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Fact Sheet

Diphtheria, Tetanus, Whooping Cough, Polio and Hemophilus Influenza B – *Pediacel*

1. *What are Diphtheria, Tetanus, Pertussis (whooping cough), Polio and Hemophilus Influenza B? What are the complications of having each of these diseases?*

Diphtheria – This disease is caused by bacteria that infect the nose and throat. These bacteria release a poison that may cause breathing problems (the throat may actually close over as a result of a grayish membrane developing). In addition, heart failure and paralysis may occur. Diphtheria is spread by coughing and sneezing. In the past about 5% of Canadian children who developed diphtheria died. The bacteria which causes diphtheria is still found in the throat or on the skin of children but because of this vaccine, diphtheria is very rare.

Tetanus – The bacteria that causes this disease is everywhere, particularly in the soil. It enters the body when the skin is cut or punctured and is sometimes called “lock jaw” as those with tetanus cannot open their mouth. The disease often resulted in death before there was a vaccine. Today, tetanus is very rare in Canada due to the use of the vaccine.

Pertussis (whooping cough) – Whooping cough is a very contagious disease which can cause a severe cough at any age. However, the disease is most serious for infants where deaths can occur. It is expected that whooping cough will continue to circulate in Canada for many years and it is important that children and adults receive protection.

Polio – Before this vaccine was available in Canada outbreaks of polio occurred, as recently as 1959. Polio was known as “infantile paralysis” and resulted in many deaths and numerous cases of muscle paralysis. Cases of polio are very rare now but do occur in some countries in the world and could still occur in Canada due to travel from these areas.

Hemophilus Influenza B – This bacteria was one of the most common causes of meningitis in children until around 1990 when this vaccine became available in Canada. It can also cause serious infections of the throat, blood, joints or lungs. In PEI before the vaccine was introduced, there were two to four cases of this illness each year. The bacteria is still common in the nose and throat of people and protection from this bacteria is important.

2. *What are the contents of the vaccine?*

The vaccine contains antigens for the diseases for which it provides protection. All additional vaccine components, including traces of bovine albumin and traces of antibiotics (neomycin, streptomycin, polymyxin B), are licensed for use in Canada by the Biologics and Genetics Therapies Directorate, within Health Canada. A complete listing of contents is included in the product insert available from the Public Health Nurse. Protection from the vaccine is close to 100% for these diseases except whooping cough (about 85%).

3. **What are the possible reactions from the vaccine and how are they managed?**

The most serious but rare side effect, is a severe allergic reaction (anaphylaxis) which can be life-threatening and occurs within 15 to 20 minutes of receiving the vaccine. Procedures are in place to quickly respond to anaphylaxis. Public health nurses are trained to treat the condition by giving adrenaline and closely monitoring the situation. **Please remain in the waiting room for 15 minutes after immunization.**

Children may experience some of the following mild reactions:

- Redness, swelling and/or tenderness at the area where the vaccine is given.
- Slight fever (38.8 to 39.3°C or 102 to 102.9°F), fussiness, crying, drowsiness, and/or decreased eating.
- A hypotonic-hyporesponsive state (floppy child who does not respond normally) or seizures are rare. There are no long-term adverse effects from this type of reaction.
- It is not necessary to give acetaminophen (Tempra or Tylenol) with every immunization. If your child is experiencing discomfort or fever, acetaminophen can relieve these symptoms.

See a doctor or seek medical attention if your child has any serious side effect. Report serious reactions to the public health nurse.

4. **What are the situations in which this vaccine should not be given?**

- a) Children who have had an anaphylactic (severe or life-threatening) reaction to any of the contents of this vaccine or those with known life-threatening allergies to the antibiotic components (polymyxin B, streptomycin and neomycin) should not receive this vaccine.
- b) Those who have a fever (38.5°C or above) should return later for their vaccine.
- c) Any child who has a disease of the brain or seizures which are getting worse should not receive the vaccine until a diagnosis is made. However, a child who has a high fever or a seizure after receiving a dose of this vaccine, but who does not have a disease of the brain which is getting worse, should continue on with the next dose of vaccine. Children having a high fever within 48 hours after receiving this vaccine should receive acetaminophen before the next dose of this vaccine is given.
- d) Those seven years of age or older.

5. **What are the risks if the vaccine is not received?**

- a) The chance of acquiring any of these diseases is very high in the non-immunized person.
- b) These diseases can also be more serious to persons with decreased immunity due to the following:
 - 1) any disease or cancer (leukemia, lymphoma, etc.),
 - 2) high doses of steroids, or
 - 3) an inherited disease of immunity.

In these cases it is recommended that persons avoid exposure in times of known outbreaks. If exposure occurs, persons should see their doctor.

- c) Whooping cough is a **very serious disease** in young infants who are not adequately immunized. Disease surveillance studies have shown that when the numbers of children participating in immunization programs drop off, outbreaks of whooping cough have followed.