

Adult dose of tetanus-diphtheria-pertussis (Tdap) vaccine

Questions and Answers for Health Care Providers

This fact sheet provides basic information only. It is not intended to provide or take the place of medical advice, diagnosis or treatment.

The Ministry of Health and Long-Term Care (“the ministry”) is introducing a one lifetime dose of the pertussis (whooping cough) vaccine (Tdap) for adults to the *Publicly Funded Immunization Schedules for Ontario*.

About the adult dose of Tdap vaccine (Adacel® and Boostrix®):

Q1: What does the Tdap vaccine protect against?

A1: The Tdap vaccines (Adacel® and Boostrix®) are indicated for active immunization against tetanus, diphtheria and pertussis for children and adults. Adults are increasingly recognized as having a greater burden of disease than previously thought. They are considered a significant source of transmission to infants who are not yet fully protected. Infants and children are at a greater risk for complications of pertussis.

Q2: What is the age indication for the Adacel® and Boostrix® vaccines?

A2: The Tdap vaccines, Adacel® and Boostrix® have been approved for use in Canada since 1999 and 2007 respectively for individuals four to 64 years of age.

In addition to the publicly funded Tdap vaccine for adolescents 14 to 16 years of age, it is now available for adults 19 to 64 years of age as one lifetime dose. This lifetime dose of Tdap will replace one of the Td booster doses given every 10 years.

Q3: Where do I find more information about the vaccine such as common side effects, contraindications, storage recommendations and where to inject the vaccine?

A3: Refer to the vaccine product monographs available at:

Adacel®:

https://www.vaccineshoppecanada.com/secure/pdfs/ca/ADACEL_E.pdf

Boostrix®: http://www.gsk.ca/english/docs-pdf/Boostrix_PM_20091021_EN.pdf

About the publicly funded program:

Q4: Why has the ministry expanded the publicly funded Tdap vaccine program to adults who are 19 to 64 years of age?

A4: The National Advisory Committee on Immunization (NACI) recommends a single lifetime booster dose of Tdap for adults who have not previously received a dose of acellular pertussis vaccine during adolescence.

The primary objective of replacing a dose of Td with Tdap is to protect unvaccinated adults against pertussis. The secondary objective of adult Tdap vaccination is to reduce the overall population burden of pertussis infection. In addition, the Tdap

vaccine will decrease exposure of persons at increased risk for complicated pertussis infection (e.g., infants too young to be completely immunized). It will also reduce costs and disruptions, due to pertussis, in health care facilities and other institutional settings.

Since 2003, adolescents between 14 and 16 years of age (with eligibility until 18 years of age) have been offered one booster dose of the Tdap vaccine but uptake is low (about 62% in 2008-09 for this age group). Although the addition of Tdap to the publicly funded immunization program has decreased the incidence of pertussis, adults who did not receive their Tdap dose between 14 and 16 years of age (or up to 18 years of age) or who received the previous whole cell pertussis vaccine remain the most common source of infection for infants.

Q5: Who is most at risk for pertussis infection?

A5: Adults have been increasingly recognized as the main source of pertussis infection in infants. The populations most at risk for pertussis infection and complications are unimmunized or incompletely immunized individuals, particularly infants under one year of age who have not yet received or have not completed their pertussis immunization series (at 2, 4, 6 and 18 months of age). Evidence suggests that adult close contacts are an important source of transmission to infants.

Results of three Canadian studies estimating the secondary attack rate in household contacts, together with results of the Sentinel Health Unit Surveillance System, concluded that 10-25% of adolescents and adults in Canada are susceptible to pertussis and that these individuals play a role in its transmission to infants and children¹.

Q6: What is the epidemiology of pertussis in Ontario?

A6: According to the Ontario integrated Public Health Information System (iPHIS), there were 3,496 cases of pertussis and 97 hospitalizations reported in Ontario from 2006 through 2010. The highest incidence rates occurred among children zero to four years of age followed by children five to nine years of age.

¹ Wendelboe, A.M., Njamkepo, E., Bourillon, A., Floret D.D., Gaudelus, J., Gerber, M., et al. (2007). Transmission of *Bordetella pertussis* to young infants. The *Pediatric Infectious Disease Journal*, 26(4), 293-299.

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

Q7: Who is eligible to receive the publicly funded Tdap vaccine and when should they receive it?

A7: Adolescents between 14 and 16 years of age (with eligibility until 18 years of age) may receive one booster dose of the Tdap vaccine. Adults aged 19 years through to 64 years (who have not received the adolescent booster dose) can now receive one lifetime dose of Tdap.

The Tdap vaccine should replace one dose of Td that is usually given to adults as a booster dose every 10 years. Once an adult has received a dose of Tdap, he or she should continue to get a Td booster every 10 years throughout life, unless a dose is needed earlier due to an injury.

Q8: Who should not receive the Tdap vaccine?

These would include persons with:

- a serious allergic reaction to a previous dose of a vaccine containing diphtheria, tetanus and pertussis;
- a history of an allergic reaction to any part of the vaccine, including aluminum phosphate, 2-phenoxyethanol;
- a history of development of severe redness, swelling and ulceration at an injection site following a previous dose of a tetanus toxoid and diphtheria toxoid containing vaccine;
- a history of encephalopathy of undetermined cause within seven days of administration of a vaccine with pertussis components. The Td can be given instead;
- a history of progressive or unstable neurological conditions (e.g., uncontrolled epilepsy); or
- a history of Guillian-Barré syndrome (GBS) within eight weeks of a previous tetanus vaccine dose.

Special consideration is needed for persons who:

- have severe acute febrile illness (administration of Tdap should be postponed; vaccination can occur if the individual has a minor infection); or
- are pregnant. (The use of inactivated vaccines during pregnancy is generally considered safe for the fetus. However, given the lack of data confirming the safety and immunogenicity in

pregnant women, health care providers are encouraged to discuss the potential benefits and possible risks to the fetus).

Q9: What is the vaccine ordering process?

A9: Order the vaccine through your regular vaccine supply source (i.e. local public health unit or the Ontario Government Pharmaceutical and Medical Supply Service [OGPMSS]).

Q10: How should the Tdap vaccine be stored?

A10: In order to ensure that children receive optimal protection, the Tdap (like other vaccines) must be maintained at a temperature between +2°C and +8°C from the time of manufacture until the vaccine is administered to individuals. This temperature must be monitored and maintained at all times.

Q11: What should be done for adverse events following immunization (AEFIs)?

A11: Under section 38 of the *Health Protection and Promotion Act, R.S.O. 1990*, physicians or other persons authorized to administer an immunizing agent are required to inform the person who consents to immunization of the importance of immediately reporting to a health care provider 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 Agency of Canada website along with a User Guide at: www.phac-aspc.gc.ca/im/aei-form-eng.php. Send the completed form to your local public health unit.

A list of health units can be found at: www.health.gov.on.ca/english/public/contact/phu/phuloc_mn.html.

References:

1. Public Health Agency of Canada. (2006). Canadian Immunization Guide (7th ed.).
2. Centers for Disease Control and Prevention. Preventing tetanus, diphtheria, and pertussis among adults: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine. MMWR 2006; 55(RR17); 1-33.
3. Ontario Hospital Association and Ontario Medical Association. (2009). Pertussis Surveillance Protocol for Ontario. Hospitals.

4. Wendelboe, A.M., Njamkepo, E., Bourillon, A., Floret D.D., Gaudelus, J., Gerber, M., et al. (2007). Transmission of Bordetella pertussis to young infants. The Pediatric Infectious Disease Journal, 26(4), 293-299.