



MotherToBaby

Medications & More During Pregnancy & Breastfeeding  
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

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## Paternal Exposures and Pregnancy

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. This sheet talks about whether exposure to paternal exposures may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from your health care provider.

### ***What is a “Paternal Exposure”?***

A paternal exposure is anything the father of the baby is exposed to before or during his partner’s pregnancy. This includes things such as alcohol, tobacco and other drugs, chemotherapy or radiation treatments (for conditions like cancer), workplace exposures, and prescription or over-the-counter medicines.

### ***Do paternal exposures cause problems for a couple to get pregnant?***

Some exposures may affect a man’s ability to father a child by decreasing his desire for sex, decreasing his ability to perform sexually, or by directly changing the sperm. These changes include the size or shape of sperm, the number of sperm produced or how the sperm work. Such changes could cause a man to be unable to get his partner pregnant (infertility) or take longer to get his partner pregnant.

### ***Do paternal exposures to medications or chemicals cause birth defects in a partner’s pregnancy?***

A father does not share a blood connection with a pregnancy, so medications or chemicals that are in his blood stream do not reach the developing baby. Substances that a father is exposed to might be present in small amounts in his semen. For most exposures however, sexual intercourse during pregnancy is not expected to increase the risk of birth defects. This is because the amount of substance or the exposure that is present in the semen is usually not large enough to cause problems for the developing baby.

### ***How else could a father’s health impact a pregnancy?***

If a man is infected with a virus, it is possible that his semen contains the virus as well. The virus from his semen can be transmitted to his sexual partner during intercourse. If a woman is infected with a virus during intercourse, she may transmit the virus to her developing baby during pregnancy. Adverse effects on the baby can occur if the baby becomes infected.

One such example is the Zika virus. If a man is infected with the Zika virus, it is possible that he may transfer the virus to his sexual partner during intercourse. If a woman is infected with Zika virus during pregnancy, there is a chance the virus will pass to the developing baby. If this happens, it can increase the chance for a pattern of birth defects caused by Zika infection in pregnancy. For more information about the Zika virus and pregnancy, please see the Zika MotherToBaby fact sheet at <https://mothertobaby.org/fact-sheets/zika-virus-pregnancy/>. Zika is not the only infection that a man can give a pregnant woman that could cause adverse pregnancy outcomes. Call MotherToBaby to discuss specific exposures to be sure that there is not a concern.

### ***Can chemotherapy or radiation for cancer treatments given to the father affect my pregnancy?***

Sperm production is often affected during cancer treatment. Sperm production may return to normal after certain chemotherapy or radiation treatments, but there is a chance that it will not.

Men who are facing cancer treatment may want to talk to their doctor about sperm banking before starting treatment.

Because different types of cancers require different forms of treatments, there are no general recommendations

on cancer treatment and pregnancy. Before trying to get pregnant, talk to your doctor about when is the best time to start. At this time, there are no studies showing an increase in birth defects in children whose fathers were treated for cancer.

***Can the father's use of alcohol, tobacco or other substances of abuse affect my pregnancy?***

These substances can affect the sperm but none are proven to cause an increased risk for birth defects.

***Can the father's workplace exposures affect my pregnancy?***

There have been a number of studies looking at reproductive health of men who are exposed to various substances in the workplace including lead, organic solvents, pesticides and radiation. Some studies suggest that such exposures may be associated with decreased sperm production, increased sperm abnormalities, decreased fertility, and an unproven increased risk for miscarriage in the partners of these workers. Most workplace exposures in men have not been associated with an increased risk for birth defects.

***How else could a father's work exposure affect a pregnancy?***

Men exposed to heavy metals and other chemicals in the workplace may carry these agents on their clothes and shoes into the car and the home. This may cause direct exposure to their partners before or during pregnancy. No data are available at this time regarding any increases in birth defects after such exposures. As a precaution, fathers who are exposed to heavy metals or chemicals in the workplace may want to change their clothes and shoes before coming home.

**References Available Upon Request**

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