

# Preeclampsia and High Blood Pressure During Pregnancy

**Hypertension** can lead to health problems at any time in life. Hypertension (also called **high blood pressure**) usually does not cause symptoms. During pregnancy, severe or uncontrolled high blood pressure can cause problems for you and your **fetus**.

Some women have high blood pressure before they get pregnant. Others develop it for the first time during pregnancy. A serious high blood pressure disorder called **preeclampsia** can also happen during pregnancy or soon after childbirth.

## You Need to Know

- what blood pressure is and how it is measured
- about **chronic hypertension**
- about **gestational hypertension**
- about preeclampsia

## Blood Pressure

Blood pressure is the force of blood pushing against the walls of blood vessels called **arteries**. The arteries bring blood from the heart to your lungs, where it picks up **oxygen** and then moves to your organs and tissues. The organs and tissues use the oxygen to power their activities. Blood vessels called **veins** return the blood to the heart.

### What do the blood pressure numbers mean?

A blood pressure reading has two numbers separated by a slash. A blood pressure reading of 110/80 mm Hg, for example, is referred to as “110 over 80.” The first number is the pressure against the artery walls when the heart contracts. This is called the **systolic blood pressure**. The second number is the pressure against the artery walls when the heart relaxes between contractions. This is called the **diastolic blood pressure**.

### What are the guidelines for blood pressure?

- Normal: Less than 120/80 mm Hg
- Elevated: Systolic between 120 and 129 mm Hg **and** diastolic less than 80 mm Hg

- Stage 1 hypertension: Systolic between 130 and 139 mm Hg **or** diastolic between 80 and 89 mm Hg
- Stage 2 hypertension: Systolic at least 140 mm Hg **or** diastolic at least 90 mm Hg

### How often should blood pressure be checked during pregnancy?

Your **obstetrician–gynecologist (ob-gyn)** should check your blood pressure at each **prenatal care** visit. Blood pressure changes often during the day. If you have one high reading, another reading may be taken later during your office visit.

## Chronic Hypertension

Chronic hypertension is high blood pressure that you have before getting pregnant or that develops in the first half of pregnancy (before 20 weeks of pregnancy). If you were taking blood pressure medication before you got pregnant—even if your blood pressure is currently normal—you have been diagnosed with chronic hypertension.

### How does chronic hypertension affect a pregnant woman?

When you are pregnant, your body makes more blood to support the fetus’s growth. If

blood pressure goes up during pregnancy, it can place extra stress on your heart and **kidneys**. This can lead to heart disease, kidney disease, and **stroke**. High blood pressure during pregnancy also increases the risk of preeclampsia, **preterm** birth, **placental abruption**, and **cesarean birth**.

### How does chronic hypertension affect a fetus?

High blood pressure may reduce blood flow to the **placenta**. As a result, the fetus may not get enough of the **nutrients** and oxygen needed to grow.

### What is the treatment for chronic hypertension during pregnancy?

In the first half of pregnancy, blood pressure normally goes down. If your hypertension is mild, your blood pressure may stay that way or even return to normal during pregnancy. But if your blood pressure is 140/90 mm Hg or higher, your ob-gyn may recommend that you start or continue taking blood pressure medication during pregnancy.

## Your Blood Pressure Reading

110 = systolic = force of blood in the arteries when heart contracts

80 = diastolic = force of blood in the arteries when heart relaxes

### How will my health be monitored during pregnancy?

Your blood pressure should be checked at every prenatal care visit. You may also need to monitor your blood pressure at home.

**Ultrasound exams** may be done throughout pregnancy to track the growth of the fetus. If growth problems are suspected, you may have other tests that monitor the health of the fetus. This testing usually begins in the third **trimester** of pregnancy.

### Will I need to deliver early if I have chronic hypertension?

If your condition remains stable, delivery 1 to 3 weeks before your due date (about 37 weeks to 39 weeks of pregnancy) generally is recommended. If you or the fetus develop **complications**, delivery may be needed even earlier.

### What will happen after delivery?

After delivery, you will need to keep monitoring your blood pressure at home for 1 to 2 weeks. Blood pressure often goes up in the weeks after childbirth. You may need to resume taking medication, or your medication dosage may need to be adjusted.

Talk with your ob-gyn about blood pressure medications that are safe to take if you plan to breastfeed. Do not stop any medications without talking with your ob-gyn.

## Gestational Hypertension

You have gestational hypertension when:

- You have a systolic blood pressure of 140 mm Hg or higher and/or a diastolic blood pressure of 90 mm Hg or higher.
- The high blood pressure first happens after 20 weeks.
- You had normal blood pressure before pregnancy.

Most women with gestational hypertension have only a small increase in blood pressure. But some women develop severe hypertension (defined as systolic blood pressure of 160 mm Hg or higher and/or diastolic blood pressure of 110 mm Hg or higher). These women are at risk of very serious complications.

### How will my health be monitored if I have gestational hypertension?

All women with gestational hypertension are monitored often (usually weekly) for signs of preeclampsia and to make sure that their blood pressure does not go too high.

### How does hypertension affect future health?

Although gestational hypertension usually goes away after childbirth, it may increase the risk of developing high blood pressure in the future. If you had gestational hypertension, keep this risk in mind as you take care of your health. Healthy eating, weight loss, and regular exercise may help prevent high blood pressure in the future.

## Preeclampsia

Preeclampsia is a serious disorder that can affect all the organs in your body. It usually develops after 20 weeks of pregnancy, often in the third trimester. When it develops before 34 weeks of pregnancy, it is called early-onset preeclampsia. It can also develop in the weeks after childbirth.

### What are the risk factors for preeclampsia?

It is not clear why some women develop preeclampsia. Doctors refer to “high risk” and “moderate risk” of preeclampsia. Factors that may put you in the “high risk” category include

- preeclampsia in a past pregnancy
- carrying more than one fetus (twins, triplets, or more)
- chronic hypertension
- kidney disease
- **diabetes mellitus**
- autoimmune conditions, such as **lupus** (systemic lupus erythematosus or SLE)
- having multiple moderate risk factors (see below)

Factors that may put you in the “moderate risk” category include

- being pregnant for the first time
- being pregnant more than 10 years after your previous pregnancy
- **body mass index (BMI)** over 30

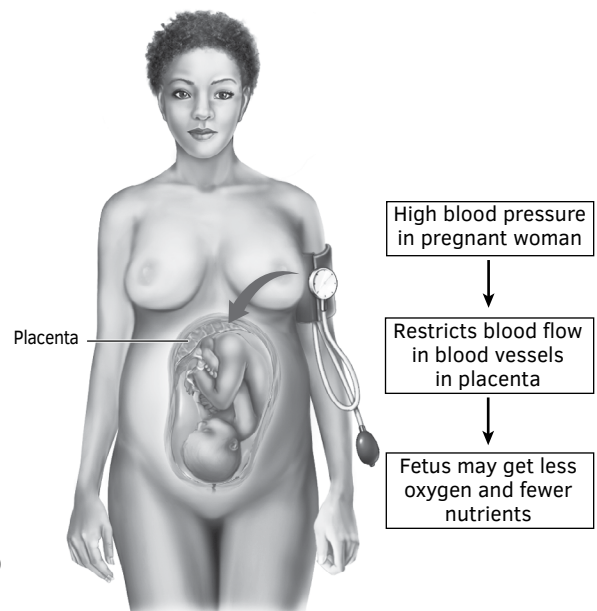
- family history of preeclampsia (mother or sister)
- being age 35 or older
- complications in previous pregnancies, such as having a baby with a low birth weight
- **in vitro fertilization (IVF)**
- Black race (because of racism and inequities that increase risk of illness)
- lower income (because of inequities that increase risk of illness)

### How does preeclampsia affect the body?

- Preeclampsia can lead to a condition that causes seizures and stroke.
- Preeclampsia can cause **HELLP syndrome**. HELLP stands for hemolysis, elevated liver enzymes, and low platelet count. HELLP syndrome damages or destroys red blood cells and interferes with blood clotting. It can also cause chest pain, abdominal pain, and bleeding in the liver. HELLP syndrome is a medical emergency. Women can die from HELLP syndrome. They can also have lifelong health problems from the condition.

### Will I need to deliver early if I have preeclampsia?

For women with preeclampsia, early delivery may be needed in some cases. Preterm babies have an increased risk of problems with breathing, eating, staying warm, hearing, and vision. Some preterm complications last a lifetime and require ongoing medical care.



## How does preeclampsia affect future health?

Women who have had preeclampsia—especially those whose babies were born preterm—have an increased risk later in life of kidney disease, heart attack, stroke, and high blood pressure. Also, having preeclampsia once increases the risk of having it again in a future pregnancy.

## Signs and Symptoms of Preeclampsia

Preeclampsia can develop quietly without you being aware of it. Symptoms can include

- swelling of face or hands
- headache that will not go away
- seeing spots or changes in eyesight
- pain in the upper abdomen or shoulder
- nausea and vomiting (in the second half of pregnancy)
- sudden weight gain
- difficulty breathing

If you have any of these symptoms, especially if they develop in the second half of pregnancy, call your ob-gyn right away.

A woman with preeclampsia whose condition is worsening will develop “severe features.” Severe features include

- low number of platelets in the blood
- abnormal kidney or liver function
- pain in the upper abdomen
- changes in vision
- fluid in the lungs
- severe headache
- systolic pressure of 160 mm Hg or higher **or** diastolic pressure of 110 mm Hg or higher

## How is preeclampsia diagnosed?

A high blood pressure reading may be the first sign of preeclampsia. If your blood pressure reading is high, it may be checked again to confirm the results. You may have a urine test to check for protein. You may also have tests to check how your liver and kidneys are working and to measure the number of platelets in your blood.

## Managing Preeclampsia

You and your ob-gyn should talk about how your condition will be managed. The goal is to limit complications for you and to deliver the healthiest baby possible.

## How is preeclampsia managed when there are no severe features?

Women who have gestational hypertension or preeclampsia without severe features may be treated in a hospital or as an outpatient. Being an outpatient means you can stay at home with close monitoring by your ob-gyn. You may need to keep track of your fetus’s movement by doing a daily *kick count*. You may also need to measure your blood pressure at home. Visits to your ob-gyn may be once or twice a week.

At 37 weeks of pregnancy, you and your ob-gyn may talk about delivery. Labor may be induced (started with medications). If test results show that the fetus is not doing well, you may need to deliver earlier. Women with preeclampsia can have vaginal deliveries, but if there are problems during labor, cesarean birth may be needed.

## How is preeclampsia managed when there are severe features?

If you have preeclampsia with severe features, you may be treated in the hospital. If you are at least 34 weeks pregnant, you and your ob-gyn may talk about having your baby as soon as your condition is stable.

If you are less than 34 weeks pregnant and your condition is stable, it may be possible to wait to deliver your baby. Delaying delivery for just a few days may be helpful in some cases. It allows time to give *corticosteroids*, which can help the fetus’s lungs mature. Delaying can also give you time to take medications to reduce your blood pressure and help prevent seizures. If your health or the fetus’s health worsens, you and your ob-gyn should discuss immediate delivery.

## Preventing Preeclampsia

### Can preeclampsia be prevented?

Prevention involves identifying whether you have risk factors for preeclampsia and taking steps to address them.

### Does low-dose aspirin prevent preeclampsia?

Low-dose aspirin may reduce the risk of preeclampsia in some women. Your ob-gyn may recommend that you take low-dose aspirin if

- you are at high risk of developing preeclampsia
- you have two or more moderate risk factors for preeclampsia

Low-dose aspirin may also be considered if you are Black or have a low income, even if you have no other risk factors.

Talk with your ob-gyn about whether you should take aspirin. Do not start taking aspirin on your own without talking with your ob-gyn.

## What should I do if I want to get pregnant?

If you have high blood pressure and want to get pregnant, see your ob-gyn for a check-up. Your ob-gyn will want to know if your high blood pressure is under control and if it has affected your health.

You may have tests to check how your heart and kidneys are working. Your medications should be reviewed to see if you need to switch to others that are safer during pregnancy. You should also talk about the signs and symptoms of preeclampsia.

## Your Takeaways

1. High blood pressure during pregnancy can increase the risk of complications for you and your fetus.
2. If you have hypertension during pregnancy, you should be monitored closely for worsening high blood pressure and for preeclampsia.
3. It’s important to be aware of the signs and symptoms of preeclampsia. If you have any of the symptoms, call your ob-gyn right away.
4. If you develop gestational hypertension or preeclampsia, you and your ob-gyn should work together to monitor your health and your fetus’s health.

## Terms You Should Know

**Arteries:** Blood vessels that carry oxygen-rich blood from the heart to the rest of the body.

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

**Cesarean Birth:** Birth of a fetus from the uterus through an incision (cut) made in the woman’s abdomen.

**Chronic Hypertension:** Blood pressure that is higher than normal for a person’s age, sex, and physical condition.

**Complications:** Diseases or conditions that happen as a result of another disease or condition. An example is pneumonia that occurs as a result of the flu. A complication also can occur as a result of a condition, such as pregnancy. An example of a pregnancy complication is preterm labor.

**Corticosteroids:** Drugs given for arthritis or other medical conditions. These drugs also are given to help fetal lungs mature before birth.

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

**Diastolic Blood Pressure:** The force of the blood in the arteries when the heart is relaxed. It is the lower reading when blood pressure is taken.

**Fetus:** The stage of human development beyond 8 completed weeks after fertilization.

**Gestational Hypertension:** High blood pressure that is diagnosed after 20 weeks of pregnancy.

**HELLP Syndrome:** A severe type of preeclampsia. HELLP stands for hemolysis, elevated liver enzymes, and low platelet count.

**High Blood Pressure:** Blood pressure above the normal level. Also called hypertension.

**Hypertension:** High blood pressure.

**In Vitro Fertilization (IVF):** A procedure in which an egg is removed from a woman's ovary, fertilized in a laboratory with the man's sperm, and then transferred to the woman's uterus to achieve a pregnancy.

**Kick Count:** A record kept during late pregnancy of the number of times a fetus moves over a certain period.

**Kidneys:** Organs that filter the blood to remove waste that becomes urine.

**Lupus:** An autoimmune disorder that affects the connective tissues in the body. The disorder can cause arthritis, kidney disease, heart disease, blood disorders, and complications during pregnancy. Also called systemic lupus erythematosus or SLE.

**Nutrients:** Nourishing substances found in food, such as vitamins and minerals.

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

**Oxygen:** An element that we breathe in to sustain life.

**Placenta:** An organ that provides nutrients to and takes waste away from the fetus.

**Placental Abruption:** A condition in which the placenta has begun to separate from the uterus before the fetus is born.

**Preeclampsia:** A disorder that can occur during pregnancy or after childbirth in which there is high blood pressure and other signs of organ injury. These signs include an abnormal amount of protein in the urine, a low number of platelets, abnormal kidney or liver function, pain in the upper abdomen, fluid in the lungs, or a severe headache or changes in vision.

**Prenatal Care:** A program of care for a pregnant woman before the birth of her baby.

**Preterm:** Less than 37 weeks of pregnancy.

**Stroke:** A sudden interruption of blood flow to all or part of the brain, caused by blockage or bursting of a blood vessel in the brain. A stroke often results in loss of consciousness and temporary or permanent paralysis.

**Systolic Blood Pressure:** The force of the blood in the arteries when the heart is contracting. It is the higher reading when blood pressure is taken.

**Trimester:** A 3-month time in pregnancy. It can be first, second, or third.

**Ultrasound Exams:** Tests in which sound waves are used to examine inner parts of the body. During pregnancy, ultrasound can be used to check the fetus.

**Veins:** Blood vessels that carry blood from various parts of the body back to the heart.

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