Vaccines for My Baby During Pregnancy



Influenza

Flu virus is one bad bug!

Kansas Resident Influenza Related Deaths by Selected Entire Flu Seasons

(Time period based on date of death)



	2018-19 Season		2019-20 Season%	
	N	%	N	%
Influenza - Direct Cause of Death	76	5.3	117	7.6
Influenza- Contributing Cause of Death Only	21	1.5	24	1.6

From KDHE Influenza Surveillance:

https://www.kdhe.ks.gov/1476/Influenza-Surveillance

Flu disease can cause *severe problems* for a fetus, newborn, or pregnant woman.

FETUS NEWBORN PREGNANT WOMAN

"The embryo or fetus might be affected adversely by influenza in the mother during pregnancy, especially when the mother is severely ill."

From the American Journal of Obstetrics & Gynecology

- Prenatal flu infection was significantly associated with late pregnancy loss and reduction in mean birthweight of term, singleton infants.
- If a pregnant woman in any trimester is **hospitalized for flu** during influenza season, it can harm her fetus. Her infant is more likely to be born **small for gestational age** and to have **lower mean birthweight** than infants born to women who did not need hospitalization.
- Pandemic flu infection during pregnancy was associated with an increased risk of fetal death. Vaccination during pregnancy reduced the risk of an influenza diagnosis.



The Story of Anakin Das

FETUS

NEWBORN

PREGNANT WOMAN



Anakin was born 10 weeks premature as a result of his mother contracting influenza while pregnant. He now suffers from chronic lung disease.

Read the full story: familiesfightingflu.org/family-story/the-das-family/



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NEWBORN

PREGNANT WOMAN

On average each year in the U.S. 6,514 infants less than 12 months of age are hospitalized for influenza.

- Age: The younger the infant the greater the risk of hospitalization from influenza. Hospitalization rates among
- Otherwise healthy: Most hospitalizations occurred in otherwise healthy infants (75%) among whom up to 10% were admitted to the ICU and up to 4% had respiratory failure.
 - These proportions were 2-3 times higher in infants with high-risk conditions (such as congenital heart, lung, or neuromuscular disorders).



Marques Jackson's Flu Story

FETUS

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PREGNANT WOMAN



5½-month-old Marques Jackson, Jr. came down with a fever and a runny nose and symptoms of what his family thought was just a common cold. After a visit to the doctor, it was determined that Marques had influenza.

Over the next 24 hours, his symptoms got worse. Marques began having trouble breathing so his parents called 911. As Marques was being rushed to the hospital he suffered from several small strokes.

Marques died in the hospital from complications of influenza, just four days after his first symptom.



FETUS

NEWBORN

PREGNANT WOMAN

Flu is more likely to cause severe illness in pregnant women than in non-pregnant women of reproductive age.

Changes in the **immune system**, **heart**, and **lungs** make **pregnant women and women up to 2 weeks postpartum** more prone to severe illness from flu, including illness resulting in hospitalization.

Among U.S. deaths reported to CDC due to the 2009 influenza pandemic, 5% of all these deaths involved pregnant women, even though pregnant women represented <1% of the U.S. population.



When you get a flu shot, you help to protect your fetus, your newborn, and yourself.

Within 2 weeks of a flu shot, a mother's antibodies against flu pass to the fetus through the placenta.

In this way, maternal vaccination offers protection via antibody transmission through the placenta and, postpartum, through breast milk.



Because babies <6 months of age cannot receive flu vaccine, this indirect protection is currently the best prevention strategy for newborns.

The flu vaccine also reduces a pregnant woman's risk of severe influenza requiring hospitalization and ICU care.

The Facts about 3 Common Concerns

1. "Does flu vaccine really work?"

2. "The flu vaccine gives me the flu."

3. "Is flu vaccine really safe during pregnancy?"

Vaccination reduces the risk of flu-associated acute respiratory infection in pregnant women by about half. (CDC)

The real issue, though, is the *risk* a pregnant woman faces when she gets influenza infection: her infection may be so severe that she needs hospital care.

How much does flu vaccination help to prevent this? Take a guess!

Getting a flu shot will reduce a pregnant woman's risk of being hospitalized with flu by an average of ______%

A: 10%

B: 20%

C: 30%

D: 40%

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D: 40% A 2018 study evaluated the effectiveness of the flu vaccine and found that getting a flu shot reduced a pregnant woman's risk of being hospitalized with flu by an average of 40%.



For influenza vaccine and Tdap the transfer of protective antibodies is an important vaccine effect.

Maternal vaccination leads to protection of infants, which is key because...

A: Young infants are at high risk of having complications if infected with flu

B: Infants are not eligible for flu vaccine until 2 months of age

C: Both statements are true

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C: Both statements are true

Note: Babies are not eligible for flu vaccine until 6 months of age, so they must rely on maternal immunization.

When you get a flu shot, you help to protect your fetus, your newborn, and yourself.

Concern #2: "The flu vaccine gives me the flu."

• There is **no living virus** in the vaccine.

 The flu vaccine provides the best protection the baby will have against flu for their first 6 months of life.

 May have minor effects to your immune system the next day, but that's better than being hospitalized.

Evidence of flu shot safety during pregnancy

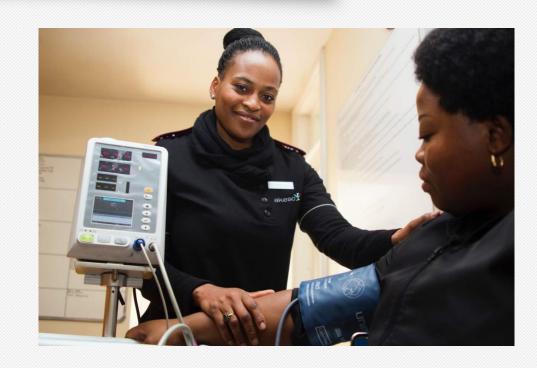
Concern #3: "Is the flu shot safe for me and my baby during pregnancy?"

 Yes! Flu shots have been given to millions of pregnant women over many years with a good safety record.

• A review of VAERS (Vaccine Adverse Event Reporting System) reports found no evidence to suggest a link between flu vaccination of pregnant women and pregnancy complications or poor fetal outcomes.

No increased risk for adverse events or miscarriage during pregnancy

- A large study found **no increased risk for adverse events** for pregnant women who received the flu vaccine from 2002 to 2009 when compared to pregnant woman who were not vaccinated.
- A large study using data from three flu seasons (2012-13, 2013-14, 2014-15) found no increased risk for miscarriage after flu vaccination during pregnancy.
- A similar study using data from the 2005-06 and 2006-07 seasons found no increased risk of miscarriage among pregnant women who received flu vaccines.



One flawed study received widespread media attention

One study examined data from the 2010-2011 and 2011-2012 flu seasons. The team thought they found an association between flu vaccination early in pregnancy and an increased risk of spontaneous abortion.



One flawed study received widespread media attention

The study had some major problems, though:

- Women with complicated pregnancies are more likely to be followed closely by a doctor.
- The small sample size led to imprecise results.
- This study was the <u>only</u> analysis to show this reported association; no other studies have found an increased risk of spontaneous abortion following influenza vaccination.

In response to this study, the CDC provided funding for a larger 2019 follow-up study that included about three times as many women. That study did not find any safety problems.

No increased risk of premature delivery or birth defects



In a study of pregnant women who received the flu shot and an equal number of pregnant women who did not receive the flu shot, there was no difference between the two groups in the rates of premature delivery or small for gestational age infants.

A large 2017 study found that the babies of women who received the flu shot during their first trimester had no increased risk of having children with major birth defects.

More on flu vaccine safety

To sum up flu vaccine safety:

- The flu shot is safe for pregnant women and the fetus.
 - Much safer than going without the flu shot and just hoping for the best!
- "I don't want flu vaccine's side effects."
 - Interestingly, in a study where people did not know if they got a flu shot or a placebo, there were <u>no differences</u> in terms of body aches, fever, cough, runny nose or sore throat.

Common Concerns

Is it worth it if there might be body aches from the vaccine?

I never get the flu.

G

Common Concerns

You may feel achy, but you'll pass antibodies to the baby. Your baby is much less likely to need to go to the ED or hospital for flu if you take the vaccine during your pregnancy. Also, if you get infected with flu you may have difficulty breathing & low oxygen.

I never get the flu.

4



G

Common Concerns

You may feel achy, but you'll pass antibodies to the baby. Your baby is much less likely to need to go to the ED or hospital for flu if you take the vaccine during your pregnancy. Also, if you get infected with flu you may have difficulty breathing & low oxygen.

Your immune system, heart, and lungs are not like they were before your pregnancy. If you get flu this year you could need support in the hospital, which is hard on the baby.



More reading for you

 Vaccines and Pregnancy: 8 Things You **Need to Know**

- "Pregnant? You Need a Flu Shot!
- "Flu Vaccine Safety and Pregnancy: **Questions & Answers**"



Pregnancy and Vaccination CDC > Vaccines and Pregnancy Home > Resources

♠ Vaccines and Pregnancy Home

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Vaccines During and After

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Top 8 Things You Need to Know

Healthcare Providers

Related Links

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Pregnancy

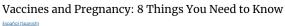
Resources

Vaccines site ▼ Q Advanced Search









COVID-19 Vaccination

Get the latest information about COVID-19 vaccines while pregnant or breastfeeding.

1. You aren't just protecting yourself—vaccines during pregnancy give your baby some early protection too!

Did you know a baby can get some disease protection from the mom during pregnancy? Getting flu, Tdap (tetanus, diptheria, and pertussis), and COVID-19 vaccines while you're pregnant helps your body create protective antibodies (proteins produced by the body to fight off diseases), and you can pass on some of those antibodies to your baby. These antibodies can protect your baby from those diseases during the first few months of life.



2. Flu, Tdap, and COVID-19 vaccination while pregnant can help keep you and your little

CDC and a panel of experts who make vaccine recommendations have concluded that flu, Tdap, and COVID-19 vaccines are safe for pregnant women and their babies. These experts carefully reviewed the available safety data before recommending any vaccines during pregnancy

Vaccines, like medicine, can have some side effects. But most people who get vaccinated have mild or no side effects. CDC continually monitors vaccine safety, and the most common side effects may include fever, tiredness, and body aches, as well as redness, swelling, and tenderness at the site where the



Q

6 0 6 8 8



Pregnant? You Need a Flu Shot!

Information for pregnant women

Because you are pregnant, CDC and your ob-gyn or midwife recommend you get a flu shot to protect yourself and your baby from flu.

You should get vaccinated by the end of October, if possible This timing can help protected before flu activity begins to increase. Talk to your ob-gyn or midwife about getting a flu shot. The flu is a serious illness, especially when you are pregnant.

Getting the flu can cause serious problems when you are pregnant. Even f you are generally healthy, changes in immune, heart, and lung function: during pregnancy make you more likely to get severely ill from flu. Pregnant women who get flu are at high risk of developing serious illness, including

Flu shots are the best available protection for you - and

When you get your flu shot, your body starts to make antibodies that nelp protect you against the flu. Antibodies also can be passed on to you developing baby, and help protect them for several months after birth. This rtant because babies younger than 6 months of age are too young to get a flu vaccine. If you breastfeed your infant, antibodies also can be antibodies after getting a flu vaccine. Talk to your doctor, nurse, or clinic about getting vaccinated by the end of October, if possible.

The flu shot is safe for pregnant and breastfeeding women and their infants

You can get a flu shot at any time, during any trimester, while you are pregnant. Millions of pregnant women have gotten flu shots. Flu shots have a good safety record. There is a lot of evidence that flu vaccines can be given safely during oregnancy, though these data are limited for the first trimester

shot, you still need to get vaccinated. The flu is spread from person to person. You, or others who care for your baby, may get the flu, and spread it to your baby. It is important that vaccine, including other househo nembers, relatives, and babysitters

If you deliver your baby before getting your flu

Common side effects of a flu

After getting your flu shot, you may experience some mild side effects The most common side effects include soreness, tenderness, redness and/or velling where the shot was given Sometimes you might have a neadache, muscle aches, fever, and nausea or feel tired.

Who is at High Risk for Flu

Complications

Adults 65 & Over

Heart Disease & Stroke

What Parents Need to Know

Prevent Flu

Symptoms & Diagnosis

Conters for Disease Control and Prevention

Flu Vaccine Safety and Pregnancy

Note: There is no recommendation for pregnant women or people with preexisting medical conditions to get special perm from their doctor or health care professional for influenza vaccination if they get vaccinated at a worksite clinic, pharmacy or other location outside of their physician's office. For more information, visit Misconceptions about

Why should pregnant women get a flu shot?

Influenza (flu) is more likely to cause severe illness in pregnant women than in women of reproductive age who are not pregnant. Changes in the immune system, heart, and lungs during pregnancy make pregnant women (and women illness resulting in hospitalization. Flu also may be harmful for a pregnant woman's developing baby. A common flu symptom is fever, which may be associated with neural tube defects and other adverse outcomes for a How is the safety of flu vaccines i developing baby. Getting vaccinated also can help protect a baby after birth from flu. (Mom passes antibodies onto the developing baby during her pregnancy.)

A Flu Vaccine is the Best Protection Against Flu

Getting an influenza flu vaccine is the first and most important step in protecting against flu. Pregnant women should get a flu shot and not the nasal spray flu. vaccine. Flu shots given during pregnancy help protect both the mother and her acute respiratory infection in pregnant women by about one-half. A 2018 study showed that getting a flu shot reduced a pregnant woman's risk of being ospitalized with flu by an average of 40 percent. Pregnant women who get a flu

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Can flu vaccination result in

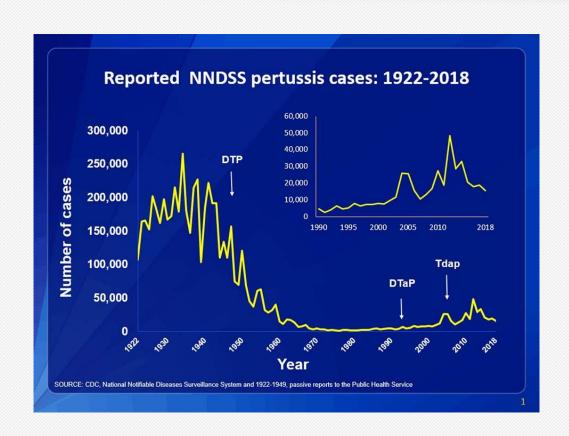
What about thimerosal in flu get thimerosal-free flu vaccines? Can a breastfeeding woman get a flu

Pertussis

Pertussis

- Why get Tdap vaccine during pregnancy?
 - Outbreaks of pertussis (whooping cough) occur across the U.S.
 - Today's pertussis vaccines are not long-lasting, so we need to focus on protecting infants, the group most at risk of pertussis.
 - The Tdap vaccine is best received between the 27th and 36th week of each pregnancy.

Pertussis Trends



Each year since 2010, CDC has received 10,000 to 50,000 case reports of pertussis and every state has reported cases.

In 2012, there were 48,277 reported cases of pertussis; **2,269 of those cases were in infants** younger than 3 months and **15 of those infants died**.

Pertussis is more than a cough



In infants <1 year of age who get pertussis, about half need hospital care. Of those infants, about

- 61% will have episodes when the baby stops breathing
- 23% will develop pneumonia
- 1% will die

IMMUNIZATION. POWER TO PROTECT.

Learn more at www.cdc.gov/vaccines/parents



Most pertussis deaths are infants who are too young to be protected by the childhood pertussis vaccine (DTaP).

The 100 day cough: pertussis in adults

- Pregnant women can also have complications from pertussis.
- The pertussis cough can last for 3 months. Adults can cough so hard it causes:
 - Urinary incontinence
 - Fainting
 - Broken rib



Babies can't start pertussis shot until age 2 months



There are no pertussis vaccines for newborns.

Steps to take to prevent pertussis:

- Mothers get Tdap vaccine during pregnancy.
- Make sure family and others around the infant are up to date with Tdap vaccine.
- Give the baby DTaP series starting at 2 months of age.

Vaccination during pregnancy leads to protection

Mother's pertussis antibodies go from vaccinated mother to fetus through the placenta. This gives the newborn some protection against pertussis.

Vaccination of the mother AFTER delivery does NOT provide this direct protection for the infant.



When you receive Tdap vaccine during pregnancy, you pass antibodies to your baby.

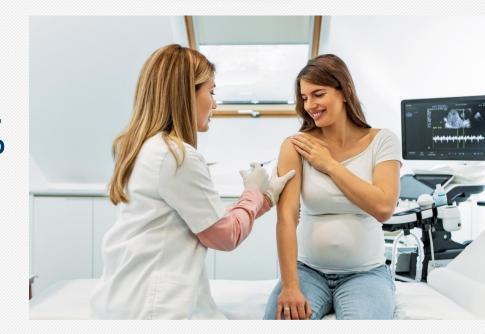
It's the best way to protect your newborn from whooping cough.

AWHONN Tdap Vaccine Video



Tdap Questions

- When is the best time for me to get Tdap vaccine?
 - The most antibody gets to the infant if Tdap vaccine is given between 27 and 36 weeks of gestation, but Tdap may be given at any time during pregnancy.
 - Many offices give Tdap vaccine at the same visit they do the test for gestational diabetes.
 - If you think you have not gotten it by then, ask about it.



- Is Tdap safe during pregnancy?
 - Yes! This has been tracked and there are no extra side effects for the woman or her unborn baby when Tdap vaccine is given during pregnancy.

Answers to 6 vaccine questions

6 Common Vaccine Questions

- "I don't believe in vaccines."
- "I'm not worried about flu or pertussis."
- "I'm worried about vaccine side effects if given during pregnancy."
- "Can't I just get vaccinated after my delivery?"
- "Isn't it enough to make sure everyone around my baby is vaccinated?"
- "If I plan to breastfeed, do I still need to vaccinated during pregnancy?"

"I don't believe in vaccines."



Your body is different during pregnancy. Most importantly, getting flu vaccine and Tdap can give your baby early protection against serious illnesses.

"I'm not worried about flu or pertussis."



Flu and whooping cough are very dangerous for young babies and can even be deadly. Even healthy women can end up in the hospital if they catch the flu.

"I'm worried about vaccine side effects if given during pregnancy."

Most side effects from vaccines against flu and pertussis are mild and last a day or two.



"Can't I just get vaccinated after my delivery?"



- The vaccines you get during pregnancy will help protect you and your baby during their early months of life, when babies can't yet get their own vaccines.
- Later, babies will get their own vaccines when your antibodies leave them.

"Isn't it enough to make sure everyone around my baby is vaccinated?"

It's almost impossible to make sure that no one around your baby will spread flu or pertussis.

Vaccines during pregnancy offer the best protection for your baby until they're old enough to get their own vaccines.



"If I plan to breastfeed, do I still need vaccination during pregnancy?"



- When you get vaccinated during your pregnancy, you will have protective antibodies in your breast milk that you can share with your baby.
- However, your baby will not get immediate or the greatest number of protective antibodies if you wait to get a whooping cough vaccine until after delivering your baby.
- Breast milk only offers limited and shortterm protection, so it's important for baby to start their own vaccines on time.

Fotonovela Resource

Vaccinate Your Family & Día de la Mujer Latina created a fotonovela answering common questions and concerns about vaccines during pregnancy.

Printable versions (para imprimir):

- Español
- English



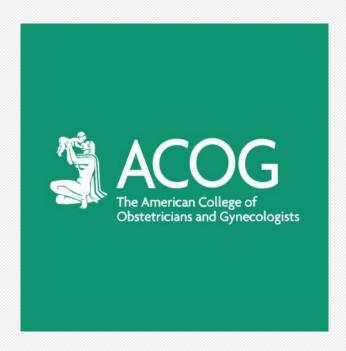


COVID-19 vaccination during pregnancy

COVID-19 vaccination during pregnancy

COVID-19 vaccination is recommended for pregnant and lactating women by leading obstetric care specialist organizations

- American College of Obstetricians and Gynecologists (ACOG)
- Society for Maternal-Fetal Medicine (SMFM)





Reason #1: The burden of disease

Pregnant women who get sick with COVID-19 are more likely than nonpregnant women to...



need care in an intensive care unit (ICU)



need a ventilator for breathing support



die from the illness

Reason #2: COVID-19 vaccines work



Estimated vaccine effectiveness for symptomatic infection was 97% after the second dose.

COVID-19 vaccination during pregnancy can help protect the baby, too!







COVID vaccines cannot give you COVID-19 because there is no live virus in the vaccine.







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Reports show that women who got COVID-19 vaccine during pregnancy did not have vaccine safety problems.







COVID vaccines cannot give you COVID-19 because there is no live virus in the vaccine.

Reports show that women who got COVID-19 vaccine during pregnancy did not have vaccine safety problems. After vaccination, the antibodies made by your body may be passed through breastmilk, helping to protect your baby from COVID-19.







You should know...

Your ability to get pregnant remains the same after COVID-19 vaccination.

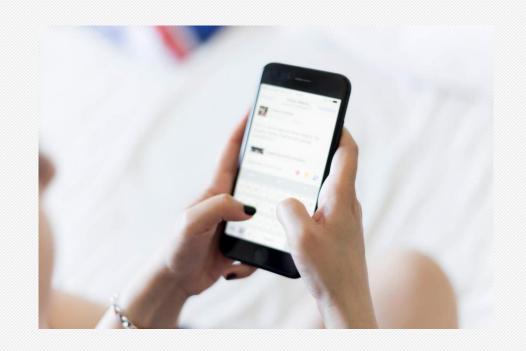
O.B.s recommend vaccination for anyone who may consider getting pregnant in the future.

Are you afraid of shots?

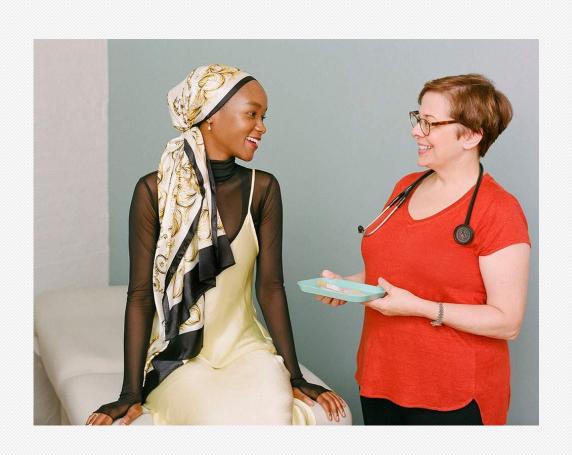
3 easy ways to manage fear of shot pain

1. Use distraction.

- Take your attention away from the procedure.
- Use something that will work for you.
- If one isn't working, try different distractions as needed.



3 easy ways to manage fear of shot pain



2. Rub the skin.

Ask the nurse to rub/stroke your arm near the injection site before and during vaccine injections.

3 easy ways to manage fear of shot pain

3. Take deep breaths

Take slow deep breaths and follow a pattern such as breathing in through the nose and out through the mouth.



Wrap Up

- Antibody levels in breast milk are higher if a woman received flu vaccine during pregnancy.
- A flu shot can give you flu.
- After a flu shot it takes about two weeks before a person starts making the antibodies for protection.

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- Babies get their 1st DTaP at 2 months of age, and they have to wait until they are at least 6 months old to get a flu shot.

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- OBs recommend COVID-19 vaccination during pregnancy.
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