



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

For more information about us or to find a service in your area,
call **(866) 626-6847**. Visit us online at **www.MotherToBaby.org**.

Find us! Facebook.com/MotherToBaby or @MotherToBaby on Twitter

Metronidazole (Flagyl®)

In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called her background risk. This sheet talks about whether exposure to metronidazole may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from your health care provider.

What is metronidazole?

Metronidazole (met-roe-NYE-da-zole) is an antibiotic used to treat infections. Metronidazole is commonly used to treat certain types of vaginal infections. It is available in oral, rectal, topical, vaginal and intravenous (I.V.) preparations. It has been on the market for more than 40 years, and has been sold under brand names such as Flagyl® and Metrogel®.

Can taking metronidazole during early pregnancy increase the risk for miscarriage?

It is unlikely. There is one large study that looked at over 4000 pregnancies with exposure to metronidazole early in pregnancy and did not find an increased risk for miscarriage. One study with 53 women who used metronidazole did report a greater chance for miscarriage, but it is not clear if the miscarriage risk was from the medication or the underlying infection being treated.

Can taking metronidazole during pregnancy cause birth defects or other harmful effects on the baby?

It is unlikely. While older studies suggest an increased risk for various birth defects, these studies are not very reliable. More recent studies could find no evidence that using metronidazole during pregnancy increases the chance for birth defects. The current data do not support an increased risk for birth defects or other harmful effects on the baby.

What if I use metronidazole topically (on the skin) or vaginally?

Metronidazole that is used on skin (topical preparations) is minimally absorbed and not likely to result in significant levels in your blood. If very little medication is in your blood, very little is expected to be able to affect a pregnancy.

Vaginal use of metronidazole may result in more absorption of the medication into your body. However, most studies show that metronidazole does not increase risks for a pregnancy.

Can I take metronidazole any time during pregnancy?

Currently there is no evidence to suggest that metronidazole places a pregnancy at risk at any stage. A recent study looked at over 900 women who had taken metronidazole sometime during their pregnancy and there was no increased risk for preterm birth (birth before 37 weeks), low birth weight, or congenital anomalies. For some conditions, metronidazole is the only drug of choice and it is especially important to treat vaginal infections during pregnancy.

Can I take metronidazole while breastfeeding?

Metronidazole gets into breast milk in relatively large amounts, with some reports of up to 20% of the mother's dose. However, this dose is below the therapeutic dose given to treat young infants who were able to tolerate this drug with minimal side effects. Amounts in breast milk would be lower with vaginal or topical use by the mother. After a breastfeeding mother has taken metronidazole, the infant may experience loose stools, especially when the drug is given directly into a vein (intravenously). Some babies may also develop a yeast infection (diaper rash or thrush). There are also reports on breastfed babies who did not have clinical effects while their mothers were taking metronidazole. Be

sure to talk to your healthcare provider about all of your breastfeeding questions.

What if the father of the baby takes metronidazole?

There are currently no studies in humans to suggest that use of metronidazole by the father would negatively affect the sperm or increase the risk for birth defects. In general, exposures that fathers have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures and Pregnancy at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

Selected References:

- Burtin P, et al. 1995. Safety of metronidazole in pregnancy: a meta-analysis. *Am J Obstet Gynecol* 172(21):525-529.
- Cantu JM and Garcia-Cruz D. 1982. Midline facial defect as a teratogenic effect of metronidazole. *Birth Defects* 18:85-88.
- Caro-Paton T, et al. 1997. Is metronidazole teratogenic? A meta-analysis. *Br J Clin Pharmacol* 44:(2)179-182.
- Czeizel AE and Rockenbauer M. 1998. A population based case-control teratologic study of oral metronidazole. *Br J Obstet Gynecol* 105(3):322-327.
- Finegold SM. 1980. Metronidazole. *Ann Intern Med* 93:585-587.
- Gray MS, et al. 1961. Further observations on metronidazole (Flagyl). *Br J Vener Dis*; 37:278-9.
- Heisterberg L, Branebjerg PE. 1983. Blood and milk concentrations of metronidazole in mothers and infants. *J Perinat Med*; 11:114-20.
- Kazy Z, et al. 2005. Teratogenic potential of vaginal metronidazole treatment during pregnancy. *Eur J Obstet Gynecol Reprod Biol.* 2005 123(2):174-178.
- Koss CA, et al. 2012. Investigation of Metronidazole Use during Pregnancy and Adverse Birth Outcomes. *Antimicrob Agents Chemother* 56(9): 4800–4805.
- Muanda FT, et al. 2017. Use of antibiotics during pregnancy and risk of spontaneous abortion. *CMAJ.* 189(17):E625-E633.
- Passmore CM, et al. 1988. Metronidazole excretion in human breastmilk and it's effect on suckling neonates. *British J Clin Pharmacol* 26(1):45-51.
- Piper JM, et al. 1993. Prenatal use of metronidazole and birth defects: no association. *Obstet Gynecol* 82(3):348-352.
- Rosa FW, et al. 1987. Pregnancy outcomes after first trimester vaginitis drug therapy. *Obstet Gynecol* 69:751-755.
- Sheehy O et al. 2015. The use of metronidazole during pregnancy: a review of evidence. *Curr Drug Saf.* 10(2):170-9.
- Workowski KA, Bolan GA. 2015. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep*; 64:1-137.

May, 2018