



Tdap Vaccination during Pregnancy

Frequently asked Questions for Health
Professionals



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How common is pertussis?

Pertussis is common in Ireland and in many developed countries. The number of cases reported varies year to year. In 2019, there were 165 cases of pertussis in Ireland. There was a large increase in cases in 2012, with 458 cases reported in Ireland. Most were in young children aged under 6 months who were more likely to be hospitalised and were too young to be fully vaccinated. Two deaths occurred in children aged less than three months.

Similarly, Australia, the UK and the US experienced large outbreaks in 2012. The US alone reported 48,000 cases and 20 deaths.

Pertussis continues to be reported in babies less than 6 months of age (too young to be fully vaccinated).

Why has there been an increase in pertussis cases in recent years?

The increase in cases is thought to be due to the fact that the immunity produced from acellular pertussis vaccines is not as long-lasting and the immune response may not be as good as with the previously used whole cell vaccine. There is also some evidence of genetic changes in the pathogen towards vaccine resistant strains although whether this leads to increased disease susceptibility and outbreaks remains unclear.

Pertussis vaccination or previous infection does not confer lifelong immunity. Immunity wanes over time so people can be reinfected and spread the infection to others. Current pertussis vaccines provide good short term immunity but require boosting.

Why is pertussis vaccine recommended for pregnant women?

Pertussis vaccine (Tdap) is recommended for pregnant women to reduce the risk of infection in the mother and to reduce the morbidity and mortality in infants too young to be vaccinated. Tdap vaccination during pregnancy provides passive protection to newborn infants through transplacental transfer of antibody to protect them in the early weeks after birth.

Why is pertussis vaccination during pregnancy important for new born infants?

Pertussis or whooping cough is highly infectious, and infants under the age of 6 months are most at risk of complications.

- 50% of infected infants will develop apnoea
- 20% develop pneumonia
- 1% will have seizures
- 1% will die

(National Immunisation Advisory Committee, 2018)

Babies under 6 months of age are most likely to be hospitalised with pertussis





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What is Tdap booster vaccine?

Tdap is a tetanus (T), low dose diphtheria (d) and low dose acellular pertussis (p) booster vaccine which protects against tetanus, diphtheria and pertussis infection.

Is the Tdap vaccine free during pregnancy?

The Tdap vaccine is obtained free of charge from the National Cold Chain service for pregnant women. In November 2018, a national outbreak of Pertussis was declared and an outbreak code for vaccine administration was provided to all GP's from the local Public Health Department. Therefore all pregnant women should receive the Tdap vaccine free of charge from their GP.

When should pregnant women be vaccinated?

Pregnant women should be offered Tdap vaccine between 16 – 36 weeks gestation in each pregnancy.

Tdap may be administered at any time in pregnancy after 36 weeks gestation if it has not been given earlier. Vaccine given after 36 weeks gestation will be less effective in providing passive protection to the new born, but should protect the mother from pertussis infection and therefore she will not be a source of pertussis infection for her baby.

Why was the recommended timing of pertussis vaccination in pregnancy changed?

Tdap was previously recommended to be given between 27 - 36 weeks gestation.

In September 2016 the National Immunisation Advisory Committee (NIAC), updated its advice. NIAC now recommends that pregnant women should be given the vaccine between 16-36 weeks gestation.

This change in advice is based on a study indicating that optimal neonatal pertussis antibody concentrations were elicited when the vaccine was given earlier in pregnancy. In addition, offering the vaccine from week 16 of pregnancy also gives pregnant women greater opportunity to take up the offer of vaccination.

Why is Tdap recommended in each pregnancy?

This is on the basis of data showing that maternal antibodies to pertussis wane and so will not provide protection for new born infants in subsequent pregnancies. In addition, available data do not suggest any increased incidence of adverse events in pregnant women who received Tdap vaccines in subsequent pregnancies.





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What about post-partum women?

Tdap should be offered in the week after delivery to those women who were not vaccinated during their pregnancy as it will provide protection to the mother from pertussis infection and so she will not be a source of infection for her baby.

Is Tdap recommended in pregnancy in other countries?

Tdap is recommended in pregnancy in many countries including the US, Canada, UK, Australia and New Zealand. The timing of the recommendation varies from country to country.

How effective is Tdap in pregnancy?

The introduction of the maternal pertussis immunisation programme in the UK in 2012 has been very effective in protecting infants with vaccine effectiveness estimated at 91%. Babies born to vaccinated mothers are 90% less likely to get disease than babies whose mothers were unvaccinated.

Is Tdap safe to give in pregnancy?

Yes. Evaluation of the pertussis vaccination in pregnancy programme in the US and England has demonstrated no safety concerns with no evidence of an increased risk of side effects. Tdap is an inactivated vaccine and so does not contain live organisms and cannot cause infection in the mother or the baby.

What are the side effects of Tdap?

Very common (>1 in 10): Local injection site reactions (pain, redness and swelling).

Common (> 1 in 100 to <1 in 10): Pyrexia, malaise, fatigue

Rare Arthus reaction (see below)

Anaphylaxis develops in 1 in 1 million vaccinations

Are there any reasons why Tdap should not be given?

- Tdap should not be given if there is a history of anaphylaxis to a previous dose of the vaccine or one of its constituents.





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Are there any reasons why Tdap should be deferred?

- Tetanus containing vaccination should be deferred for 10 years if there has been an Arthus-type reaction to a previous dose.
(Arthus reactions are rarely reported after vaccination and can occur after tetanus or diphtheria toxoid containing vaccines. They typically develop 2-8 hours after vaccination and involve swelling and erythema of most of the diameter of the upper arm from the shoulder to elbow. They are more common in adults and resolve without sequelae.)
- In the event of acute severe febrile illness defer until recovery.

Note: The following are no longer regarded either as contraindications or precautions. They have not been shown to cause permanent harm and are significantly less common after acellular than after whole-cell pertussis vaccines

- Temperature of more than 40.5°C within 48 hours of a previous dose of a pertussis-containing vaccine
- Hypotonic-hyporesponsive episode within 48 hours of a previous dose of a pertussis-containing vaccine
- Seizures within 72 hours of a previous dose of a pertussis containing vaccine
- Persistent, inconsolable crying lasting more than 3 hours within 48 hours of a previous dose of a pertussis-containing vaccine
- Active or progressive neurological disease

If a woman has had confirmed or suspected whooping cough during pregnancy, should she still be offered the pertussis vaccine?

Yes, as not all women produce sufficiently high levels of antibodies following pertussis infection to ensure high levels can be passed across the placenta to the infant.

As high levels of antibodies are made following vaccination therefore offering vaccine from 16 weeks of pregnancy should ensure that optimal antibody levels can be passed to her baby.

Does a pregnant woman still need Tdap vaccine if she has recently received a tetanus containing vaccine for a tetanus prone wound?

Yes, the Tdap vaccine is required from 16 weeks gestation because the tetanus containing vaccine used for tetanus prone wounds provides no protection against pertussis infection.

What should you do if you inadvertently administer Tdap vaccine to a pregnant woman before 16 weeks?

Optimal neonatal pertussis antibody concentrations are elicited when the Tdap vaccine is given from 16 weeks in pregnancy. Therefore, the Tdap vaccine given in error before 16 weeks will not provide an optimal pertussis antibody concentration. The Tdap vaccine should be given again from 16 weeks of pregnancy and after an interval of 4 weeks from the Tdap given in error.





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Can Tdap vaccine be given at the same time as flu vaccine?

Tdap can be given at the same time as the flu vaccine: non live vaccines can be safely given together. However, do not delay giving flu vaccine so you can give both vaccines together.

Can Tdap vaccine be given to a breastfeeding woman?

Yes, Tdap vaccine can be given to a breast feeding woman.

Can Tdap vaccine be given at the same time as Anti-D?

Yes, Tdap vaccine can be given at the same time as Anti-D.

How can Tdap vaccine uptake be improved during pregnancy?

There is better uptake of vaccination when service users have:

- Awareness of vaccination
- Access to accurate and timely information
- A recommendation from a familiar health professional
- Free vaccines

What can health care workers do to improve Tdap vaccine uptake?

- Be aware of current vaccine recommendations, and know how to explain the benefits.
- Use every contact to remind pregnant women about the importance of vaccines and when to receive Tdap (and flu) vaccine, even if your role doesn't include administering vaccines.
- Answer their questions and point to reputable sources of information like www.immunisation.ie
- Offer a chance to return to discuss vaccines again if they're not ready to receive a vaccine at that appointment.
- Point out that pertussis (Tdap) vaccine and administration are free in pregnancy.

Why is pertussis vaccine recommended for specific health care workers?

Pertussis is difficult to recognise and diagnose in adults – up to 30% of adults with a cough lasting more than two weeks may have pertussis.

There has been documented pertussis transmission from HCWs to patients and HCWs are exposed to pertussis much more frequently than the number of diagnosed cases suggests.

Therefore, due to the risk of pertussis transmission to individuals vulnerable to severe pertussis infection, especially infants, healthcare staff working with infants or pregnant women should have Tdap vaccine.

Pertussis vaccine is recommended for HCWs to prevent nosocomial transmission and is recommended for HCWs in USA since 2005 and also in Australia, the UK and New Zealand.





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Infants, pregnant women and the immunocompromised are the most vulnerable to pertussis infection. Tdap booster vaccination may be considered every 10 years.

Which health care workers should be a priority for pertussis (Tdap) vaccination?

A booster dose of Tdap is recommended for Health Care Workers who are in contact with infants, pregnant women and the immunocompromised. Boosters of Tdap every 10 years may be considered.





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Visit www.immunisation.ie for campaign materials for pregnant women



