The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Excellence in Women's Health

Pre-eclampsia and High Blood Pressure During Pregnancy

What is high blood pressure?
Blood pressure is the force that pushes against your blood vessel walls each time your heart squeezes and relaxes to pump the blood through your body. Blood pressure measurement is a very useful way to monitor the health of your cardiovascular system (heart and blood vessels).

A blood pressure measurement is usually recorded as two numbers, such as 120 over 80 (120/80). High blood pressure is also called hypertension. Hypertension is diagnosed when either the top or the bottom number is higher than normal.

Why is blood pressure important during pregnancy?

During pregnancy, very high blood pressure (severe hypertension) can cause complications for both you and your baby, including:

- Poor growth of your baby – due to low nutrition and oxygen supply from the placenta
- Prematurity – if early delivery (before 37 weeks) is required to protect the health of you or your baby
- Placental abruption – the placenta may prematurely separate from the wall of the uterus (womb), leading to bleeding and the need for an emergency birth in some cases
- Pre-eclampsia – a condition involving high blood pressure and abnormal function in one or more organs during pregnancy

What are the different types of high blood pressure that affect pregnant women?

1. **Chronic hypertension.** Chronic, or long-standing, hypertension is high blood pressure that was present before pregnancy or high blood pressure that is diagnosed in the first half of your pregnancy (before 20 weeks). This type of hypertension usually continues after the birth of your baby. If you have chronic hypertension, you will usually need to take medication throughout your pregnancy. Women with chronic hypertension should discuss any plans for having babies with their doctor prior to conceiving in order to select a safe, effective treatment during conception and pregnancy. Your blood pressure will be monitored regularly during pregnancy and medications adjusted as necessary. Your baby's growth can be monitored with ultrasound scans and other tests of well-being.
2. **Pregnancy-induced hypertension.** Women who develop high blood pressure in the second half of pregnancy without any effects on their kidneys or other organs have 'pregnancy-induced hypertension' or 'gestational hypertension'. This condition still requires monitoring in case there is a worsening of blood pressure, or progression to pre-eclampsia.
3. **Pre-eclampsia.** Pre-eclampsia is a serious condition that only occurs in pregnant women. It begins after 20 weeks gestation and usually takes the form of high blood pressure and abnormal kidney function, but can also involve other organs, such as the liver, blood and brain. Your doctor or midwife can detect pre-eclampsia by measuring your blood pressure and testing your urine for protein (proteinuria). Once pre-eclampsia develops, it does not go away until after the baby is born. Women with pre-eclampsia may require an earlier delivery, either by labour induction or caesarean section, in order to protect the health of themselves and their baby. In some cases, pre-eclampsia can develop after childbirth and you should alert your doctor or midwife of any concerns you may have after your baby is born.

Pre-eclampsia

Am I at increased risk for pre-eclampsia?
Pre-eclampsia can occur in any pregnancy. About 3–4% of all pregnant women in Australia and New Zealand develop pre-eclampsia. You are more likely to develop pre-eclampsia if you:

- Have chronic hypertension
- Had pre-eclampsia in a previous pregnancy
- Have other medical problems, such as kidney disease, diabetes or an autoimmune disease
- Are having your first baby
- Are aged 40 years or more
- Are expecting twins or triplets
- Have a family history of pre-eclampsia (i.e. your mother had pre-eclampsia)
- Are very overweight at the beginning of pregnancy (BMI 35 or more)
- Have had a gap of 10 years or more since your last pregnancy
- Conceived with in vitro fertilisation (IVF)

Women at increased risk of pre-eclampsia may be advised to take low-dose aspirin, with or without calcium, to help reduce the risk. It is important to understand that no medication completely prevents pre-eclampsia, so close monitoring is still required for all women at increased risk.

Pre-eclampsia and High Blood Pressure During Pregnancy

What are the signs and symptoms of pre-eclampsia?
Most women with pre-eclampsia do not have any symptoms. Pre-eclampsia is usually detected during a routine antenatal appointment.

However, women with severe pre-eclampsia will have high blood pressure and may experience:

- Sudden swelling of the face, hands or feet
- Headache that doesn't go away with simple painkillers
- Problems with vision, such as blurring, flashes of light and dots before the eyes
- Severe pain just below the ribs
- Heartburn that doesn't go away with antacids
- Generally feeling very unwell

It is very important that you contact your doctor, midwife or maternity hospital if you experience any of these symptoms.

How is pre-eclampsia treated?
When you are diagnosed with pre-eclampsia, you may be admitted to hospital and have a number of tests including:

- Regular blood pressure measurements
- Blood and urine tests – these tests assess how well your liver and kidneys are functioning and how well your blood is clotting
- Thorough physical examination, including tests of your leg reflexes
- Heart rate monitoring of your baby using a cardiotocograph (CTG) machine
- Ultrasound scan to assess your baby's growth and well-being

While high blood pressure can usually be controlled with medication, the only complete cure for pre-eclampsia is the birth of your baby. The management of pre-eclampsia therefore depends on how far along you are in pregnancy and how seriously you and your baby are affected by the condition.

If you are 37 weeks pregnant or more, your doctor may recommend that you have an earlier-than-planned birth to avoid any decline in your health due to pre-eclampsia.

If you are less than 37 weeks pregnant, you will be regularly monitored to ensure that you are well enough to continue the pregnancy until 37 weeks or more. This may be done on an outpatient basis if you have mild pre-eclampsia, or as an inpatient if your condition is more severe.

If your blood pressure becomes very difficult to control, your organs are showing signs of worsening damage or there are concerns regarding your baby's well-being, your doctor may recommend that your baby is born prematurely (before 37 weeks). Each pregnancy is unique and the exact timing will depend on your own particular situation, including your gestation, your baby's size, and the severity of your illness. Your doctor may also need to consider transferring you to a larger maternity hospital with facilities to provide advanced care for you and your baby.

What are the potential complications of severe pre-eclampsia?
While the vast majority of women have good outcomes with blood pressure control and timed delivery, some women develop serious complications from pre-eclampsia, including:

- Seizures or eclampsia
- Stroke (a bleed into the brain)
- Kidney failure
- Liver failure
- Bleeding due to abnormal blood clotting
- Abruption (when the placenta separates from the wall of the uterus causing bleeding)
- Haemolysis (breaking down of red blood cells)

Babies may also be affected by:

- Abnormal growth, due to poor placental function
- Prematurity
- Placental abruption (early separation of the placenta)

In settings where resources for antenatal and newborn care are limited, many women and babies die from the consequences of pre-eclampsia or high blood pressure. While hypertensive disorders may cause or contribute to maternal deaths and stillbirth in Australia and New Zealand, these cases are, fortunately, very rare.

What happens after the birth?
Women with pre-eclampsia usually get better quickly after the birth of their baby; however, complications may still occur within the first few days. You will usually stay in hospital for several days and may need to continue taking medication to lower your blood pressure. You will be advised about follow-up appointments with your doctor depending on your condition. It is important to attend your 6-week postnatal check up to make sure that your blood pressure has returned to normal and there is no longer any protein in your urine.

If your baby has been born early or is smaller than expected, he or she may need to be cared for in a special care nursery. You will still be encouraged to breastfeed, if you want to. If you are taking medications to lower your blood pressure while breastfeeding, check with your doctor to ensure they are safe to take.

Will I get pre-eclampsia in a future pregnancy?
You may have an increased chance of getting pre-eclampsia again in a future pregnancy. You should be given information about your individual risk and about any additional care that you may need. Seek specialist advice early in your next pregnancy to plan your antenatal care.

College House,
254-260 Albert Street
East Melbourne,
Victoria 3002, Australia.

Ph: +61 3 9417 1699
Fax: +61 3 9419 0672
Email: ranzcog@ranzcog.edu.au
ranzcog.edu.au