



## ATAGI CLINICAL ADVICE FOR IMMUNISATION PROVIDERS REGARDING MATERNAL VACCINATION THROUGH THE NATIONAL IMMUNISATION PROGRAM (NIP)

*It is important to read this statement in conjunction with the current online version of The Australian Immunisation Handbook available on the [Immunise Australia](http://www.immunise.health.gov.au) website ([www.immunise.health.gov.au](http://www.immunise.health.gov.au)).*

### Key points

- From 1 July 2018, pertussis containing vaccines (given as diphtheria-tetanus-acellular pertussis, dTpa) will be available through the NIP for women in each pregnancy.
  - *The pertussis vaccine should be given as a single dose during the third trimester (preferably between weeks 28 and 32).*
- A seasonal influenza vaccine for pregnant women in each pregnancy will continue to be made available through the NIP.
  - *Influenza vaccine can be given as a single dose at any time during pregnancy, preferably prior to the onset of the influenza season.*
- Vaccination of pregnant women provides protection to the mother.
  - *In particular, the risk of complications from influenza increases in pregnancy as does the potential for preterm delivery.*
- Vaccination of pregnant women also provides protection to the newborn baby.
  - *This occurs by passive transfer of antibodies from mother to baby across the placenta during the pregnancy.*
  - *This helps protect very young infants, who are at high risk of severe disease from both pertussis and influenza in the first few months of life.*
  - *High levels of maternal antibody give temporary protection up until the time that babies can be vaccinated themselves.*
- Vaccination of pregnant women with pertussis and influenza vaccines is safe.
- Pertussis and influenza vaccines can be given at the same visit during pregnancy, if needed.

### General recommendations

- Immunisation providers should encourage pregnant women to receive pertussis and influenza vaccines. Women are more likely to be vaccinated if their health care provider specifically recommends it.
- Antenatal **pertussis vaccination** is primarily aiming for protecting the baby against pertussis:
  - *Vaccination during pregnancy has been shown to reduce pertussis disease in infants aged <3 months by 91%.*
  - *Protection against pertussis disease for newborn infants is achieved via the transfer of maternal antibodies across the placenta during pregnancy; the highest levels of infant pertussis antibodies are achieved when vaccination occurs early in the third trimester.*
  - *The vaccine shouldn't be delayed until too close to birth because:*
    - Maternal pertussis antibodies do not peak until approximately 2 weeks after vaccination,
    - Some women may give birth before they reach full-term.

- Antenatal **influenza vaccination** is recommended to protect both the mother and the baby from influenza and its complications:
  - *Vaccination during pregnancy is estimated to reduce the risk of influenza in infants aged <6 months by about half.*
  - *Infants born to mothers who contract influenza during pregnancy are at higher risk of preterm birth and low birth weight.*
  - *Pregnant women are at higher risk of complications from influenza compared with non-pregnant women, including being twice as likely to require hospitalisation.*
- Vaccination with pertussis and influenza vaccines during pregnancy is safe for both the mother and her baby.
- There is no evidence of an increased risk of adverse pregnancy outcomes (such as stillbirth, low birth weight, pre-eclampsia, or neonatal renal failure) related to pertussis or influenza vaccination during pregnancy.
- Expected adverse events, like injection site reactions and fever, do not occur more frequently in pregnant women than in non-pregnant women:
  - *Approximately 70% of women vaccinated with pertussis experience mild injection site reactions; fever is rare and occurs in about 5% of vaccinated women.*
  - *Approximately 10% of women vaccinated with influenza vaccine experience mild injection site reactions; fever, fatigue, muscle aches and other more general reactions are even less frequent.*

### Specific recommendations

- **Pertussis vaccination** should ideally be given **early in the third trimester, between 28 and 32 weeks of gestation**, of each pregnancy, including pregnancies which are closely spaced.
  - *If the vaccine has not been given by 32 weeks of gestation, it should still be given at any time up to delivery.*
  - *If the vaccine is given before the third trimester, a repeat dose during that same pregnancy is not required.*
- For any pregnancy where antenatal vaccination does not occur, vaccination during the post-partum period, preferably as soon as possible after delivery, may still provide a benefit. This will reduce the likelihood of pertussis occurring in the mother and give some indirect protection to the infant. However, this is not as effective as antenatal vaccination.
- **Influenza vaccination** can be given at any time during each pregnancy, preferably prior to the onset of the influenza season.
  - *If a pregnancy overlaps two influenza seasons and the woman has already received influenza vaccine in the prior season, she can also receive the current season vaccine later in pregnancy.*
  - *An influenza vaccine can be given at any time during the year, not just prior to the influenza season.*
- The influenza vaccine can be given at the same time as the pertussis vaccine during pregnancy.

**Table 1. Vaccines available for maternal vaccination**

Maternal vaccination	Vaccine available
<b>Pertussis</b>	For adolescents or adults is available in combination with diphtheria and tetanus as dTpa vaccine. Two vaccines are available: <ul style="list-style-type: none"> <li>• Adacel<sup>®</sup> (Sanofi-Aventis)</li> <li>• Boostrix<sup>®</sup> (GlaxoSmithKline)</li> </ul>
<b>Influenza vaccines<sup>1</sup></b>	All QIVs used in Australia are inactivated vaccines and are safe for use in pregnant women. For 2018, three vaccines are available for use through the NIP for pregnant women: <ul style="list-style-type: none"> <li>• FluQuadri<sup>®</sup> (Sanofi) – for all pregnant women</li> <li>• Fluarix Tetra<sup>®</sup> (GlaxoSmithKline) – for all pregnant women</li> <li>• Afluria Quad<sup>®</sup> (Seqirus) – only for use in pregnant women aged ≥18 years</li> </ul>

<sup>1</sup> Another QIV, Influvac Tetra<sup>®</sup> (Mylan), is not free for pregnant women under the NIP. However, this vaccine is also suitable for use in pregnancy.