

# Varicella (Chickenpox) Vaccine

## COMMUNICABLE DISEASE CONTROL

### What are vaccines?

Vaccines are also called needles, baby shots or immunizations. Vaccines help your immune system learn how to recognize the germs that cause diseases and fight them.

Vaccines not only protect the people who are immunized but may also protect those who cannot be immunized for medical reasons. This is because someone who is immunized is less likely to spread infection to others.

Before vaccines were available, little could be done to prevent serious diseases such as tetanus, diphtheria, pertussis (whooping cough), polio, measles and rubella (german measles). Now, very few Canadians get sick or die from these diseases because people are protected by immunization. However, in countries where vaccines are not routinely used, experience shows that these diseases could again become a concern in Canada if we do not continue to immunize against them.

### What is varicella (chickenpox)?

Varicella (also known as chickenpox) is a viral infection. The virus causes an itchy rash that turns into small, fluid-filled blisters. Sometimes a person may also have a fever and headache before or during the rash. While most people recover from chickenpox without lasting effects, some children and adults will suffer complications. These complications include:

- infection of the skin (flesh-eating disease), blood, bone, middle ear, joint, soft tissue or heart;
- pneumonia;
- bleeding problems; and
- inflammation of the liver, kidney, lining around the spinal cord (meningitis) or the brain (encephalitis).

About 90 per cent of all unvaccinated children get chickenpox before they reach 12 years of age. In 15 to 20 per cent of those who get chickenpox, the virus becomes active again later in life, causing shingles. Shingles is a rash like chickenpox, limited to one area. Up to 35 per cent of persons who have shingles experience severe pain lasting as long as six months. In persons with weakened immune systems, shingles can sometimes spread throughout the body.

If a non-immune pregnant woman (someone who has not had chickenpox) gets chickenpox during the first 20 weeks of pregnancy, her baby may be born with birth defects. These include eye problems, scarring, or shortening of the arms and legs. If the mother has chickenpox around the time the baby is born, the newborn can suffer severe infection.

Infants under 12 months of age, young teens, adults, persons with cystic fibrosis, children receiving long-term aspirin therapy and persons with immune system suppression due to illness or treatment, are at the greatest risk of developing complications. Most children who are hospitalized due to chickenpox do not have any other health problems.

In Canada, about six deaths per year are due to chickenpox; in Manitoba, about one death every five years.

### How effective is chickenpox vaccine?

Varicella vaccine contains a very small amount of the varicella virus that has been weakened so it will not cause severe illness. The vaccine protects:

- between 70 and 90 of every 100 people against chickenpox; and
- about 95 of every 100 people against a severe case of chickenpox for at least seven to 10 years after receiving the shot.

If someone who has been vaccinated does get chickenpox, it is usually a very mild case.

It is not known if the vaccine will prevent shingles; some studies suggest that it may reduce the rate of shingles.

### **Who should be immunized?**

The National Advisory Committee on Immunization (NACI) recommends that most people 12 months or older who have not had chickenpox should be immunized to protect against the virus (see below “Who should NOT receive chickenpox vaccine?”).

### **Who is eligible for this vaccine at no charge?**

Those at high risk of severe infection, including:

- persons with cystic fibrosis;
- persons receiving long-term aspirin treatment;
- certain people with weakened immune systems due to illness or treatment; and
- persons with nephrotic syndrome or those undergoing hemo or peritoneal dialysis if not taking drugs that weaken the immune system.

The vaccine is also available at no charge to those who live with, or frequently visit persons at risk as described above.

Healthy children are also eligible for free vaccine, including:

- babies at least 12 months of age if they are not already immune when they receive their other infant immunizations (measles, mumps, rubella);
- preschoolers (four to five years of age) if not immune at the time of their other preschool immunizations (diphtheria, pertussis, tetanus, polio and measles, mumps, rubella);
- grade 4 students if not immune at the time of their other preschool immunizations (hepatitis B and meningococcal).

Always check with a doctor or public health nurse to find out if it is safe to go ahead with immunization.

### **Who should NOT receive chickenpox vaccine?**

Chickenpox vaccine should NOT be given to:

- babies younger than 12 months of age;

- pregnant women;
- certain individuals with weakened immune systems due to illness or treatment after consultation with their doctor;
- anyone who had a severe reaction to a previous dose of chickenpox vaccine; and
- anyone who has a severe allergy to gelatin or neomycin, or other substances in the vaccine.

Women who are planning to become pregnant should wait until one month after their chickenpox vaccination before conceiving.

A doctor or public health nurse may decide not to give the vaccine to someone who has:

- a high fever or infection worse than a cold (the vaccine can be given later);
- a weakened immune system due to disease or medication; or
- been immunized in the last month with a live virus vaccine (ex: measles, mumps, rubella also known as MMR vaccine) or recently received any blood products (up to 11 months depending on the type of blood product).

All severe allergies should be reported to the doctor or public health nurse before any vaccine is given.

People with normal immune systems who have already had chickenpox do not need to be immunized, although it will not harm them if they are.

### **How many doses are required?**

Children from 12 months to 12 years of age require a single dose. Individuals who are 13 years of age and older require two doses given one month apart. Some children with weakened immune systems also require two doses.

### **Are booster doses required?**

At this time, it is not known if a booster dose of the vaccine is required.

### **How is the vaccine given?**

The vaccine is given by needle into the tissue under the skin, usually in the upper arm.

## Can varicella vaccine be given at the same time as other vaccines?

Yes. It is safe to give more than one vaccine at a clinic visit.

## Are there any side effects?

The chickenpox vaccine is very safe. But as with any medicine, side effects sometimes occur.

- Common side effects include soreness, redness and swelling where the needle was given, which usually disappear in two to three days.
- Some people will get a fever.
- Some people will get a rash that looks like chickenpox one to four weeks after getting the vaccine. There will likely be fewer than 50 spots or blisters. The fluid in the blisters may be contagious, although transmission of the disease from a vaccine rash is rare. The rash should be covered if possible, and contact with people who have not had chickenpox should be minimized.

The appearance of a rash after the immunization may also be due to actual varicella infection from exposure to the virus **before** the immunization. This rash usually has more spots and the person may feel more ill.

Health care workers who are vaccinated should advise their occupational health nurse about it.

Acetaminophen (Tylenol® or Tempra®) can be given for fever. Never give acetylsalicylic acid (ASA or aspirin) to children. A cold damp cloth may help ease minor pain where the needle was given.

In rare cases (about one in 500,000 immunizations), a severe allergic (anaphylactic) reaction occurs causing:

- hives,
- wheezing,
- shortness of breath,
- swelling of the face, mouth or throat,
- low blood pressure causing loss of consciousness.

Report any serious or unusual side effects to your doctor or public health nurse. Vaccine reactions are recorded and monitored in Manitoba and across Canada.

## Your record of protection

Make sure your doctor or public health nurse updates your or your child's Immunization Record card after you receive an immunization. Keep the card in a safe place!

In Manitoba, vaccination is voluntary.

## Recommended Resources:

Available at local bookstores:

- *Your Child's Best Shot: A Parents' Guide to Vaccination* (2002). Canadian Paediatric Society
- *What Every Parent Should Know About Vaccines* (2002). Dr. Paul Offitt & Dr. Louis M. Bell

Available on the Internet:

- Government of Manitoba – Public Health Branch  
[www.gov.mb.ca/health/publichealth/cdc](http://www.gov.mb.ca/health/publichealth/cdc)
- Public Health Agency of Canada – immunization and vaccines  
[www.phac-aspc.gc.ca/im](http://www.phac-aspc.gc.ca/im)
- Canadian Immunization Awareness Program – Canadian Public Health Association  
[www.immunize.cpha.ca](http://www.immunize.cpha.ca)
- Canadian Paediatric Society  
[www.caringforkids.cps.ca/immunization](http://www.caringforkids.cps.ca/immunization)
- National Immunization Program – Centres for Disease Control and Prevention – USA  
[www.cdc.gov/nip](http://www.cdc.gov/nip)
- Immunization Action Coalition  
[www.immunize.org](http://www.immunize.org)

Information about the shots that you or your children receive may be recorded in the Manitoba Immunization Monitoring System (MIMS). This computerized database allows your doctor, your child's doctor or your public health nurse to find out what shots you or your child have had or need to have. Information collected in MIMS may be used to produce vaccination records, or notify you or your doctor if someone has missed a particular shot. Manitoba Health may use the information to monitor how well different vaccines work in preventing disease.

If you need information on the shots that you or your child has received, contact your local public health unit or nursing station.

## Manitoba's Routine Immunization Schedule for Infants and Children

Age	DaPTP*	Hib	MMR**	HBV	Tdap	PCV7	PPV23	MC	MP	V	Flu****
2 months	X	X				X					
4 months	X	X				X					
6 months	X	X				X					X***
12 months			X							X or	
18 months	X	X				X					
4 to 6 years	X		X							X or	
10 years				XXX				X		X	
14 to 16 years					X						
High-risk individuals only						X***	X***	X***	X***	X***	X*** yearly

**DaPTP\*** Diphtheria, acellular pertussis, Tetanus, Polio (given as “one needle” with Hib)

**Hib** Haemophilus Influenzae B

**MMR\*\*** Measles, Mumps, Rubella (given as “one needle” on or after the first birthday)

**HBV** Hepatitis B (3-dose series)

**Tdap** Tetanus, diphtheria, acellular pertussis (given as “one needle”)

**PCV7** Pneumococcal conjugate 7 valent

**PPV23** Pneumococcal polysaccharide 23 valent

**MC** Meningococcal conjugate

**MP** Meningococcal polysaccharide A,C,Y,W-135

**V** Varicella

**Flu** Influenza

**\*\*\*** More than one dose may be required depending on age.

**\*\*\*\*** Given to healthy children (six to 23 months of age) since October 2004.

**High-risk individuals** are those who are at risk of infection or complications. For more information, speak with your doctor or public health nurse.

### For more information

Talk to your doctor or public health nurse; or call Health Links-Info Santé in Winnipeg at 788-8200; toll-free elsewhere in Manitoba 1-888-315-9257.

*Local Public Health Unit Stamp*