

Antiemetic Agents

The safety of antiemetic agents during pregnancy or breastfeeding

The information provided below is for readers based in the United States of America. Readers outside of the United States of America should seek the information from local sources.

THIS MEDICATION MAY CAUSE HARM TO YOUR BABY:

Antiemetic agents should not be taken during pregnancy unless the benefits of treatment outweigh the potential risks to the baby. There is limited safety information available on the use of antiemetic agents during pregnancy, but human studies suggest low potential risk. Caution is advised when continuing these medications during pregnancy or while nursing a baby.

What are antiemetic agents?

Antiemetic agents are helpful for nausea and vomiting. Nausea and vomiting can be caused by pregnancy, chemotherapy, food poisoning, motion sickness, gastroenteritis, and acid reflux. Types of antiemetic agents that are available include chlorpromazine, metoclopramide (Reglan), prochlorperazine (Compro), and ondansetron (Zofran). Antiemetic agents such as chlorpromazine and prochlorperazine are also known as typical antipsychotics. Chlorpromazine is also used to treat bipolar disorder, psychotic disorders, and schizophrenia. None of these medications can be purchased without a prescription.

What are antiemetic agents used to treat?

Antiemetic agents are used to manage symptoms of nausea and vomiting in children, adolescents, and adults. Severe nausea and vomiting can lead to dehydration, electrolyte imbalances, weight loss, and esophageal irritation.

What is nausea and vomiting?

Nausea is a sensation of needing to vomit caused by stimulation of the area of the brain that controls vomiting. Vomiting is when contents of the stomach are ejected from the mouth. Vomiting occurs when there is an involuntary abdominal muscle contraction and lower esophageal muscle tone

decreases. Nausea and/or vomiting are common during early pregnancy, but severe nausea and vomiting leading to weight loss and dehydration during pregnancy is called [hyperemesis gravidarum](#) and can be quite dangerous to mother and baby. The American College of Obstetricians and Gynecologists recommends early treatment of nausea and vomiting of pregnancy to avoid complications.

How do antiemetic agents work?

Antiemetic agents work by blocking dopamine receptors (i.e., metoclopramide, prochlorperazine, chlorpromazine) and/or serotonin receptors in the brain (i.e. ondansetron, metoclopramide). Antiemetic agents such as chlorpromazine decrease neuron activity in certain parts of the brain, leading to changes in body temperature, wakefulness, muscle tone, and vomiting. Antiemetic agents also increase stomach emptying and increase lower esophageal muscle tone to prevent stomach contents from being vomited. Antiemetic agents can be taken orally, intramuscularly, or through intravenous injection and are most effective when taken every 4 to 6 hours.

If I am taking an antiemetic agent, can it harm my baby?

There is limited information on the safety of antiemetic agents during pregnancy. It may be recommended to use other medications to treat nausea and vomiting in pregnancy. It is important to consider the risks and benefits of these medications before taking them during pregnancy.

Evidence:

Chlorpromazine

There are case reports of newborns exposed to medications such as chlorpromazine who have developed [jaundice](#) and either abnormal or overactive reflexes.

Babies whose moms have taken antipsychotics like chlorpromazine in the third trimester have developed abnormal muscle movement (*extrapyramidal symptoms*) and withdrawal symptoms upon delivery. Extrapyramidal symptoms can last for several months. Some withdrawal symptoms may resolve on their own or may require hospitalization of the baby. The following is a list of some extrapyramidal and withdrawal symptoms that have been reported in babies exposed to antipsychotics:

- Difficulty feeding
- Agitation

- Stiff muscle tone
- Low muscle tone (“Floppy baby syndrome”)
- Respiratory distress
- Drowsiness
- Tremor

The Collaborative Perinatal Project looked at 142 children exposed to chlorpromazine during the first trimester of pregnancy as well as another 284 children exposed to chlorpromazine anytime during pregnancy. Exposure during the first trimester or anytime during pregnancy did not increase the risk of birth defects. There was no effect on death of the developing baby, birth weight, or intelligence measured at 4 years of age. Seven year data from this project also found that children exposed to chlorpromazine in utero were an average 3 cm taller than children not exposed to this medication in utero. Another study in 36 infants exposed to chlorpromazine during the first trimester of pregnancy, finding no increase in the risk of birth defects. A French study reported an increased risk of birth defects in babies with first trimester chlorpromazine exposure. Four out of 57 babies exposed to chlorpromazine developed birth defects including a small head, clubfoot, or deformities of the hands (many of these babies were exposed to chlorpromazine and another antipsychotic).

It is recommended that women avoid chlorpromazine near term due to the risk of causing maternal low blood pressure and other adverse effects. Chlorpromazine doses of 500 mg or greater near term are associated with respiratory depression, drowsiness, and extrapyramidal symptoms.

Metoclopramide

Large studies have shown that first trimester use of metoclopramide is not associated with an increased risk of birth defects, miscarriage, or stillbirth compared to pregnant women not taking antiemetic agents. Long-term use of metoclopramide has been associated with movement disorders. In a large cohort study from Denmark, metoclopramide use during the first trimester of pregnancy was not associated with an increased risk of major birth defects, stillbirth, or spontaneous abortion. An Israeli study in 3400 women exposed to metoclopramide during the first trimester of pregnancy found no increase in the risk of major birth defects, low birth weight, premature delivery, or death of the baby.

Prochlorperazine

There is limited information available on the safety of prochlorperazine use in pregnancy. Case reports have suggested prochlorperazine may increase the risk of birth defects in infants exposed to this

medication, but larger studies suggest there is no increased risk of birth defects. Serious side effects associated with prochlorperazine are rare, but can include heart arrhythmia. Other potential side effects may include headache, inability to urinate, drowsiness, and dizziness. Another potential rare side effect is extrapyramidal symptoms.

Ondansetron

[Ondansetron](#) use during pregnancy is controversial. The American College of Obstetricians and Gynecologists recommends discussing with patients the risks and versus benefits of taking ondansetron during pregnancy, particularly the first 10 weeks (first trimester) of pregnancy. Studies suggest that the use of ondansetron during early pregnancy is not associated with a high risk of birth defects; however, a small increase in risk of heart defects and cleft palate have been documented in some studies. A Danish study of women who used ondansetron during the first trimester for nausea and vomiting associated with pregnancy found no increase in risk of major birth defects, low birth weight, miscarriage, spontaneous abortion, or small gestational age. An Australian study found no increase in risk of major birth defects in babies exposed to ondansetron in utero, but there were five case reports of kidney defects. A Swedish study reported an increased risk of heart defects in babies exposed to ondansetron during the first trimester. The National Birth Defects Prevention Study and the Slone Birth Defects Study found an increased risk of first trimester ondansetron exposure and cleft palate and kidney defects. An observational study in women taking either ondansetron or promethazine during pregnancy found no increase in risk of poor neurobehavioral development with use of antiemetic agents.

Potential side effects associated with ondansetron use include heart arrhythmia and *serotonin syndrome* (excess serotonin release causing symptoms such as agitation, abnormal movement, fast heartbeat, elevated blood pressure, diarrhea, nausea, and vomiting).

Bottom line: Antiemetic agents should not be used during pregnancy unless the benefits of treatment outweigh potential risks to the baby. There have been limited human studies that have looked at the safety of these medications during pregnancy. Antiemetic agents have not been associated with an increased risk of major birth defects, but they can cause side effects in newborn babies.

If I am taking an antiemetic agent and become pregnant, what should I do?

If you are taking an antiemetic agent and become pregnant, you should contact your doctor immediately. Your doctor will determine if your medication is medically necessary, or if it should be

discontinued until after the birth of your baby.

If I am taking an antiemetic agent, can I safely breastfeed my baby?

Chlorpromazine

The American Academy of Pediatrics suggests chlorpromazine has unknown effects on infants and may be of concern; the World Health Organization recommends avoiding breastfeeding when taking chlorpromazine and monitoring infants for side effects. The manufacturer recommends either discontinuing breastfeeding or discontinuing this medication to prevent adverse events; it is important to consider the benefit of this medication to the mother and potential risks to the infant before making a decision. Infants should be monitored for drowsiness and neurodevelopment if mothers continue to take chlorpromazine while breastfeeding. Chlorpromazine may cause excessive breast milk production.

Metoclopramide

Metoclopramide is excreted into breast milk. The American Academy of Pediatrics suggests metoclopramide has unknown effects on infants and may be of concern. There is a possibility of mild side effects including stomach discomfort in nursing babies. Metoclopramide can increase milk production in nursing mothers.

Prochlorperazine

Prochlorperazine is expected to be excreted into breast milk. There is a possible risk of drowsiness in nursing babies exposed to this medication. Short-term use of prochlorperazine in small doses is not expected to cause problems in breastfed infants. Prochlorperazine can increase milk production in nursing mothers.

Ondansetron

Little information is available on the safety of ondansetron during breastfeeding. Ondansetron is expected to be excreted into breast milk. The effects ondansetron on nursing infants is unknown.

Bottom line: There is limited safety information available on the use of antiemetic agents while breastfeeding. Antiemetic agents are expected to be excreted into breast milk. Chlorpromazine is not recommended while breastfeeding. Antiemetic agents may cause side effects in nursing infants. It is important to weigh the risks versus benefits before taking antiemetic agents while breastfeeding.

If I am taking an antiemetic agent, will it be more difficult to get pregnant?

Animal studies have not shown evidence of decreased fertility with exposure to antiemetic agents.

If I am taking an antiemetic agent, what should I know?

Antiemetic agents should not be used during pregnancy unless the benefits of treatment outweigh potential risks to the baby. There have been limited human studies that have looked at the safety of these medications during pregnancy. Antiemetic agents can cause side effects in newborn babies.

There is limited safety information available on the use of antiemetic agents while breastfeeding. Chlorpromazine is not recommended while breastfeeding. Antiemetic agents may cause side effects in nursing infants. It is important to weigh the risks versus benefits before taking antiemetic agents while breastfeeding.

If I am taking any medication, what should I know?

This report provides a summary of available information about the use of antiemetic agents during pregnancy and breastfeeding. Content is from the product label unless otherwise indicated.

You may find Pregistry's expert report about nausea and vomiting [here](#), hyperemesis gravidarum [here](#), and reports about the individual medications used to treat digestive system disorders [here](#).

Additional information can also be found in the resources below.

For more information about **antiemetic agents** during and after pregnancy, contact <http://www.womenshealth.gov/> (800-994-9662 [TDD: 888-220-5446]) or check the following links:

Medline Plus: [Nausea and Vomiting](#)

Merck Manual: [Nausea and Vomiting](#)

UpToDate: [Treatment and outcome of nausea and vomiting of pregnancy](#)

Last Updated: 15-04-2019

General information

It is very common for women to worry about having a miscarriage or giving birth to a child with a birth defect while they are pregnant. Many decisions that women make about their health during pregnancy are made with these concerns in mind.

For many women these concerns are very real. As many as 1 in 5 pregnancies end in a miscarriage, and 1 in 33 babies are born with a birth defect. These rates are considered the background population risk, which means they do not take into consideration anything about the health of the mom, the medications she is taking, or the family history of the mom or the baby's dad. A number of different things can increase these risks, including taking certain medications during pregnancy.

It is known that most medications, including over-the-counter medications, taken during pregnancy do get passed on to the baby. Fortunately, most medicines are not harmful to the baby and can be safely taken during pregnancy. But there are some that are known to be harmful to a baby's normal development and growth, especially when they are taken during certain times of the pregnancy. Because of this, it is important to talk with your doctor or midwife about any medications you are taking, ideally before you even try to get pregnant.

If a doctor other than the one caring for your pregnancy recommends that you start a new medicine while you are pregnant, it is important that you let them know you are pregnant.

If you do need to take a new medication while pregnant, it is important to discuss the possible risks the medicine may pose on your pregnancy with your doctor or midwife. They can help you understand the benefits and the risks of taking the medicine.

Ultimately, the decision to start, stop, or change medications during pregnancy is up to you to make, along with input from your doctor or midwife. If you do take medications during pregnancy, be sure to keep track of all the medications you are taking.