



Reducing Risks of Birth Defects

- **What is a birth defect?**
- **What causes birth defects?**
- **What can I do before or during pregnancy to decrease my risk of having a baby with certain birth defects?**
- **Why should I see a health care professional before becoming pregnant?**
- **What factors increase the risk of having a baby with a birth defect?**
- **Why is taking a multivitamin important before and during pregnancy?**
- **What do I need to know about taking medications during pregnancy?**
- **How can obesity have an impact on my pregnancy?**
- **I have certain medical conditions. Why is it important to talk with my ob-gyn or other health care professional if I am thinking about getting pregnant?**
- **Why is it important for me to not drink alcohol during pregnancy?**
- **How can recreational drug use affect my pregnancy?**
- **Can using marijuana affect my pregnancy?**
- **How can opioids affect my pregnancy?**
- **What infections should I be concerned about and how can I reduce my risk of getting them during pregnancy?**
- **What precautions can I take to limit my exposure to agents that can cause birth defects?**
- **Glossary**

What is a birth defect?

A birth defect is a condition that is present at birth. Some birth defects can be seen right after the baby is born, such as a **clubfoot** or extra fingers or toes. Special tests may be needed to find others, such as heart defects or hearing loss. Some birth defects are not noticed until later in life.

What causes birth defects?

Some birth defects are caused by **genes** that can be passed from parents to children. Others result from a problem with **chromosomes**. A small number of birth defects are caused by exposure during pregnancy to certain medications, infections, and chemicals. For many birth defects, the cause is not known.

What can I do before or during pregnancy to decrease my risk of having a baby with certain birth defects?

Most birth defects cannot be prevented because their cause is not known. For a few birth defects, you may be able to decrease your risk by taking certain steps:

- See your doctor before getting pregnant.
- Know your risk factors.
- Take a daily multivitamin before and during pregnancy.
- Maintain a healthy weight.
- Use medications wisely.

- Take care of medical conditions before pregnancy.
- Do not use alcohol, marijuana, illegal drugs, or prescription drugs for a nonmedical reason.
- Prevent infections.
- Avoid known harmful agents.

Why should I see a health care professional before becoming pregnant?

Scheduling a health care visit before getting pregnant is a good idea. You can get advice about diet and exercise from your **obstetrician–gynecologist (ob-gyn)** or other health care professional. You can talk about whether you have any factors that increase the risk of having a child with a birth defect. If you have a medical condition, you can talk about any special care that you may need before or during pregnancy.

What factors increase the risk of having a baby with a birth defect?

You may be at an increased risk of having a baby with a birth defect if you

- are older
- have a family or personal history of birth defects
- have had a child with a birth defect
- use certain medicines around the time you become pregnant
- have a medical condition such as **diabetes mellitus** or **obesity**
- use recreational drugs or drink alcohol during pregnancy

If you have any risk factors, your ob-gyn or other health care professional may recommend special tests or other steps that may help reduce your risk. For example, if you have a personal or family history of birth defects, genetic counseling and testing may be recommended.

Why is taking a multivitamin important before and during pregnancy?

Prenatal vitamin supplements contain the recommended amounts of the vitamins and minerals you will need during your pregnancy, such as vitamins A, C, and D; **folic acid**; and minerals such as iron. Taking 400 micrograms of folic acid daily for at least 1 month before pregnancy and during pregnancy helps prevent major birth defects called **neural tube defects**. These are defects of the brain and spine of the **fetus**. Most prenatal and “women’s formula” multivitamin supplements contain 400–800 micrograms of folic acid.

What do I need to know about taking medications during pregnancy?

A few medications have been linked to birth defects. You should tell anyone who prescribes drugs for you that you are pregnant or thinking about getting pregnant. This includes doctors you may see for dental care, mental health care, or other nonpregnancy problems. Also, check with your ob-gyn or other health care professional before taking any over-the-counter drug, such as pain relievers, laxatives, cold or allergy remedies, vitamins, herbal products, and skin treatments. A good source for information about the safety or risk of specific drugs during pregnancy is the website of the Organization of Teratology Information Specialists: www.mothersbaby.org.

How can obesity have an impact on my pregnancy?

Women who are obese (defined as having a **body mass index [BMI]** of 30 or greater) when they get pregnant have an increased risk of having babies with certain birth defects than women who are a normal weight. Among the most common obesity-related birth defects are neural tube defects, heart defects, and cleft palate. If you are planning a pregnancy, the best way to prevent problems caused by obesity is to be at a normal weight before you get pregnant.

I have certain medical conditions. Why is it important to talk with my ob-gyn or other health care professional if I am thinking about getting pregnant?

Some medical conditions—such as diabetes, high blood pressure, and seizure disorders—may increase the risk of having a baby with certain birth defects. If you have a medical condition, see your ob-gyn or other health care professional to discuss any changes you need to make in your diet, medication, or other areas to bring the condition under control before you try to get pregnant.

Why is it important for me to not drink alcohol during pregnancy?

Alcohol can interfere with the normal growth of the fetus and cause birth defects. When a woman drinks during pregnancy, her fetus can develop physical, intellectual, behavioral, and learning disabilities that can last a lifetime. It is best not to drink at all during pregnancy. If it is hard for you to stop drinking, talk with your ob-gyn or other health care professional or contact Alcoholics Anonymous on its website: www.aa.org.

How can recreational drug use affect my pregnancy?

Using substances—including heroin, cocaine, methamphetamines, and prescription drugs taken for a nonmedical reason—is a widespread problem in the United States. Using illegal drugs early in pregnancy can cause birth defects and miscarriage. During the later weeks of pregnancy, illegal drugs can interfere with the growth of the fetus and cause **preterm**

birth and fetal death. Infants born to women who used illegal drugs during pregnancy may need specialized care after birth. If you need help quitting illegal drugs, you can find resources at the website of Narcotics Anonymous: www.na.org.

Can using marijuana affect my pregnancy?

Recreational marijuana used during pregnancy is associated with attention and behavioral problems in children. Marijuana may increase the risk of **stillbirth** and the risk that babies will be smaller than babies who are not exposed to marijuana before birth. Medical marijuana also should be avoided. The American College of Obstetricians and Gynecologists recommends that pregnant women and those planning to become pregnant not use any form of marijuana. You and your ob-gyn or other health care professional can discuss alternative treatments that will be safe for your fetus.

How can opioids affect my pregnancy?

Opioids—also called narcotics—are a type of medication that relieves pain. Doctors may prescribe opioids for people who have had surgery, dental work, or an injury. Prescribed opioids include oxycodone, hydromorphone, hydrocodone, and codeine. When taken under a doctor's care, opioids are safe for both you and your fetus. It is important to take the medication only as prescribed.

Most people who use a prescription opioid have no trouble stopping their use, but some people develop an addiction. Misusing opioids during pregnancy can increase the risk of serious complications, including preterm birth, stillbirth, and problems with the placenta and fetal growth. If you need help with an opioid addiction, you can find resources at the website of the Substance Abuse and Mental Health Services Administration (SAMHSA): www.samhsa.gov. SAMHSA also has a 24-hour treatment referral line: 800-662-HELP (4357).

What infections should I be concerned about and how can I reduce my risk of getting them during pregnancy?

Some infections can increase the risk of birth defects and other problems during pregnancy for you and your fetus:

- **Rubella** (German measles) is a viral infection that usually causes a mild rash and a low fever. Having rubella during pregnancy can cause miscarriage or result in deafness, intellectual disability, heart defects, and blindness in a newborn. There is a vaccine against rubella, but it is not recommended for pregnant women. If you have not already had the disease or been vaccinated, you should be vaccinated against rubella and wait at least 1 month before becoming pregnant.
- **Toxoplasmosis** is a disease caused by a parasite that lives in soil. You can become infected by eating raw or undercooked meat or unwashed vegetables or by coming into contact with animal feces, especially from cats that go outdoors. If you are infected for the first time while you are pregnant, you can pass the disease on to your baby. Toxoplasmosis can cause birth defects, including hearing loss, vision problems, and intellectual disability. Make sure that you eat well-cooked meat and wear gloves while gardening or handling unwashed vegetables. If you have an outdoor cat that uses a litter box, have someone else empty it. If you must empty the litter box, use gloves and wash your hands well after doing so.
- **Sexually transmitted infections (STIs)** can cause serious birth defects. Treating an STI—preferably before you get pregnant—may prevent or reduce harm to the fetus.
- **Cytomegalovirus (CMV)** is a common viral infection. Most CMV infections cause no significant problems. If you are infected for the first time when you are pregnant, CMV can infect the fetus. In a small number of cases, the infection can cause intellectual disability, hearing loss, and vision problems. CMV can be spread by contact with an infected child's urine or other body fluids. Pregnant women who work with young children, such as day care workers or health care workers, should take steps to prevent infection, including wearing gloves when changing diapers. Frequent handwashing also is recommended. Pregnant women with young children at home also are at risk and should take these steps.

What precautions can I take to limit my exposure to agents that can cause birth defects?

A few precautions that are recommended for all pregnant women include the following:

- Limit your exposure to mercury by not eating shark, swordfish, king mackerel, or tilefish. Limit eating white (albacore) tuna to 6 ounces a week. You do not have to avoid all fish during pregnancy. In fact, fish and shellfish are nutritious foods with vital nutrients for a pregnant woman and her fetus. Be sure to eat at least 8–12 ounces of low-mercury fish and shellfish per week.
- Avoid exposure to lead. Lead can be found in old paint, construction materials, alternative medicines, and items made in foreign countries, such as jewelry and pottery.
- Avoid taking high levels of vitamin A. Very high levels of vitamin A have been linked to severe birth defects. You should consume no more than 10,000 international units of vitamin A a day.

Glossary

Body Mass Index (BMI): A number calculated from height and weight that is used to determine whether a person is underweight, normal weight, overweight, or obese.

Chromosomes: Structures that are located inside each cell in the body and contain the genes that determine a person's physical makeup.

Clubfoot: A birth defect in which the foot is misshaped and twisted out of position.

Cytomegalovirus (CMV): A virus that can be transmitted to a fetus if a woman becomes infected during pregnancy. It can cause hearing loss, intellectual disability, and vision problems in infected infants.

Diabetes Mellitus: A condition in which the levels of sugar in the blood are too high.

Fetus: The stage of prenatal development that starts 8 weeks after fertilization and lasts until the end of pregnancy.

Folic Acid: A vitamin that has been shown to reduce the risk of certain birth defects when taken in sufficient amounts before and during pregnancy.

Genes: Segments of DNA that contain instructions for the development of a person's physical traits and control of the processes in the body. They are the basic units of heredity and can be passed down from parent to offspring.

Neural Tube Defects: Birth defects that result from incomplete development of the brain, spinal cord, or their coverings.

Obesity: A condition characterized by excessive body fat.

Obstetrician–Gynecologist (Ob-Gyn): A physician with special skills, training, and education in women's health.

Opioids: Medications that blunt how you perceive pain and your emotional response to it.

Preterm: Born before 37 weeks of pregnancy.

Rubella: A virus that can be passed to the fetus if a woman becomes infected during pregnancy and that can cause miscarriage or severe birth defects.

Sexually Transmitted Infections (STIs): Infections that are spread by sexual contact, including chlamydia, gonorrhea, human papillomavirus (HPV), herpes, syphilis, and human immunodeficiency virus (HIV, the cause of acquired immunodeficiency syndrome [AIDS]).

Stillbirth: Delivery of a dead baby.

Toxoplasmosis: An infection caused by *Toxoplasma gondii*, an organism that may be found in raw and rare meat, garden soil, and cat feces and can be harmful to the fetus.

If you have further questions, contact your obstetrician–gynecologist.

FAQ146: Designed as an aid to patients, this document sets forth current information and opinions related to women's health. The information does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

Copyright February 2018 by the American College of Obstetricians and Gynecologists