Recommended Vaccination Schedule for Children?

Children need to receive almost all of their vaccinations in the first two years of life. For some diseases, “booster” shots are needed between the ages of 4 and 6, and again between ages 11 and 12. Influenza (flu) vaccine is recommended every winter for children 6 months of age and older. This is the current recommended schedule (CDC, 2011):

At birth: HepB

2 months: HepB (1-2 months) +

DTaP = PCV13 + Hib + Polio + RV

4 months: DtaP + PCV13 + Hib +

Polio + RV

6 months: HepB (6-18 months) +

DTaP + PCV13 + Hib + Polio (6-18

months) + RV

12 months: MMR (12-15 months) +

PCV13 (12-15 months) + Hib (12-15

months) + Varicella (12-15 months)

=HepA (12-23 months)

15 months: DtaP (15-18 months)

Updates to this list are published every year and should be consulted on CDC's National Immunization Program web site: <http://www.cdc.gov/vaccines/>.

How Do Vaccines Work?

Vaccines are usually given as a shot. They contain a weakened or killed form of the disease-causing bacteria or virus to which the body builds defenses (called antibodies). These antibodies help the body recognize and

prevent the disease from occurring if a person is exposed to the disease in the future. Having antibodies to prevent disease is called immunity (JAMA, 1999).

What About the Safety of These Vaccines?

While vaccines are extremely safe and effective, none are 100 percent safe or effective. Serious reactions to vaccines are extremely rare, but do occur. However, the risks of serious disease from not vaccinating are far greater than the risks of serious reaction to the vaccination (CDC, 2000c). One study showed that children who were not immunized for measles were 35 times more likely to get this disease than those children who were vaccinated (JAMA, 1999).

Vaccines can and often do cause minor reactions such as redness and swelling at the site of the injection. Vaccines may cause fever and rash. And very rarely, they can induce seizures, swelling of the brain, or severe allergic reactions. About 1 in 1 million children who get MMR develop encephalitis or severe allergic reaction, and 0-10.5 in 1 million who got DTP developed acute encephalopathy (CDC, 2000b). Today, DTaP vaccine has replaced DTP as a safer alternative.

How Can Parents Learn More About the Risks and Benefits of Vaccines?

Parents should be fully informed about the risks and benefits of vaccination by talking to a trusted health care provider. By law, parents must receive written materials about vac-

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cine risks and benefits before a vaccine is administered (CDC, 2000e). CDC publishes easy to read "Vaccine Information Sheets" on each of the vaccines. These are the ones health professionals give to families prior to vaccination. They can be found on CDC's web site at <http://www.cdc.gov/vaccines/>. Each two-page fact sheet covers the reasons for the vaccination, who should get it and when, who should not get the vaccine or wait, the risks from the vaccine, and what to do if there is a reaction to the vaccine.

Information about the National Vaccine Injury Compensation Program is also included (www.hrsa.gov/Vaccinecompensation/). This is a federal program created to help pay for the care of those who have been harmed through vaccination. The CDC fact sheets provide information on how to identify a vaccine reaction and advise a parent on how to report a vaccine reaction. If needed for reporting, the health care provider must maintain the date of administration, vaccine manufacturer, and lot number in the patient's permanent medical record.

Children should wait to get a vaccine if they have a moderate or severe illness, moderate to severe diarrhea or vomiting or moderate to severe otitis media (ear infection). Children can be vaccinated if they have a mild illness like a cold, earache, mild fever or diarrhea. If they have had a moderate or serious reaction to a vaccine, they should not get another dose.

Certain children should avoid specific vaccines or should wait to receive a particular vaccine. Before receiving DTaP vaccine, the doctor should be

told if a child has ever had a seizure, has a parent, brother or sister who has had a seizure or has a brain problem that is getting worse. Children should not get Hib vaccine if they are less than 6 weeks of age. They should not get MMR if they have ever had a life-threatening allergic reaction to gelatin or the antibiotic neomycin, and they should check with their doctor about taking the vaccine for several other conditions related to the immune system, cancer and a low platelet count. These are examples of precautions contained in the vaccine information sheets that parents should note. While serious reactions to vaccines are rare, parents should carefully review precautions affecting their child with their health care provider.

Are Vaccines Safe? Can They Cause Autism?

In the vast majority of cases, vaccines are effective and cause no side effects or only mild reactions such as fever or soreness at the injection site. Serious reactions to vaccines are extremely rare, but do occur. However, the risks of serious disease from not vaccinating are far greater than the risks of serious reaction to the vaccination. Very rarely they can induce seizures, swelling of the brain, or severe allergic reactions. Due to the substantial rise in the number of autism cases, some have believed that vaccinations have played a role in the rise of autism in children. However, this theory has been extensively tested in at least a dozen rigorous scientific studies which have overwhelmingly failed to show any connection between vaccines and autism. The Institute of Medicine, an

independent, objective advisor to the nation on health, reviewed these studies and found no plausible evidence that vaccines cause autism (CDC, 2010). Deciding not to immunize a child puts that child and others who come in contact with him or her at risk of contracting a disease that could be dangerous or even deadly.

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