Propylthiouracil (PTU)

This sheet is about exposure to propylthiouracil in pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare providers.

What is propylthiouracil?

Propylthiouracil (PTU) is an antithyroid medication used to treat hyperthyroidism (too much or overactive thyroid) and Graves’ disease (a common cause of hyperthyroidism). This medication lowers the amount of thyroid hormone that the thyroid gland makes. One brand name for PTU medication is Propycil ®.

I take PTU. Can it make it harder for me to get pregnant?

Studies have not been done to see if PTU could make it harder for a woman to get pregnant. Untreated thyroid disorders may make it harder to get pregnant.

I just found out I am pregnant. Should I stop taking PTU?

Talk with your healthcare provider(s) before making any changes to this medication. It is important to make sure any medical conditions you have are treated appropriately, especially during pregnancy. Hyperthyroidism can increase the chance of poor outcomes for the pregnancy including miscarriage, preterm delivery, low birth weight, thyroid storm (life-threatening overactive thyroid), and maternal congestive heart failure.

Does taking PTU increase the chance for miscarriage?

Miscarriage can occur in any pregnancy. Two studies did not find a higher chance of miscarriage when using PTU during pregnancy. Hyperthyroidism has been associated with an increase in the chance for miscarriage.

Does taking PTU increase the chance of birth defects?

In every pregnancy, there is a 3-5% chance of having a baby with a birth defect. This is called the background risk. Studies do not agree if hyperthyroidism itself can increase birth defects. Studies also do not agree if PTU alone can increase birth defects. Some studies suggest there could be a small increase in birth defects of around 2% or less. There has not been a confirmed pattern of birth defects to more strongly suggest cause from PTU exposure alone. Additionally, other studies show no increased chance for birth defects. The FDA and ACOG have noted that PTU may be the preferred treatment for hyperthyroidism during the first trimester of pregnancy.

In summary, although studies do not agree, there is not strong evidence to say PTU clearly increases birth defects. You and your healthcare team will decide what is best for your specific situation.

Could taking PTU cause other pregnancy complications?

Hyperthyroidism has been found to increase the chance for pregnancy complications like preterm delivery (delivery before week 37) and low birth weight (less than 2lb 3oz). One study did not find a higher chance of preterm delivery when PTU was used during pregnancy. It is not clear if PTU is associated with low birth weight because studies do not agree.

Antithyroid medications, like PTU, or having Graves disease, can lead to too low or too high thyroid levels in a baby. If you take PTU, or if you have Grave’s disease, your baby’s thyroid level should be checked after delivery.

The FDA has reported that PTU can cause serious liver damage in persons who take PTU including people who are pregnant. You and your healthcare team will decide what is best for your specific situation.

Does taking PTU in pregnancy cause long-term problems in behavior or learning for the baby?

Two studies looking at 44 children (from preschool to adult ages) whose parent took PTU during pregnancy found no difference in intelligence scores compared to their unexposed brothers or sisters. Untreated hyperthyroidism in pregnancy can increase the chance of learning problems in children.
Can I breastfeeding while taking PTU?

PTU gets into breastmilk in small amounts, which means the amounts ingested by the infant are small. The American Thyroid Association has suggested that if PTU is taken while breastfeeding, doses of PTU should be limited to 450 mg per day due to the lack of research on the chance of liver damage in the breastfed infant. No adverse effects have been reported in babies whose mothers used PTU while breastfeeding. Studies show that PTU does not significantly affect the breastfed infants' thyroid function. If you are worried about any symptoms that the baby has, contact the child’s healthcare provider.

PTU has not been shown to affect milk production. Untreated hyperthyroidism and hypothyroidism may affect milk production. Be sure to talk to your healthcare provider about all of your breastfeeding questions.

I take PTU. Can it make it harder for my partner pregnant or increase the chance of birth defects?

Studies have not looked at the chance of fertility effects or birth defects if a father takes PTU. In general, exposures that fathers or sperm donors have are unlikely to increase the risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references