

Chemotherapy

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

What is chemotherapy?

Chemotherapy (also called chemo) is a term that describes the use of medication to treat or control cancer by killing cancer cells. It is one of the most widely used methods to treat cancer, along with surgery and radiation treatment (radiotherapy).

Sometimes other conditions, such as lupus and rheumatoid arthritis, can be treated with chemotherapeutic drugs. MotherToBaby has fact sheets on these conditions here <https://mothertobaby.org/fact-sheets/lupus-pregnancy/> and here <https://mothertobaby.org/fact-sheets/multiple-sclerosis/>.

A chemotherapeutic drug can be given orally (by mouth) or intravenously (through a vein).

I have had chemotherapy. Can it make it harder for me to get pregnant?

Chemotherapeutic drugs affect the division of cancer cells and normal cells, including those in the organs needed for pregnancy (reproductive system). This could affect a person's ability to get pregnant. For some people, the ability to get pregnant (reproductive function) can return to what it used to be within months after chemotherapy has stopped. For some people, it can take several years or may not happen at all. After chemotherapy, a person's future ability to get pregnant is based on different factors, including age of the person and the exact medication(s) used.

People should discuss options for keeping their ability to have a pregnancy (fertility preservation) with their healthcare providers before starting chemotherapy or other treatments for cancer.

Does having chemotherapy increase the chance for miscarriage?

Miscarriage can occur in any pregnancy. Chemotherapy is associated with an increased chance for miscarriage.

Does having chemotherapy during pregnancy increase the chance for birth defects?

Every pregnancy starts out with a 3-5% chance of having a birth defect. This is called the background risk. Exposure to chemotherapy early in pregnancy has been associated with an increased chance of birth defects above the background risk. There have also been case reports of healthy babies born to people who had chemotherapy during the first trimester of pregnancy. When possible, chemotherapy is usually avoided during the first trimester of pregnancy.

The chance for birth defects is less when chemotherapy is given in the second or third trimester. Most of the baby's organ systems are developed by the beginning of the second trimester. The brain and reproductive system may still be sensitive to some medications after the first trimester.

Some chemotherapy drugs show a stronger link to an increased chance for birth defects than others. Certain medications may be less likely to cause birth defects. Different factors, such as the number of medications used during pregnancy, how often they are taken, how long the medications are used, and the trimester in which they are used can also affect the outcome. Please call MotherToBaby at 1-866-626-6847 to speak with an information specialist about your specific treatments.

I had chemotherapy as a child. Could this increase the chance of birth defects in my baby?

Based on the studies reviewed, exposure to chemotherapy in childhood is not expected to increase the chance for birth defects in the children of people who later become pregnant.

Could having chemotherapy cause other pregnancy complications?

Exposure to chemotherapeutic drugs in the second and third trimester has been associated with a greater chance for preterm delivery (birth before week 37), higher rate of stillbirth, low birth weight (weighing less than 5 pounds, 8 ounces (2500 grams) at birth), and a temporary reduction in some of the baby's blood cells (low blood counts). It is

unclear if the effects reported in some studies are due to a medication, other factors, or a combination of factors.

Does having chemotherapy in pregnancy cause long-term problems in behavior or learning for the baby?

Several studies have followed a total of 194 children who were exposed to chemotherapy during pregnancy. These children were reported to have typical development, typical performances at school, and were not more likely to have learning problems.

Breastfeeding during chemotherapy:

For most chemotherapeutic drugs, there is not enough information about use in breastfeeding. Generally, breastfeeding is not recommended while receiving chemotherapy. There could be serious side effects in the nursing infant. For example, some medications may lower the baby's ability to fight infections (suppression of the immune system). Be sure to talk to your healthcare provider about all of your breastfeeding questions.

If a male has chemotherapy, could it affect fertility (ability to get partner pregnant) or increase the chance of birth defects?

A male's ability to make sperm (sperm production) is often affected by cancer treatment. Sperm production may return to what it used to be after chemotherapy, but it is not guaranteed. Also, damage to the structure of chromosomes in sperm may happen. It is believed that most of the damage is not permanent. Some studies have found higher levels of abnormal sperm for years after the end of chemotherapy. Males who need cancer treatments may wish to consider sperm banking (freezing and storing) before treatment.

While information is limited, if sperm production restarts, it appears that a male's treatment with chemotherapeutic drugs before conception does not increase the chance of birth defects in future children.

In general, exposures that fathers or sperm donors have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet on Paternal Exposures at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

Please click here for references.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [MotherToBaby.org](https://mothertobaby.org).

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