



Vaccine for pregnant woman

Pregnancy vaccination

Which, when and protection

By

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Pregnancy results in many immunity changes in a woman's body, becoming more susceptible to infectious diseases. These diseases can impact the pregnancy, fetus in the uterus, and newborn baby. Vaccine for pregnant women protects them and fetuses from infection by strengthening the body's immune systems to fight off severe infectious diseases. Pregnancy vaccination can guard the mother against vaccine-preventable infections and protect the newborn baby by transferring antibodies to the fetus. This article details vaccinations like the Tdap vaccine, TT injection, others, benefits, and schedule.

Pregnancy is a period when a pregnant woman needs to take care of many things. Developing a healthy living style, having an appropriate diet, visiting the doctor for a routine checkup helps to keep both her and the baby healthy.

Getting necessary pregnancy vaccination is also essential for keeping few infections away from you and your baby. This vaccine for pregnant women can protect the mother against diseases. All the protection also transfers to the fetus, and the antibodies protect the newborn baby. This immunity (antibodies transferred from the mother) keeps the child safe during the first few months of life until the baby gets his own vaccination. Therefore, vaccinations during pregnancy are so necessary.

Not all vaccinations are safe during pregnancy. Some inactivated vaccines like TT injection in pregnancy, Tdap vaccine are considered safe. These vaccines can be given to pregnant women who might be at risk of infection.



Three important pregnancy vaccination

There are many vaccine for pregnant women which can be taken during pregnancy. But following three pregnancy vaccination are safe and advised during the pregnancy.

Tetanus

The first important vaccine is to protect from Tetanus. To protect you, your fetus, or newborn baby for the initial few months, you need to take

Either

2 doses of TT injection in pregnancy at least 28 days apart

OR

One dose of TT injection and one dose of Tdap (Tetanus, Diphtheria, and Pertussis)

Influenza

Influenza is commonly known as 'Flu' and is caused by Influenza Virus. You need to take the influenza vaccine to get protection from the Flu. The influenza vaccine is mainly recommended during the second and third trimesters of pregnancy. You can also take this vaccination in the first trimester of pregnancy.

These are the three crucial vaccine for pregnant women. There are many other pregnancy vaccination you can take. Please [consult your pregnancy doctor](#) to know about them and their schedule.





Tetanus Toxoid – TT vaccine

Tetanus is a life-threatening bacterial disease that is caused by the toxin of a bacterium called *Clostridium tetani*. Tetanus bacteria enter the body through an open wound. It could be a tiny prick or scratch on the skin. Tetanus infection is more common when a deep puncture wound such as a bite, cut, burn, or an ulcer. Tetanus affects a person's nervous system and can be fatal if left untreated.

Neonatal Tetanus usually occurs in newborns through infection of the unhealed umbilical stump, significantly when the umbilical cord is cut with a non-sterile instrument.

To maximize the maternal antibody response and passive antibody transfer to the infant, the national immunization schedule in India recommends the tetanus vaccine for pregnant women. It is advised to get 2 doses of tetanus toxoid or TT injection in pregnancy.

Schedule of TT injection in pregnancy

TT injection in pregnancy is a vital pregnancy vaccination. It is needed if the pregnant woman has not previously been vaccinated or if her immunization status is unknown. Two doses of TT/Td are to be given before the delivery. These two doses should be one month apart. The 2nd dose of TT injection in pregnancy should be completed 2 weeks before the delivery.

If this is not your first pregnancy, the number of TT injection doses depends on its status in a previous pregnancy and the duration between two pregnancies.

- If you have **not taken any TT injection** in a previous pregnancy, you must take **two doses of TT injection**.
- Suppose you have taken two doses of TT injection in a previous pregnancy. The gap between the pregnancy is **less than 3 years**. In that case, you can take only **one dose of TT injection**. This dose is called the booster dose.
- Suppose you have taken two doses of TT injection in a previous pregnancy. The gap between the pregnancy is **more than 3 years**. In that case, you must take **two doses of TT injection** (complete course of vaccination).

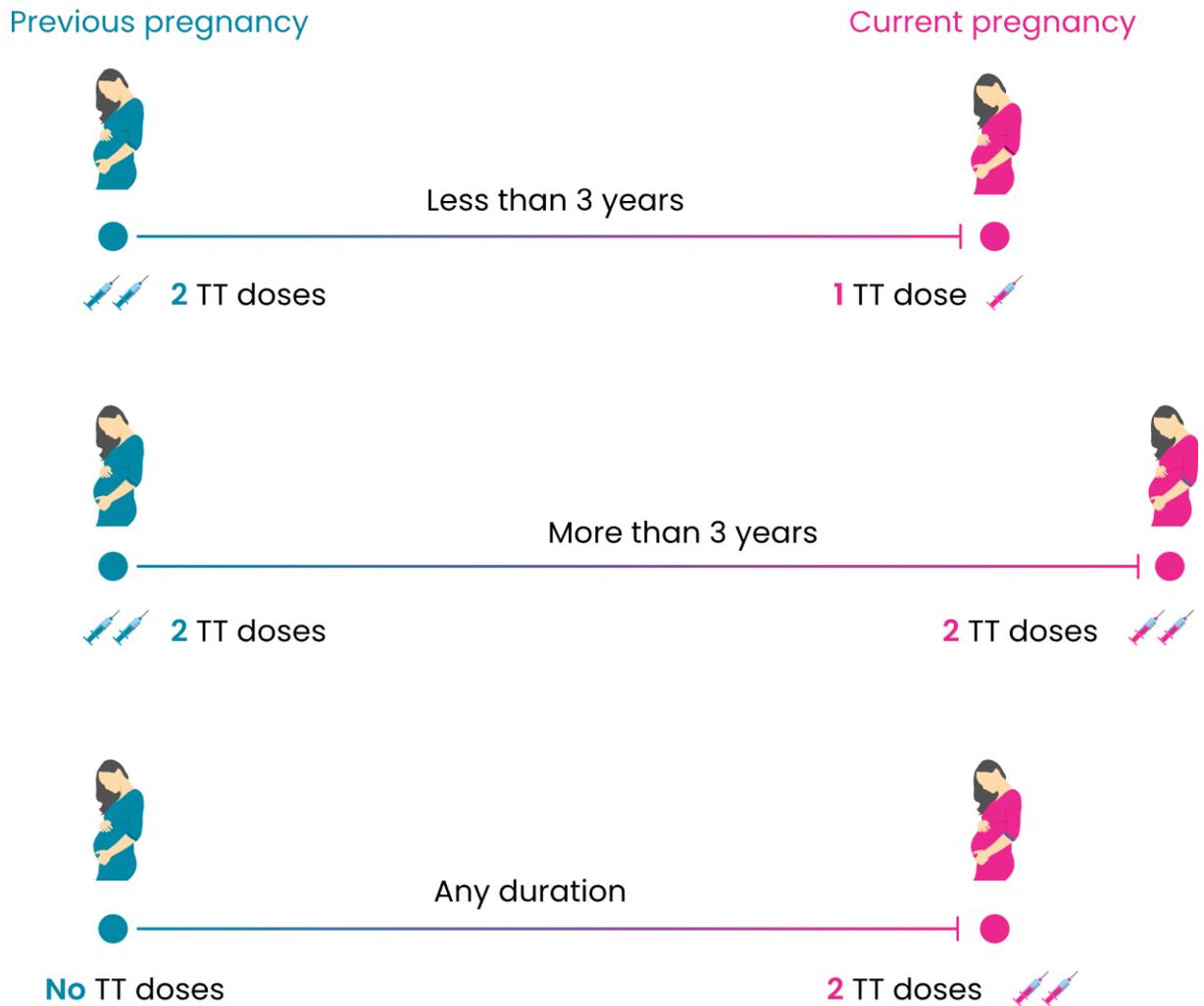


Figure 1: Schedule for TT injection in pregnancy

Sometimes it could be confusing to know if you are protected against Tetanus or not. It is advised to consult [your pregnancy doctor](#) to check the status and take the TT injection if needed. Feel free to [ask me the question](#). I will be glad to guide and help.

How to prevent tetanus infection?

There are many preventive measures you can take to avoid tetanus infection. Following are the primary strategies to prevent the disease.

- High immunization coverage of pregnant women.
- Clean delivery (Using sterile techniques during delivery).
- The identification and implementation of corrective actions in high-risk areas.



Adverse effects of TT vaccine for pregnant women

A few of the adverse and aftereffects of TT injection in pregnancy are:

- Soreness, redness, or swelling at the site of the injection.
- Fever.
- Headache or body aches.
- Fatigue.
- Nausea, vomiting, or diarrhea.
- Loss of appetite.

It is advisable to [consult the doctor](#) in case if you experience any such adverse effects.



Tdap vaccine

Tdap vaccine is a combination vaccine that gives triple protection against three bacterial infections. A single shot of this pregnancy vaccination, it protects you from Tetanus, diphtheria, and Pertussis.

Tdap vaccine is recommended during pregnancy because of the following reasons.

- Tdap vaccine helps in protecting newborn/young infants from neonatal Pertussis.
- Tdap vaccine for pregnant women results in the transfer of antibodies from mother to fetus. These antibodies offer protection to newborn babies during the first few months of life when they are most susceptible to Pertussis.
- These antibodies help to protect babies until their own DTP vaccination starts, i.e., around 6 weeks.
- Mothers have been identified as the most common source of pertussis infection in the newborn period.

Tdap vaccine is given as a deep Intramuscular (IM) injection, preferably deltoid region (shoulder region). The optimal time to provide the Tdap vaccine is **27-36 weeks of pregnancy**, as higher antibody levels are likely to



be achieved in the fetus. Tdap vaccination can be **considered instead of the second dose of TT injection.**

What is Pertussis?

Pertussis is a highly contagious respiratory infection, commonly known as Whooping Cough. Pertussis is transmitted through airborne droplets or direct contact with nasopharyngeal (the upper part of the throat behind the nose) discharges from an infected person. It affects people of all ages, but in newborns / young infants, it leads to serious complications such as pneumonia and seizures, leading to increased hospitalization. **Consult your gynecologist** to know more about Pertussis, its symptoms, and how the Tdap vaccine for pregnant women can protect you and your baby.

How is the Tdap vaccine different from the TT/Td vaccine?

Tetanus Toxoid (TT injection in pregnancy)/ Td (Tetanus and Diphtheria Toxoid) pregnancy vaccination protects both mother and newborn baby against Tetanus and Diphtheria. Tdap vaccine additionally protects against Pertussis, especially in newborns, through transplacental transfer of antibodies from mother to fetus.

Adverse effects of Tdap vaccine during pregnancy

Following are few adverse effects of the Tdap vaccine.

- Mild to moderate pain at injection sites is the most common symptom.
- Injection site swelling, redness.
- Occasionally severe pain and fever.
- At times headache, nausea, vomiting, fatigue, myalgia/ arthralgia symptoms can be felt.

Who should not get Tdap vaccination?

If anyone had a severe allergic reaction after the previous Tdap vaccine. Tdap vaccine for pregnant women should not be given if there is a history of coma or seizures within a week following a Tdap vaccine.





Influenza vaccine

Influenza is commonly known as 'Flu' and is caused by Influenza Virus. It presents as fever, cough, cold, headache, fatigue, muscle aches, sore throat. It can lead to pneumonia.

Pregnant women are at higher risk of developing influenza complications. Changes in the immune and cardiovascular system during pregnancy may increase the risk of complications due to influenza. Newborns are at increased risk of preterm births and low birth weights as well as fetal death. This risk is due to maternal influenza.

Influenza vaccination and pregnancy

Influenza pregnancy vaccination is one of the essential vaccines during pregnancy. ACOF, WHO, CDC strongly recommends the Influenza vaccine during pregnancy. This is an inactivated vaccine and is safe during pregnancy.

Schedule for influenza vaccination in pregnancy

It is mainly recommended during the second and third trimesters of pregnancy. But influenza vaccine can also be given in the first trimester.

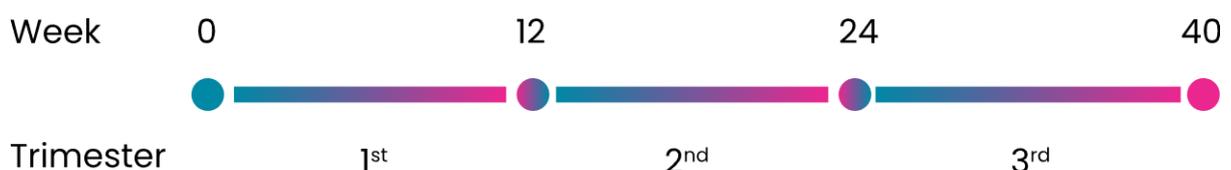


Figure 2: Schedule for influenza vaccination

You should avoid nasal spray Influenza vaccine during pregnancy as it is made from live viruses. Consult [your pregnancy doctor](#) to know more about the vaccine and schedule.

Side effects of influenza vaccine for pregnant women

The most common side effects are - injection site pain, redness, swelling, nausea, and fatigue. Others side effect includes headache,



nausea, vomiting abdominal pain, shivering fever. Few uncommon side effects of the influenza vaccine are dizziness, injection site hematoma, injection site pruritus.

How does the influenza vaccine given in pregnancy help newborn babies?

- Influenza vaccine in pregnancy helps both mother and newborn baby.
- Newborn babies cannot receive the Influenza vaccine till they are 6 months old.
- When pregnant women are vaccinated, there is the passive transfer of antibodies through the transplacental route to the newborn. Thus, newborns are protected by passive immunity from mother.

Co-administration of Pertussis and Flu vaccines

Pertussis (Tdap) and Flu pregnancy vaccination can be given to pregnant women at the same visit but at different locations on the body.



Vaccines not recommended during pregnancy

Live vaccines are not advised to take during pregnancy. Following are not recommended vaccine for pregnant women:

- Human Papillomavirus (HPV) vaccine.
- Measles, Mumps, and Rubella (MMR) vaccine.
- Live influenza vaccine (nasal Flu).
- Varicella (chickenpox) vaccine.

Certain travel vaccines like yellow fever, typhoid fever, and Japanese encephalitis are not advisable during pregnancy. Note that these travel vaccines should generally not be given during pregnancy unless your healthcare provider determines that the benefits outweigh the risks. Before you take any vaccine, it is advised to [consult your pregnancy doctor](#).





Pregnancy vaccination is one of the crucial steps for a healthy pregnancy. It does not only protect you but your baby before and after the birth. These are a few of the vaccine for pregnant women. Tdap vaccine, TT injection in pregnancy, and influenza vaccine are three crucial and safe vaccinations you should take. There are also other vaccinations you can take during pregnancy. Please [consult your gynecologist](#) in case if you have any queries on pregnancy vaccinations. You can also [ask me any questions](#) about vaccine for pregnant women and what is safe for you.



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Dr. Varshali Mali is an Obstetrician and Gynecologist. She did her MBBS from Dr. D. Y. Patil Medical College, Pune, DNB (Obstetrics & Gynecology) from Jehangir Hospital, Pune, and Diploma in Gynecological Endoscopy from the University of Schleswig Holstein – Kiel Germany. She has several years of experience working as a gynecologist, pregnancy doctor, and lecturer. Through her clinic located at Life Republic township near Marunji, she provides gynecology and pregnancy care solutions to the women around Hinjewadi, Wakad, and nearby Pune. She is known for her welcome nature, smiley face, supportive attitude, intelligence, and in-depth knowledge about gynecology and pregnancy in her patient community. Mother of two daughters, she believes that motherhood is the best gift one can get. As her contribution, she puts her best efforts into making the pregnancy journey most enjoyable for her patients.

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