Tetanus, diphtheria and pertussis (Tdap) vaccine: Q&A for health care providers

This questions and answers sheet for health care professionals provides basic information only. It is not intended to provide or take the place of medical advice, diagnosis or treatment.

Updates:

Effective December 2014, Ontario has expanded its publicly funded adult pertussis (whooping cough) immunization program to include individuals aged 65 years and older, regardless of whether they received a pertussis-containing vaccine in adolescence.

What is pertussis (whooping cough)?

Pertussis is a common disease that causes prolonged cough illness in adolescents and adults. Pertussis is particularly serious in very young infants. Symptoms include paroxysmal cough, inspiratory whoop, apnea and post-tussive vomiting. The cough can be of prolonged duration. Pertussis can cause complications such as pneumonia, encephalopathy and seizures.

Pertussis spreads very easily from an infected person to others through coughing or sneezing. Caregivers have been increasingly recognized as a key source for pertussis infection in infants and young children. Infected adults and adolescents can pass on the disease to infants who have not yet begun or completed their immunization series against pertussis. These infants will not be fully protected against pertussis and are at greater risk of serious complications.

What is tetanus?

Tetanus is a serious disease that may occur if tetanus spores get into a cut in the skin. Tetanus spores are found everywhere, usually in soil, dust and manure. The disease does not spread from person to person. Tetanus causes cramping of the muscles in the neck, arms, legs and stomach. It may also cause painful convulsions which may be severe enough to break bones. Even with early treatment, tetanus has a case fatality rate of about 20%.

What is diphtheria?

Diphtheria is a serious disease of the nose, throat and skin. It causes symptoms of sore throat, fever and chills. It may also cause more serious complications such as respiratory problems, heart failure and nerve palsies. Diphtheria has a case fatality rate of 10% in those who get the disease. It is most often

Catalogue # CIB-019406 December/2014 © Queen's Printer for Ontario

passed to others through coughing and sneezing (respiratory/droplet). As a result of high vaccination coverage, there have been no cases of diphtheria in Ontario since 1995.

What is the epidemiology of pertussis in Ontario?

According to Ontario's integrated Public Health Information System (iPHIS), there were 6,516 cases of pertussis reported between 2003 and 2012, with incidence rates ranging from a high of 10 cases per 100,000 population in 2006 to a low of 0.94 cases per 100,000 population in 2010. In 2012, 1,043 confirmed and probable cases were reported. Pertussis is a cyclic disease with peaks in incidence occurring every three to five years. In Ontario, incidence peaked between 2006 and 2008, and again in 2012.

Of the 1,043 confirmed and probable cases of pertussis reported in Ontario in 2012, hospitalizations were reported for 58 cases (5.6%) and no deaths were reported. The highest incidence rates were observed among infants less than one year of age, followed by children 1 to 4 years of age. Approximately 57.1% of cases reported in 2012 were female.

It is important to note that pertussis is often under-detected and under-reported in all age groups, and particularly in adult populations; therefore, the number of infected and/or susceptible adults may be far greater than the reported incidence.

About the publicly funded Tdap vaccine

Ontario publicly funds both Adacel® and Boostrix® Tdap vaccines. These vaccines are considered equivalent and are indicated for active immunization against tetanus, diphtheria and pertussis for children and adults.

For more information about these vaccines, refer to the respective vaccine product monograph:
Adacel®: www.vaccineshoppecanada.com/document.cfm?file=ADACEL_E.pdf
Boostrix®: www.gsk.ca/english/docs-pdf/product-monographs/Boostrix.pdf

Who is eligible to receive the publicly funded Tdap vaccine and when should they receive it?

A dose of Tdap vaccine should be given to:	**Who**	**When**
	Adolescents	14-16 years of age
	Adults and seniors 	when next Td dose is due, or at earliest opportunity

Why has the ministry expanded the publicly funded adult Tdap immunization program?

Effective December 2014, all adults 19 years of age and older, including those 65 years of age and older, are now eligible to receive a single publicly funded dose of the vaccine, irrespective of receiving a prior dose of Tdap in adolescence. This adult dose of pertussis-containing vaccine replaces one of the Td booster doses, which is given every 10 years. If the Tdap booster dose is required earlier, adults are eligible to receive one dose of Tdap vaccine regardless of the interval since the last dose of tetanus or diphtheria containing vaccine.

These changes are aligned with current National Advisory Committee on Immunization (NACI) recommendations for a single dose of Tdap (diphtheria, tetanus and acellular pertussis) for adults who have not previously received a dose of pertussis-containing vaccine in adulthood.

The primary objective of replacing a single adult dose of Td with Tdap is to provide protection to non-immune adults against pertussis. The secondary objective of adult Tdap immunization is to reduce the overall population burden of pertussis infection. In addition, the Tdap immunization program is intended to minimize exposure of persons at increased risk for complications of pertussis infection (i.e., infants too young to have started or completed their primary series).

It should be noted that parents, grandparents or other adult household contacts of newborns, infants and young children, as well as health care workers, are considered priority groups for receiving the Tdap vaccine.

Who should not receive the Tdap vaccine?

Individuals with a history of anaphylaxis after a previous dose of a vaccine containing diphtheria, tetanus or pertussis and individuals with proven immediate or anaphylactic hypersensitivity to any component of the vaccine or its container should not receive the vaccine.

Precaution should be taken for the persons who have:

- history of an allergic reaction to any component and/or ingredient of the vaccine;
- history of a severe injection site reaction following a dose of tetanus toxoid-containing vaccine;
- weakened immune system;
- bleeding disorder or are taking blood-thinning medication;
- history of problems with the brain or nerves after previous vaccination with a vaccine against diphtheria and/or tetanus
- history of encephalopathy of undetermined cause within seven days of administration of a vaccine with pertussis components;
- history of progressive or unstable neurological conditions (e.g., uncontrolled epilepsy); or
- severe infection with a fever higher than 40°C (administration of Tdap should be postponed; vaccination can occur if the individual has a minor infection).

Special consideration is also needed for persons who:

- have a history of Guillian-Barré syndrome (GBS) within 6 weeks of a previous tetanus vaccine dose (those who develop GBS outside the 6 week interval may be immunized);
- are pregnant (all pregnant women following 26 weeks of pregnancy who have not received a dose of a pertussis containing vaccine in adulthood should be encouraged to receive Tdap vaccination).

What is the vaccine ordering process?

Order the Tdap vaccine through your regular vaccine supply source (i.e., public health unit or Ontario Government Pharmaceutical and Medical Supply Service (OGPMSS)). Information about your public health unit can be found at: http://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx.

How should the Tdap vaccine be stored?

In order to ensure that individuals receive optimal protection, Tdap (like other publicly funded vaccines) must be maintained at a temperature between +2°C to +8°C from the time of manufacture until the vaccine is administered to individuals. This temperature must be monitored and maintained at all times.

For additional information on provincial vaccine storage and handling requirements please consult the Vaccine Storage and Handling Guidelines, available at: www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/guidance/guide_vaccine_storage.pdf

What should be done for adverse events following immunization (AEFIs)?

Under section 38 of the ***Health Protection and Promotion Act, R.S.O. 1990***, Ontario physicians, nurses, pharmacists and other health care providers (as listed under the section) are required to inform the person who consents to immunization of the importance of immediately reporting to a physician or a registered nurse in the extended class (nurse practitioner) of any reaction that may be a reportable event. Local public health units should subsequently be notified of the adverse event. The AEFI reporting form can be found on the Public Health Ontario (PHO) website along with a provider questions and answers fact sheet, available at: www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/Pages/Immunization-Resources.aspx. Please send the completed form to your local public health unit.

This information is monitored and reviewed on an ongoing basis by PHO and reported to the Public Health Agency of Canada (PHAC) to support national vaccine safety surveillance. Health care providers are required to report AEFIs to their local public health unit. A list of public health units in Ontario is available at: www.health.gov.on.ca/en/common/system/services/phu/locations.aspx

Who can I contact for more information?

- Further information, including Ontario's publicly funded immunization schedule, is available on the Ministry of Health and Long-Term Care's website for health care professionals at: www.health.gov.on.ca/en/pro/programs/immunization.
- If you have further questions, please contact your local public health unit. To find your local public health unit, visit: http://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx.
- Immunization information is available at: www.ontario.ca/vaccines.