

Q & A on Tdap Vaccination Against Pertussis (Whooping Cough) During Pregnancy in Canada

Protecting Every Mother and Every Baby



The Canadian National Advisory Committee on Immunization (NACI)* and The Society of Obstetricians and Gynaecologists of Canada (SOGC) now recommend **immunization with the Tdap vaccine (Tetanus Toxoid, Reduced Diphtheria Toxoid and Reduced Acellular Pertussis) in every pregnancy, irrespective of previous immunization history.** The SOGC recommends immunization to be provided ideally **between 21 and 32 weeks of gestational age, but evidence supports vaccination as early as 13 weeks, up to 4 weeks before delivery, in certain circumstances (i.e. risk of preterm birth).**

1 | What is pertussis?

Pertussis, aka whooping cough, is a transmissible respiratory infection caused by the *Bordetella pertussis* bacterium. Despite the implementation of routine immunization, numerous outbreaks of pertussis occurred in recent years across Canada. Seventy percent of admissions to hospital for pertussis occurred in infants younger than four months of age, and almost all deaths happened among infants younger than two months of age.

2 | Why should the Tdap vaccine be offered to pregnant women?

Tdap vaccination in pregnancy provides protection to infants until they are able to receive the pertussis vaccine (DTaP) at two months of age. Studies have shown that nine out of ten infants under three months of age are protected following maternal vaccination during pregnancy.

3 | Is the Tdap vaccine safe during pregnancy?

The vaccine is safe for the woman and the fetus. The most common side effects of the vaccine are injection site reactions (redness, swelling or pain). Other less common symptoms may include fever, chills, and headache.

4 | Who should NOT receive the vaccine?

The vaccine should not be administered to anyone with a history of anaphylactic reaction to a previous dose of pertussis-containing vaccine or to any of its components.

5 | Can the Tdap vaccine be given after 32 weeks of gestational age?

The vaccine should still be offered after 32 weeks of gestational age, and until four weeks before delivery, since it will prevent the mother from becoming a source of infection to the infant. However, antibody levels may not be sufficient to protect the infant; it takes at least four weeks after vaccination to reach peak anti-pertussis antibody levels.

6 | Can the Tdap vaccine be given in the first trimester or earlier in the second trimester?

Data supports vaccination as early as 13 weeks. Some data indicates that earlier vaccination results in higher antibody binding, but safety data is limited for earlier in the second trimester, and even more limited for vaccination before 13 weeks. If the Tdap vaccine was provided early in pregnancy (e.g. prior to recognition of pregnancy), it is not necessary to re-immunize after 13 weeks of gestational age.

7 | Should the Tdap vaccine be offered after delivery to those women who did not receive the vaccine during pregnancy?

Yes, if they were not vaccinated as per the NACI guideline (one dose after the age of 25.) Since newborns are not immunized until after two months of age, it is vital that these women are protected to avoid becoming a source of infection to their infants.

*The National Advisory Committee on Immunization (NACI) is a national advisory committee of experts in the fields of pediatrics, infectious diseases, immunology, medical microbiology, internal medicine and public health.

8 | Can the Tdap vaccine be given to breastfeeding patients?

Yes. The vaccine can be given to women who are breastfeeding and some protection can be passed to the infant this way. However, waiting to get the vaccine until after baby is born is not ideal because it takes four weeks after vaccination to reach peak antibody levels.

9 | Can the flu shot and the Tdap vaccine be given together?

Yes. Since both vaccines are made of inactivated agents, they can be administered either at the same time or in different visits, and no minimum time interval is needed between administering either of these vaccines.



10 | Can the vaccine be administered at the same time as anti-D (Rhogam) treatment?

Yes. Since it is an inactivated vaccine, there is no risk of an interaction with anti-D treatment.



11 | Will the Tdap vaccination during pregnancy interfere with the baby's normal response to his or her own routine vaccinations?

In infants who continue their vaccine series, there is no difference in antibody levels after their fourth DTaP dose, despite earlier lower antibody levels. The clinical impact of these laboratory findings is unknown, but it is clear that the burden of severe pertussis disease, hospitalization and death disproportionately affects newborns younger than two months of age.

Is Tdap vaccination safe for both the pregnant woman and the infant?

	Pregnancy period			Number of women*	Quality of studies
	1st Trimester	2nd Trimester	3rd Trimester		
Yes. Vaccination between 19-35 weeks is supported by good quality studies, in which 33 to 90 women were vaccinated.		19-35 Weeks		 33-90	★★★★★
Yes. Vaccination throughout pregnancy is supported by moderate quality studies, in which 130 to 149,000 women were vaccinated.		1-42 Weeks		 130-149,000	★★★★☆

Does Tdap vaccination in pregnancy work to prevent pertussis infection, hospitalization and death in the young infant?

	Pregnancy period			Number of women*	Quality of studies
	1st Trimester	2nd Trimester	3rd Trimester		
Yes. Vaccination between 27-36 weeks is supported by moderate to high quality studies, in which 49 to 149,000 women were vaccinated.			27-36 Weeks	 49-149,000	★★★★☆
Yes. Vaccination between 28-38 weeks is supported by moderate quality studies, in which 46 to 49 women were vaccinated.			28-38 Weeks	 46-49	★★★☆☆

* Number of women denotes only the number of participants (pregnant women) who received maternal pertussis immunization in studies, rather than total sample size

Note: Although some studies appear to span all gestational weeks, the data were not stratified by gestational week /trimester for these studies, and it is not clear how many subjects received vaccination at each time point.

Disclaimer: This infographic is not a validated clinical decision tool.