How the Tdap Vaccine During Pregnancy Protects Your Baby from Whooping Cough

Pertussis, commonly known as **whooping cough**, is a highly contagious respiratory illness caused by the bacteria ***Bordetella Pertussis***. It spreads through droplets in the air when someone coughs or sneezes.

For adults, pertussis can feel like a bad cold with a lingering cough. But for babies, especially those under 1 year old, it can be much more serious. If a baby who is not fully vaccinated gets whooping cough, about 1 in 3 will need to be hospitalized. Complications can include:

- Pneumonia
- Pauses in breathing (apnea)
- Seizures
- In rare cases, death

The good news? There is an effective way to help protect your baby before they are born.

What Is the Tdap Vaccine?

The Tdap vaccine protects against:

- **Tetanus**
- **Diphtheria**
- **Pertussis (whooping cough)**

Why Is the Tdap Vaccine Recommended During Pregnancy?

The Centers for Disease Control and Prevention (CDC) recommends that pregnant women receive the Tdap vaccine during each pregnancy, ideally between **27 and 36 weeks**.

When you receive the Tdap vaccine during pregnancy, your body makes protective antibodies. These antibodies cross the placenta and help protect babies after birth.

This protection:

- Starts right away after birth.
- Lasts for the first two months of a child's life.
- Helps bridge the gap until the baby can get their own vaccine.

Newborns are at highest risk for severe pertussis, and they are too young to be fully vaccinated. Getting the Tdap vaccine during pregnancy is the best way to reduce the risk of whooping cough in the baby.

Has the Tdap vaccine been studied for use in pregnancy?

Studies looking at thousands of pregnant women who received the Tdap vaccine have not found increased risks for birth defects, preterm delivery, or other pregnancy complications.

Research on the Tdap vaccine and other recommended vaccines in pregnancy, like the flu vaccine, has been reassuring for both pregnant women and their babies.

MotherToBaby continues to study vaccines in pregnancy to provide up-to-date, evidence-based information to families and healthcare providers. Learn more about how you can help here.

The Bottom Line

Getting the Tdap vaccine during pregnancy is the very best way to protect a newborn from whooping cough during their most vulnerable months. If you are pregnant or planning a pregnancy and have questions about vaccines, talk

with your healthcare provider. You can also contact MotherToBaby for free and confidential information based on the latest research.

Originally published 8/5/14, Updated 3/6/26.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at MotherToBaby.org.

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How the Tdap Vaccine During Pregnancy Protects Your Baby from Whooping Cough

By Chelsea Flores

Reviewed by Elizabeth Salas, MPH

Are you currently pregnant? Are you aware of the risk of pertussis to your baby?

Pertussis, also known as whooping cough, is a serious problem throughout California. Public health officials confirm our state is currently experiencing a pertussis epidemic. In 2010, there were more pertussis cases in California than had been reported in over 60 years with approximately 9,000 cases including 10 infant deaths. In 2014 10,831 cases were reported. The California Department of Public Health (CDPH) January 7, 2015 Pertussis Report states that of the 376 cases requiring hospitalization, 227 (60%) were babies less than 4 months of age. The two deaths reported in 2014 were babies less than 6 weeks of age. Unfortunately, babies are among the most vulnerable, but there are things you can do to protect your baby.

What Every Pregnant Woman Should Know About Pertussis

What is Pertussis?

Pertussis is a bacterial infection caused by the bacterium *bordetella pertussis.* This germ can be transferred from an infected person to an uninfected person through coughing, sneezing, or having close contact with someone infected. Pertussis is very contagious and can cause serious illness. It can affect any person at any age, but is more commonly reported in infants and the elderly.

At first pertussis may resemble a cold, but the symptoms change over time. Within 1-3 weeks after being infected, the person will have a rapid cough leading to difficulties in breathing. After coughing for seconds to minutes, they will make a "whooping" sound as they try to catch their breath. It can take weeks or even months before a person recovers from this infection. However, this infection may be prevented by vaccinating.

Why is pertussis a concern for newborns?

Newborns are at a higher risk of getting pertussis because their immune systems are weaker and not as capable of fighting off infections. In addition, they cannot receive their first pertussis vaccine until they are at least 6 weeks of age. Newborns infected with pertussis are at risk of being hospitalized, depending on the severity of the illness and can experience life-threatening symptoms. According to the CDC, in babies who are hospitalized for pertussis, studies suggest that 1 in 4 of these babies get pneumonia, 2 in 3 will experience apnea (slowed or stopped breathing), 1-2 per 100 will have convulsions, 1 in 300 experience encephalopathy (disease of the brain), and 1-2 per 100 babies hospitalized will die.

What can a pregnant woman do to protect her newborn?

Vaccinating during pregnancy is the best tool we have to protect moms and babies against pertussis. When mom receives the vaccine during pregnancy, it provides protection for the newborn. Mom can transfer protective antibodies (proteins that protect against pertussis) to the baby during pregnancy, which helps protect the newborn in the first 6-8 weeks when they are too young to get vaccinated. This vaccine will also help the mother by keeping her healthy and decreasing the chances of her spreading pertussis to her infant. It is important to get vaccinated during every pregnancy because over time levels of antibodies will start to decrease. In order to transfer the highest levels of antibodies to your baby, vaccination late in pregnancy is ideal.

It is also very important that new moms vaccinate their newborns against pertussis at 6-8 weeks rather than delaying vaccination. The longer mom waits to vaccinate, the longer her baby is vulnerable.

Is this vaccine safe during pregnancy?

The Tdap vaccine is an inactivated vaccine. This means the vaccine is made of particles of killed bacteria. It does not contain a live virus. There is no risk of contracting the infection from the vaccine, unlike vaccines that contain live viruses or bacteria. Currently the published information on vaccination against pertussis in pregnancy has not found an increased risk for problems in pregnancy or for the newborn. In every pregnancy, there is a 3-5% chance of having a baby with a birth defect regardless of exposures in pregnancy. This is known as the background risk. Vaccination against pertussis during pregnancy has not been shown to increase the risk of birth defects above the background risk that already exists in every pregnancy.

In 2011, the Centers for Disease Control and Prevention recommended the pertussis vaccine for pregnant women. The update in October of 2012, recommended that pregnant women, regardless of vaccination history, should receive the Tdap vaccine in every pregnancy. The optimal time to administer the vaccine is between 27-36 weeks gestation to maximize benefits to mom and baby. The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice also supports the recommendations.

What can family and friends do to help protect a newborn?

Staying up to date with pertussis vaccination is important, especially since adults may not know they are infected or may confuse pertussis with a common cold. "Cocooning" is a strategy recommended to protect the newborn. "Cocooning" refers to the vaccination of those who will be in close contact with the baby (dad, siblings, grandparents, and caretakers) in order to reduce the chance baby will be exposed to pertussis. Newborns are more likely to get pertussis from a family member or by having close contact with an infected person, especially when that person has not been vaccinated. Anyone not up to date with pertussis vaccines should be vaccinated at least 2 weeks before coming in contact with the infant to ensure their bodies have had enough time to develop immunity.

The Bottom Line for Expecting Moms and Their Families

Getting the vaccine does not necessarily mean that you or your baby are not at risk of being infected. While adults, who have been vaccinated, can still get pertussis, the infection is usually less severe. Vaccinating can reduce the chances you and your baby will get pertussis. Contact your doctor for more information about getting vaccinated. According to the Immunization Branch of the CDPH, even a single dose of the DTaPvaccine may provide some protection against severe pertussis disease in babies.

For more information about pertussis, the Tdap vaccine, or other exposures during pregnancy or lactation, contact MotherToBaby California toll free at 866-626-6847.

MotherToBaby is a service of the international Organization of Teratology Information Specialists (OTIS), a suggested resource by many agencies including the Centers for Disease Control and Prevention (CDC). If you have questions about medications, vaccines, diseases, or other exposures, call MotherToBaby toll-FREE at 866-626-6847You can also visit MotherToBaby.org to browse a library of fact sheets.

MotherToBaby is also conducting research on the pertussis vaccine during pregnancy, and is looking for pregnant women who have received the vaccine as well as women who have chosen not to get the vaccine. This research is observational, meaning participants are not asked to take any medications, get any vaccines, or to change their daily routine. To learn more about our pertussis vaccine research program, please contact one of our MotherToBaby Pregnancy Studies experts at (877) 311-8972.

Chelsea Flores is currently a senior at High Tech High North County. She will be applying to colleges this fall and has worked with MotherToBaby California as a student intern. She is considering a career in the medical field and is interested in obstetrics and gynecology.

Elizabeth Salas is the Lead Teratology Information Specialist for MotherToBaby California, a non-profit that provides information to healthcare providers and the general public about medications and more during pregnancy and breastfeeding. She is based at the University of California, San Diego, and is passionate about the work MotherToBaby is doing to promote healthy moms, healthy pregnancies and healthy babies.

Download the Tetanus, diphtheria and pertussis and Tdap Vaccine and Pregnancy fact sheet and other fact sheets by MotherToBaby (also available in Spanish) at

http://www.mothertobabyca.org/resources/fact-sheets/

For the latest information on pertussis in California, visit the California Department of Public Health Pertussis Summary Reports at https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/PertussisQuarterlyReport.aspx

Additional information about pertussis is available at the following Centers for Disease Control and Prevention link at http://www.cdc.gov/pertussis/materials/pregnant.html

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