Hyperthermia

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

**What is Hyperthermia?**

Hyperthermia refers to an abnormally high body temperature. A person’s typical body temperature is around 98.6°F (37°C). In pregnancy, a body temperature over 101°F (38.3°C) can be of concern, especially if it lasts for a long period of time in very early pregnancy.

**What can cause hyperthermia?**

Fever from illness is one of the most common causes of hyperthermia. Extreme exercise or prolonged exposure (longer than 10 minutes) to heat sources such as hot tubs or saunas can also raise body temperature. Prolonged exposure to hot temperatures on hot days (often described at 86°F (30°C) or higher) can also increase body temperature. Very high body temperature can lead to heat exhaustion or heat stroke. Heat stroke occurs when the body temperature reaches 105°F (40.56°C), and would cause medical issues for the mother.

**Does having a fever increase the chance for miscarriage?**

Initial studies suggested that there might be an increased chance for miscarriage with fever in pregnancy. A more recent study did not find an increased chance for a miscarriage with fever up to 16 weeks gestation. Further studies are needed to determine if there is a risk of miscarriage due to fever in pregnancy.

**Does having a fever increase the chance of having a baby with a birth defect?**

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.

Studies in humans and animals have reported a small increased chance for birth defects called neural tube defects (NTD) in babies of women who had fevers early in pregnancy. Neural tube defects occur when the spine or skull does not form properly. A few studies have reported a small increased chance for heart defect, abdominal wall defect (organs such as intestines or stomach still work but do not form in their correct spots), or an oral cleft (lip and or roof of mouth do not form correctly) when a fever occurs in early pregnancy, especially if the fever is untreated.

However, there are also studies that have not found these results. Further studies are needed to confirm these risks.

**I had a fever in the second trimester. Could this have caused a neural tube defect?**

No. The neural tube (which forms the spinal cord) is formed by the beginning of your 6th week of pregnancy (dating from the first day of your last menstrual period). After the neural tube has closed (finished forming), a neural tube defect cannot occur. So, if your high temperature occurs after the 6th week of pregnancy, then your pregnancy is not at an increased risk for this birth defect due to the hyperthermia.
I had a fever early in my pregnancy. What testing is available for birth defects during my pregnancy?

Most neural tube defects can be diagnosed in pregnancy through a combination of ultrasound and alpha-fetoprotein (AFP) screening at approximately 15 – 20 weeks. In the U.S., all pregnant women are offered screening for neural tube defects. Talk with your healthcare providers if you have questions about these prenatal screening tests.

I have been using the hot tub and sauna. Is this a risk during my pregnancy?

Hot tub or sauna use during pregnancy should be limited to less than 10 minutes. This is because it may take only 10 to 20 minutes in a hot tub or sauna to raise your body temperature to 102°F (38.9°C). You may not feel uncomfortable at this temperature.

Although sauna use alone has not been as strongly associated with an increased chance for neural tube defects, the same screening options for birth defects are available. If you were in a hot tub or sauna for a long period of time early in pregnancy, you can talk with your health care provider about the screening tests (AFP blood test and targeted ultrasound).

Will having a fever during pregnancy affect my baby’s behavior or cause learning problems?

Probably not. Studies have not conclusively shown an association between learning and behavior and fever during pregnancy, unless certain neural tube defects are present.

Can I breastfeed my baby if I have a fever?

Yes. It is very rare for a woman to need to stop breastfeeding due to an illness. There are antibodies in the breast milk to help prevent the baby from getting sick. Be sure to wash your hands frequently and try not to breathe directly on the baby’s face while nursing. It is important to treat the fever with a medication that has been approved for use while nursing, such as acetaminophen (Tylenol®). Contact your health care provider as well your baby’s health care provider to discuss the best treatment of your fever or illness while breastfeeding.

What if the baby’s father had a fever when I got pregnant?

Heat can have a negative effect on spermatogenesis, which is the process of making sperm. Studies looking at high temperature to the testes, mostly from occupational heat exposure, have found lower sperm production, which might make it harder to get pregnant. Fever has not been directly associated with this risk, but it could potentially decrease sperm production. Fever in the father at the time of conception or in early pregnancy has not been associated with an increased chance for a birth defect. 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/pdf/.

Please click here for references.