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Ciprofloxacin and Pregnancy

This sheet talks about the risks that exposure to ciprofloxacin can have during pregnancy. With each pregnancy, all women have a 3% to 5% chance of having a baby with a birth defect. This information should not take the place of medical care and advice from your health care provider.

What is ciprofloxacin?

Ciprofloxacin is an antibiotic used to treat a variety of bacterial infections. It is part of a group of antibiotics called “quinolones.”

Is there an increased risk for miscarriage if I take ciprofloxacin during the first trimester?

When taken in the recommended doses, ciprofloxacin is unlikely to cause miscarriage.

Is there an increased risk for birth defects or pregnancy problems if I take ciprofloxacin during the first trimester?

No. In most studies of women taking ciprofloxacin and other antibiotics in the same category (quinolones) during the first trimester of pregnancy, an increased risk for birth defects has not been found. Because these studies generally included women taking ciprofloxacin for only five to seven days, the effects of long-term use are not well known. However, there was not an increased risk for birth defects in the small number of babies exposed to longer periods of use.

Is there an increased risk for adverse effects on the baby if I take ciprofloxacin in the second or third trimester?

Based on a small number of pregnancies that have been studied, there does

not appear to be an increased risk for adverse effects on the baby if ciprofloxacin is taken for a period of time, later in pregnancy.

Will ciprofloxacin affect my baby's joints?

Probably not. In studies involving children and adults, ciprofloxacin was found in higher amounts in the joints compared to other parts of the body. Studies in young dogs and rats found that some of the exposed animals developed a condition called “arthropathy” where there is damage to the joints. Because of this, there have been concerns that ciprofloxacin in pregnancy could have an effect on the baby’s developing joints. In one human study, children who were exposed to ciprofloxacin during pregnancy were evaluated. No problems were found in their joints or in the crawling, standing, or walking of the babies. The ciprofloxacin use in these studies occurred early in pregnancy, and it is not known if use later in pregnancy would cause problems.

Is ciprofloxacin recommended for use during pregnancy?

Ciprofloxacin is generally not used in pregnant women and children except for infections that cannot be treated with other antibiotics. It is unlikely that ciprofloxacin has a harmful effect on children and babies. However, ciprofloxacin and its effect on joint development are still being studied and current studies are not enough to prove that there is no

risk. Because other antibiotics have been better studied and used widely in pregnancy, the recommended approach is to use those other antibiotics when possible. If the infection does not respond to that treatment, then you and your doctor may decide to use ciprofloxacin.

I have been exposed to anthrax and I am pregnant. Should I take ciprofloxacin?

Ciprofloxacin is often the medication used to treat anthrax infections. If the particular type of anthrax you were exposed to is treatable with penicillin, then penicillin should be used. If the type of anthrax you have is not treatable with penicillin, it is likely that the benefits of treating an anthrax infection justify the use of ciprofloxacin. Your health care provider can give you advice regarding this.

Can I take ciprofloxacin if I am breastfeeding?

The American Academy of Pediatrics considers ciprofloxacin to be usually compatible with breastfeeding. This is based on a small number of studies and the known benefits of breastfeeding. In a study of 10 mothers taking ciprofloxacin the infant received only a small amount in the breast milk. Although no joint problems in babies exposed through breast milk have been seen, if there is a better studied antibiotic that will treat your infection a different antibiotic may be preferable. Like many other antibiotics, maternal use of ciprofloxacin may cause gastrointestinal problems in the infant such as diarrhea.

What if the father of the baby takes ciprofloxacin?

There are no studies looking at possible risks to a pregnancy when the father takes ciprofloxacin. In general, exposure of the father is unlikely to increase the risk to a pregnancy because, unlike the mother, the father does not

share a blood connection with the developing baby. For more information, please see the OTIS fact sheet about Paternal Exposures at <http://otispregnancy.org/pdf/paternal.pdf>.

November 2007.
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References:

AAP Committee On Drugs. 2001. The transfer of drugs and other chemicals into human milk. *Pediatrics* 108:776-789.

ACOG Committee Opinion. 2002. Management of asymptomatic pregnant or lactating women exposed to anthrax. *Int J Gynecol Obstet* 77:293-295.

Berkovitch M, et al. 1994. Safety of the new quinolones in pregnancy. *Obstet Gynecol* 84(4):535-538.

Bomford JAL, et al. 1993. Ciprofloxacin use during pregnancy. *Drugs* 45(S3): 461-462.

Gardner D, et al. 1992. Simultaneous concentrations of ciprofloxacin in breast milk and in serum in mother and breast-fed infant. *Clin Pharm* 11:352-354.

Kabeya CM, et al. 1995. Ciprofloxacin for multiresistant enteric fever in pregnancy. *The Lancet* 346:307-308.

Leung D, et al. 1995. Treatment of typhoid in pregnancy. *The Lancet* 346:648.

Loebstein R, et al. 1998. Pregnancy outcome following gestational exposure to fluoroquinolones: a multicenter prospective controlled study. *Antimicrob Agents Chemother* 42(6):1336-1339.

Nahum G, et al. 2006. Antibiotic use in pregnancy and lactation. *Obstet Gynecol* 107(5):1120-1138.

Polacheck H, et al. 2005. Transfer of ciprofloxacin, ofloxacin and levofloxacin across the perfused human placenta in vitro. *Eur J Obstet Gynecol* 122:61-65.

Schaefer C, et al. 1996. Pregnancy outcome after prenatal quinolone exposure: evaluation of a case registry of the European Network of Teratology Information Services (ENTIS). *Eur J Obstet Gynecol* 69:83-89.

Schluter G. 1989. Ciprofloxacin: toxicologic evaluation of additional safety data. *The Am J Med* 87(5A):S37-S39.

Stahlmann R, et al. 1998. Chondrotoxicity and toxicokinetics of sparfloxacin in juvenile rats. *Antimicrob Agents Chemother* 42(6):1470-1475.

*If you have questions about the information on this fact sheet or other exposures during pregnancy, call **OTIS** at 1-866-626-6847.*