

# Vaccination Information for Parents

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### Why Vaccinate Children?

The decision to not immunize a child is extremely risky. Children who are not immunized are in danger of catching a deadly disease. By having your child vaccinated, you protect him or her and future generations. Some facts about a few of the diseases that are prevented by vaccines can be found in Table 1 below.

### Are Vaccines Safe?

In 1994, a study came out that said the Measles/Mumps/Rubella (MMR) vaccine was linked to autism, due to an ingredient in the

vaccine called thimerosal. Autism is a disorder that seems to affect the brain's development of communication skills. Research has shown that there is no link between vaccines and autism. The paper that originally stated the link in 1998 has been withdrawn. Another myth about vaccines is that they can cause a person to come down with the disease that the vaccine is protecting against. This is not true. When you get a vaccine, your body reacts by strengthening its defense system. This might feel like having the disease, even though you don't.

### Side Effects of Vaccines

Vaccines do have some side effects. Redness, soreness and itching at the site of injection, as well as a possible low-grade fever may occur. For the most part, these reactions are minor and resolve within a few days. Children's Tylenol® or Children's Motrin® (not aspirin) can be taken to help with soreness or

fever. Children's Benadryl® can be taken for the itching. Ask your pharmacist for help with dosing. If these side effects don't go away within a few days, talk to your doctor.

### A Story About a Boat

The following short story shows how important it is to keep vaccinating children. Vaccination is like bailing water out of a boat with a small leak. When we started bailing (vaccinating), the boat was full of water (disease). Now that we've been bailing for a while, the boat is almost dry. We could throw away the bucket and relax, but the leak is still there. Over time, water would continue to get in, getting up to the level we started from. Unless we can completely stop the leak (kill the disease), we need to keep bailing (vaccinating). Let's keep the boat dry for the future by vaccinating our children!

**Table 1: Some Diseases that Childhood Vaccines Prevent**

Disease	Risks	Before Vaccines	After Vaccines
<b>Polio</b>	Paralysis, which can cause: <ul style="list-style-type: none"> <li>• Lasting disability</li> <li>• Death</li> </ul>	In 1988: <ul style="list-style-type: none"> <li>• 350,000 cases in 125 countries</li> </ul>	In 2006: <ul style="list-style-type: none"> <li>• 2,000 cases in 17 countries</li> </ul>
<b>Varicella (Chicken Pox)</b>	<ul style="list-style-type: none"> <li>• A highly contagious disease</li> <li>• Usually mild in school aged children</li> <li>• Can be very bad in infants, adults and during pregnancy</li> </ul>	Per year: <ul style="list-style-type: none"> <li>• 4 million cases</li> <li>• 11,000 hospitalizations</li> <li>• 100-150 deaths</li> </ul>	90 percent reduction in cases, hospitalizations and deaths
<b>Mumps</b>	<ul style="list-style-type: none"> <li>• Deafness</li> <li>• Swelling of the brain and spinal cord, causing seizures and paralysis</li> </ul>	In 1964: <ul style="list-style-type: none"> <li>• 212,000 cases</li> </ul>	In 2001: <ul style="list-style-type: none"> <li>• 266 cases</li> </ul>
<b>Tetanus (Lockjaw)</b>	<ul style="list-style-type: none"> <li>• Muscle stiffness and spasms</li> <li>• Trouble breathing and eating due to the throat closing</li> <li>• 20 percent of reported cases cause death</li> </ul>	In the 1920s: <ul style="list-style-type: none"> <li>• 1,314 cases</li> </ul>	In 2000: <ul style="list-style-type: none"> <li>• 41 cases</li> </ul>
<b>Haemophilus influenzae type B (HIB)</b>	<ul style="list-style-type: none"> <li>• Was once the most common cause of meningitis</li> <li>• Long-term effects include deafness, seizures, mental retardation and death</li> </ul>	600 children died each year	Disease has declined by 98 percent
<b>Hepatitis B</b>	One million deaths each year due to liver disease or liver cancer	In the 1980s: <ul style="list-style-type: none"> <li>• 450,000 new cases each year</li> </ul>	In 1999: <ul style="list-style-type: none"> <li>• 80,000 new cases</li> <li>• Greatest decrease in children and teenagers</li> </ul>

For more information regarding when your child should be vaccinated, visit the Centers for Disease Control and Prevention Web site at [www.cdc.gov/vaccines/recs/schedules/child-schedule.htm#printable](http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm#printable).

**For more information, ask your pharmacist!**

This information is provided by Michigan Pharmacists Association and:

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## Live vs. Inactivated Vaccines

Timing plays an important role when administering vaccines. Patients may receive any vaccine on a given day, which means they may receive multiple live and inactive vaccines. However, if the live intranasal flu vaccine or any of the live injectable vaccines are not administered on the same day, a period of four weeks should lapse before giving another live vaccine. If they are given less than four weeks apart, then another dose of the second live vaccine should be administered. The reason for this is that the immune response to the first live vaccine has the potential to interfere with the response to the second live vaccine. The four-week interval helps prevent this from occurring. Oral live vaccines are an exception, and they may be given at any time. Also, inactivated vaccines may be given at any time after or before live vaccines and other inactivated vaccines. Pregnant women may receive inactivated vaccines with the exception of the HPV vaccine (lack of safety information). When considering live vaccines, they should not be given to pregnant women.

## Vaccine Storage and Handling

Storage and handling of vaccines is very important in the community setting. These key concepts should be addressed when dealing with vaccines:

- Temperature should be monitored and recorded twice daily (log should be kept).
- Vaccines should not be stored with food or beverages.

## Administration

Needle size is important when administering vaccines and may vary depending on patient size and volume. However, for subcutaneous injections (SubQ), a 5/8-inch needle, and for intramuscular injections, a 1 to 1.5-inch needle, is recommended.

- Newborns: 5/8-inch needle
- Infants: 1-inch needle
- Toddlers, children and teens: 5/8 to 1 1/4-inch needle (varies on the injection site)

## New Approved Vaccine for Children: Prevnar 13®

Prevnar 13® was FDA approved in February 2010 and will soon replace Prevnar 7®. Instead of covering only seven strains of *Streptococcus pneumoniae*, Prevnar 13® will protect against six additional serotypes that have become more common since the introduction of Prevnar 7®. One of these strains, Serotype 19A, is now the most common strain of *S. pneumoniae* and it is also

Table 1: Live Vaccines

- Herpes zoster (shingles) (SubQ)
- Intranasal influenza
- Measles, mumps, rubella (MMR) (SubQ)
- Oral polio vaccine
- Rotavirus (oral)
- Oral typhoid
- Varicella (SubQ)
- Yellow fever (SubQ)

Table 2: Inactivated Vaccines

- Diphtheria, tetanus, pertussis (IM)
- Haemophilus influenzae type b (Hib) (IM)
- Hepatitis A and B (IM)
- Human papillomavirus (HPV) (IM)
- Injectable influenza (IM)
- Meningococcal (SubQ or IM)
- Pneumococcal (SubQ or IM)
- Injectable polio (SubQ or IM)
- Rabies (IM)
- Injectable typhoid (IM)

resistant to many antibiotics. Fortunately, this serotype is included in Prevnar 13®. If patients have already started the Prevnar 7® series, they may complete the series with Prevnar 13® since they are interchangeable. It is also recommended that children five years and younger who have completed the series receive a single dose of Prevnar 13®. It is given the same as Prevnar 7®, at two months, four months, six months, and between 12 and 15 months of age.

## Schedules

For information on immunization schedules, the CDC Web site is an excellent guide ([www.cdc.gov/vaccines/recs/schedules/default.htm](http://www.cdc.gov/vaccines/recs/schedules/default.htm)). It is divided up into three groups: Childhood schedule (birth to 6 years old), Adolescent schedule (7 to 18 years old), and Adult schedule (over 18 years old). If a child misses one of their doses, they can continue where they left off. They do not need to start the series over.

## References

- CDC Web site: [www.cdc.gov](http://www.cdc.gov)
- Michigan Department of Community Health Web site: [www.michigan.gov/mdch](http://www.michigan.gov/mdch)