Immunizations: *Why does your child need them?*

As your kids get their required shots for school, a clinic doctor explains why you're doing them a big favor.

by Dr. Steve Machtinger

All of us are thankful that the epidemics of deadly, crippling diseases are nightmares of the past. But are they? Immunizations (also called vaccinations) against polio, whooping cough, diphtheria, lockjaw (tetanus), measles, mumps, rubella (German measles), and smallpox have eliminated these scourges of mankind. Yet many children are incompletely protected from these illnesses.

In Warm Springs today, 75% of the children 2½ years old and under are fully immunized. This means that 1 out of every 4 little ones are **not** protected against the preventable childhood illnesses. Are our children safe?

Some bugs still alive

The Center for Disease Control in Atlanta, Georgia reported almost 27,000 cases of measles in the United States in 1978. Of these, 529 occurred in Oregon, a 44% increase over the 367 cases in 1977. One of every hundred children with measles will die of brain involvement called encephalitis. Such unnecessary deaths are a tragedy when an effective vaccination is freely available to all.

There were over 16,000 cases of the mumps in the U.S. last year, a disease which sometimes causes deafness in children and sterility in men. Whooping cough, a disease that can cause death by suffocation in small children, affected two thousand in 1978. Although less common than in the past, these serious diseases are still with us.

Do shots really work?

The doctors tell you to vaccinate your children, but is there proof that those shots really work? Take smallpox, a common disease in the past, smallpox which erupted every few years in epidemics. As many as one-third of the infected would die. Smallpox was introduced to the new world by the conquistadores in 1520. Countless Indians suffered.

In 1966, the World Health Assembly instituted a program of vaccination and treatment of all infected persons in an effort to eradicate this disease. Today, there have been no new cases of smallpox in over two years. Because the only carrier of smallpox is man, this illness may soon cease to exist on this planet. This is one reason why routine smallpox vaccination isn't recommended anymore.

Contagious diseases are caused by bacteria or viruses. Some, like rabies and Rocky Mountain spotted fever, are transmitted to humans when an infected animal or insect bites the unfortunate victim. Other diseases, like polio and chicken pox, are spread directly from one person to another; animals are never involved. Like smallpox, if no one were to have measles or polio for two or three years, these illnesses would vanish forever.

A crippler of thousands within recent memory, polio has become an uncommon disease because of the development of effective vaccines. The Sabine vaccine is safe and acceptable because it is given by mouth. So far in 1979, there have been nineteen cases of paralytic polio in the United States. This epidemic is occurring among the Amish, a religious sect in the eastern states that refuses vaccination on doctrinal grounds. Immunization apparently works, since there have been no cases of polio among their vaccinated non-Amish neighbors, while the virus spread rapidly from one unvaccinated victim to another, leaving many paralyzed for life.

The one-two punch

Of course, many of the Amish brethren contracted polio but were not crippled. Their bodies' immune systems defeated the infection before the virus could cause serious damage.

Each type of virus and bacteria (germs) is coated with its own outer layer of substances called **antigens.** These may be likened to fingerprints. Within the bloodstream and lining the breathing and digestive passages of the human body are cells whose job is to recognize these foreign fingerprints. These cells enter the lymph glands where they cause the body to produce white blood cells and substances called **antibodies.** These antibodies enter the bloodstream seeking out the invading germs. Binding to the antigens they have been designed to recognize, they handcuff the germs, rendering them inactive. Then the white blood cells move in and destroy the invading germs.

The problem is that time, generally six or seven days, is needed for the body to develop this one-two punch. With a disease like polio or diphtheria, an ill person may not have that much time. Serious consequences may occur before the body is able to fight back.

Lifelong immunity

These same white blood cells and antibodies are responsible for preventing repeat infections. Circulating in the bloodstream, they recognize early invasion of the body by the same germs they had been designed to destroy years before. With reinfection the body mounts an even greater counterattack, eliminating these viruses or bacteria before they cause illness. This is why you can only get measles once.

This quality of lifelong immunity after infection is the basis for vaccination. Vaccines are made from either killed or inactivated germs. These germs have been treated so they cannot cause illness, but still have their antigenic finger prints intact.

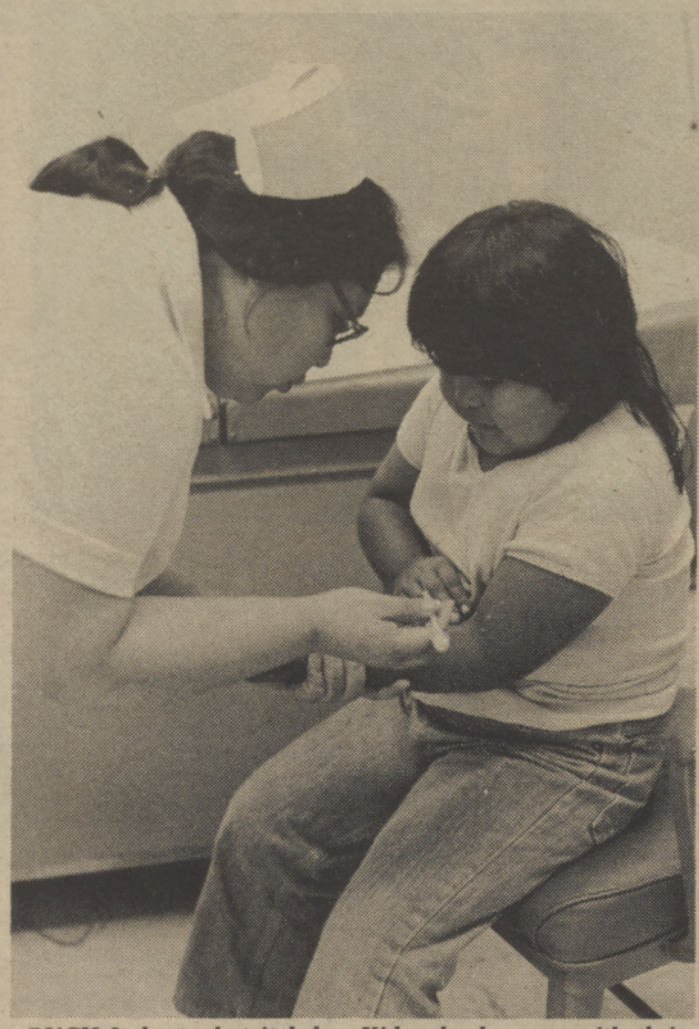
After injection, the body's immune system prepares antibodies and white cells against these antigens in much the same fashion as when the person is exposed to the natural disease. Booster injections increase the number of these antibodies and immunity cells. The result is a body armed against the specific disease.

Weighing the risks

As with every medication, immunizations are not without side-effects. The whooping cough antigen present in the DPT shot may cause fever and has even caused convulsions on rare occasions. The MMR shot is sometimes followed by fever or rash occurring a few days later. In certain susceptible individuals the smallpox vaccine has caused generalized skin eruptions mimicking the disease it was designed to prevent.

This is the other reason smallpox vaccine is not given routinely today. Since the chance of a vaccine reaction, though small, is greater than getting a disease which no longer occurs in the western hemisphere, the choice of action is not to immunize.

Perhaps someday soon this will be true for other diseases for which immunizations are available. For now, safety favors the person who chooses vaccination and risks a vaccine side-effect.



OUCH-*It hurts, but it helps. Kids who keep up with their immunizations have a better chance of warding off childhood diseases which though less common today, still haunt us.*
Spilyay Tymoo by Stowell

Is your child due for a shot?

If you believe you or your children are not up-to-date on immunizations, come to the clinic and speak to the public health or clinic nurse. The office of public health nursing and MCH has a list of every child whose immunizations are incomplete.

Frequently only one shot is required. Most children can be brought up-to-date within six months with adequate protection established in several weeks.

The recommended dosage schedule for infants and children is listed in the table on this page. It is designed to provide early and lasting protection against the diseases mentioned in this article. Immunizations are given during well child clinics and regular clinic visits.

Before the nurse administers a shot, the doctor will check to see that the recipient is in overall good health. This helps to minimize the chance of a vaccine side-effect. If your child has a fever, an immunization will not be given. Colds, impetigo, and other minor problems will not preclude a shot.

No parent enjoys seeing her child cry, an inevitable result of a DPT shot. The clinic staff realizes that giving children injections "even when they're healthy" may contribute to a fear of doctors and nurses. In raising children, we need to make decisions that though momentarily painful for the child result in a positive growth experience.

Immunizing your child is such an experience. We look forward to protecting every Warm Springs youth against preventable childhood diseases.

Recommended Immunization Schedule

Vaccine	2 Months	4 Months	6 Months	15 Months	18 Months	5 Years
Diphtheria Pertussis Tetanus* Given Together in One Shot (DPT)	*	*	*		*	*
Polio Given my Mouth	*	*	*		*	*
Measles Mumps Rubella Given Together in one Shot (MMR)				*		

***After age 5, tetanus boosters are recommended every ten years. If a dirty wound occurs seven or more years after the last shot, a booster is recommended.**