Tdap Vaccine
Tetanus, Diphtheria, Acellular Pertussis

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.

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

What are these diseases?

The Tdap vaccine provides protection against:

- diphtheria,
- tetanus (lockjaw), and
- pertussis (whooping cough).

Diphtheria was once a common disease in Canada. About 12,000 people a year used to become sick with diphtheria; about 1,000 of them died.

Now there are no more than three or four cases a year, usually involving people who are not protected through immunization.

Diphtheria bacteria (germs) infect the throat, nose or skin. The germs are passed on to others by:

- coughing,
- sneezing, or
- close face-to-face contact with an infected person.

Diphtheria can cause:

- breathing problems;
- weakness, or loss of movement in muscles;
- heart failure; and
- sometimes death.

Diphtheria kills one of every 10 people who get the disease.

Tetanus used to cause up to 55 deaths every year in Canada. With routine immunization, there are now fewer than 10 *cases* per year

Tetanus bacteria (germs) cause the disease when they get into cuts, puncture wounds or burns. Tetanus germs are common, especially in dirt, dust and manure.

The germs form a poison, or toxin, that causes muscles to tighten and go into spasms (painful, uncontrollable tightening of the muscles). Tetanus can be very serious if it affects the body's breathing muscles.

About two of every 10 people who get tetanus will die.

Pertussis (whooping cough) case rates in Canada have dropped by over 90 per cent since vaccine was introduced 50 years ago. Recently, however, cases have increased again. These outbreaks have included a higher percentage of young teens (up to 30 per cent). This may be due to a slow drop in protection from the whole cell vaccine that these individuals received as children. Whole cell vaccine is no longer used.

Pertussis germs, or bacteria, are easily spread through:

- coughing
- sneezing, or
- close face-to-face contact with an infected person.

Older children, teens and adults can have a mild case of pertussis that goes undiagnosed and, as a result, may unknowingly infect babies and young children. Babies and young children, especially those who are too young to have been fully protected by immunization, can get very sick from pertussis germs. The disease causes long coughing spells that make it hard for a small child to eat, drink or even breathe.

The disease may last up to three months and sometimes causes serious problems:

- about one in five infants with pertussis has to be hospitalized;
- of these infants, one in 200 dies; and
- about one in 400 suffers brain damage.

How effective is Tdap vaccine?

The vaccine protects:

- more than 95 of 100 people against tetanus, and
- about 85 of 100 people against diphtheria and pertussis.

Immunizing teens against pertussis may reduce community outbreaks and the spread of pertussis to babies who are too young to be protected by immunization.

Are booster doses required?

It is not known how long the Tdap vaccine will provide protection against pertussis. A booster dose (of Td only) is recommended for adults every 10 years. The booster dose may be needed sooner if an adult gets a dirty wound or cut.

Who should receive the Tdap vaccine?

Immunization against tetanus, diphtheria and acellular pertussis is recommended for:

- children over six years of age and adults who have not completed their basic immunization series; and
- children 14 to 16 years of age.

Who should not receive the Tdap Vaccine?

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);
- has had a severe allergic reaction* to a previous dose of other vaccines;
- has a severe allergy to substances in the vaccine (e.g., aluminum phosphate, 2-phenoxyethanol);
- is in the first three months of pregnancy

* *All **severe** allergies should be reported to the doctor or public health nurse before any shots are given.*

How is the vaccine given?

The vaccine is given in a needle in the muscle of the upper arm.

Are there any side effects?

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

Minor side effects that usually disappear in two to three days include:

- soreness, redness and swelling where the needle is given;
- fever less than 39°C (102.5°F);
- headache;
- not feeling well;
- feeling tired.

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.

Less common/rare side effects include:

- severe swelling and pain where the needle is given. (This is unusual and happens when vaccines containing tetanus and diphtheria are given too often.)
- a small, painless lump where the needle was given. (This usually disappears within two months.)

- serum sickness (a rare illness that affects a number of organs in your body for a short time).
- tingling, numbness or weakness in the arm and chest (less than one in 100,000 immunizations).
- severe allergic reactions such as:
  - hives,
  - wheezing,
  - shortness of breath,
  - swelling of the face, mouth and throat (about one in 500,000 immunizations)
- a temporary form of paralysis called Guillain Barré Syndrome. (about one in 2.5 million adult immunizations).

Serious side effects should be reported to your doctor or public health nurse.

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.

Manitoba's Routine Childhood Immunization Schedule

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

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 ACYW-135
V Varicella

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

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/index.html
- Division of Immunization and Respiratory Diseases – Health Canada
  www.hc-sc.gc.ca/pphb-dgspsp/dird-dimr/index.html
- Canadian Immunization Awareness Program – Canadian Public Health Association
  www.immunize.cpha.ca/english/index.htm
- Canadian Paediatric Society
  www.caringforkids.cps.ca/immunization/index.htm
- National Immunization Program – Centres for Disease Control and Prevention – USA
  www.cdc.gov/nip/default.htm
- Immunization Action Coalition
  www.immunize.org/index.htm

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.

For more information

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

Local Public Health Unit Stamp

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