Chemotherapy

This sheet is about exposure to chemotherapy in pregnancy and while breastfeeding. This information is based on published research studies. It 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 medications given orally (by mouth) or intravenously (through a vein) to treat or control cancer by killing cancer cells. Chemotherapy is one of the most widely used methods to treat cancer, along with surgery, immunotherapy, hormonal therapy, targeted therapy, and radiation treatment (radiotherapy).

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/.

Sometimes when people find out they are pregnant, they think about changing how they take their medication, or stopping their medication altogether. However, it is important to talk with your healthcare providers before making any changes to how you take your medication. Your healthcare providers can talk with you about the benefits of treating your condition and the risks of untreated illness during pregnancy.

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

Chemotherapeutic medications affect the division of cancer cells and normal cells, including those in the organs needed for pregnancy (reproductive system). This could affect a woman'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 others, it can take several years or might not happen at all. After chemotherapy, the ability to get pregnant is based on different factors, including age and the exact chemotherapeutic medication(s) used.

Talk with your healthcare provider about your future ability to have a pregnancy (fertility preservation) before starting chemotherapy or other treatments for cancer. They might refer you to meet with a reproductive endocrinologist, someone who specializes in fertility and reproduction.

Does having chemotherapy increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Chemotherapy has been associated with an increased chance of miscarriage in multiple studies, especially when given in the first trimester.

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

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like chemotherapy, might increase the chance of birth defects in a pregnancy. Exposure to chemotherapy early in pregnancy has been associated with an increased chance of birth defects. There have also been case reports of babies born without birth defects after exposure to 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 fetal organ systems are developed by the beginning of the second trimester. The brain and reproductive system might still be sensitive to some medications after the first trimester.

Some chemotherapeutic medications show a stronger link to an increased chance of birth defects than others. 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. Contact 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

pregnancy?
Exposure to chemotherapy in childhood is not expected to increase the chance of birth defects in future children.

Does having chemotherapy in pregnancy increase the chance of other pregnancy-related problems?
Exposure to chemotherapeutic medications in the second and third trimesters has been associated with a greater chance of preterm delivery (birth before week 37), low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth), admission to the neonatal intensive care unit (NICU), stillbirth, or 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.

Chemotherapy after week 35 of pregnancy is generally not recommended to allow the bone marrow of both the person who is pregnant and the fetus to recover before delivery.

Does having chemotherapy in pregnancy affect future behavior or learning for the child?
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 or behavioral problems as compared to children who were not exposed to chemotherapy during pregnancy.

What screenings or tests are available to see if my pregnancy has birth defects or other issues?
Prenatal ultrasounds can be used to screen for some birth defects. Ultrasound can also be used to monitor the growth of the pregnancy. Talk with your healthcare provider about any prenatal screenings or testing that are available to you. There are no tests available during pregnancy that can tell how much effect there could be on future behavior or learning.

Breastfeeding during chemotherapy:
For most chemotherapeutic medications, there is limited 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 might lower the baby's ability to fight infections (suppression of the immune system). Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man has chemotherapy, could it affect fertility or increase the chance of birth defects?
A man's ability to make sperm (sperm production) is often affected by cancer treatment. Sperm production might return to what it used to be after chemotherapy, but it is not guaranteed. Also, damage to the structure of chromosomes in sperm might happen (although most of the damage is not thought to be permanent). Some studies have found higher levels of abnormal sperm for years after the end of chemotherapy. These issues could affect men's fertility (ability to get a partner pregnant). Men who need cancer treatments might consider sperm banking (freezing and storing) before treatment.

While information is limited, if sperm production restarts, it appears that a man's treatment with chemotherapeutic medications before conception does not increase the chance of birth defects in future children. For more general information about paternal exposures, please see the MotherToBaby fact sheet 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.

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