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

**What is general anesthesia?**

General anesthesia is used for medical procedures that require you to be “put to sleep”. It involves the use of a medicine (either through breathing in gases through a mask or intravenously (IV)), which produces unconsciousness and an inability to feel pain. Often a combination of inhaled gases and intravenous medications are used in general anesthesia.

Anesthesia given by inhalation can include halothane, enflurane, isoflurane and nitrous oxide. Some commonly used IV medicines include fentanyl, propofol and ketamine. General anesthesia is given by expert healthcare providers and the patient is carefully monitored throughout the procedure. It is estimated that about 1 in 50 (2%) of women require surgery during pregnancy. There are different types of anesthesia that can be used for surgery or during labor and delivery. These choices should be discussed with your healthcare provider.

**Can exposure to general anesthesia make it harder for me to get pregnant?**

Studies have not been done to see if general anesthesia could make it harder for a woman to get pregnant.

**Can exposure to general anesthesia from a surgery cause a miscarriage?**

Miscarriage can occur in any pregnancy. A review of five studies suggests there may be a small increase in miscarriage in women who had surgery in the first half of pregnancy. It is unclear whether this is due to the anesthesia, or a response of the body to surgery in an affected organ, illness in the mother or another reason.

**Can exposure to general anesthesia in the first trimester increase the chance of birth defects?**

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. There have been at least five studies that have looked at the risk for birth defects in women who had surgery and anesthesia in the first and early second trimester of pregnancy. The studies did not show an increased risk for birth defects.

**Could exposure to general anesthesia in the second or third trimester cause other pregnancy complications?**

Some studies have noticed a chance for premature delivery (delivery before 37 weeks of pregnancy) after a surgical procedure later in pregnancy. Other studies have not shown an increased chance for pregnancy complications, including premature delivery.

**Does exposure to general anesthesia in pregnancy cause long-term problems in behavior or learning for the baby?**

A single, relatively short procedure with exposure to general anesthesia is unlikely to have negative effects on behavior or learning. Some studies in young children have suggested that long surgical procedures might affect the brain. However, it is not clear if these findings are due to the anesthesia, the condition for which the child needed surgery, or other factors. Women who are pregnant and need surgery, especially for life-threatening conditions should not be discouraged from the use of general anesthesia. Talk with your healthcare providers about the benefits, risks, and appropriate timing of surgery or procedures requiring general anesthesia.

**I work in an office that uses general anesthesia. Would that affect the baby?**

Different work settings can result in different exposures. MotherToBaby has fact sheets that talks about possible exposures in the workplace. For more information on working as a veterinarian or veterinary technician during pregnancy, please see the fact sheet at https://mothertobaby.org/fact-sheets/vet-vettech/pdf/. MotherToBaby also has a fact sheet with general tips on working safely while pregnant, which can be found at https://mothertobaby.org/fact-sheets/reproductive-hazards-workplace/pdf/. For more information on your specific risks,
Can I continue to breastfeed after exposure to general anesthesia?

Most anesthetic medications are removed from the body quickly. While there are not many studies looking at breastfeeding after a procedure, most experts suggest that breastfeeding can be restarted as soon as the mother recovers from the anesthesia and is feeling well enough to breastfeed. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man is exposed to general anesthesia, could it affect his fertility (ability to get partner pregnant) or increase the chance of birth defects?

There are no studies looking at possible risks to a pregnancy when the father has anesthesia. 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 at: https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/.

Please click here for references.