High Blood Pressure and Preeclampsia During Pregnancy

Blood pressure is the pressure of circulating blood against the walls of blood vessels, 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, lungs and blood vessels).

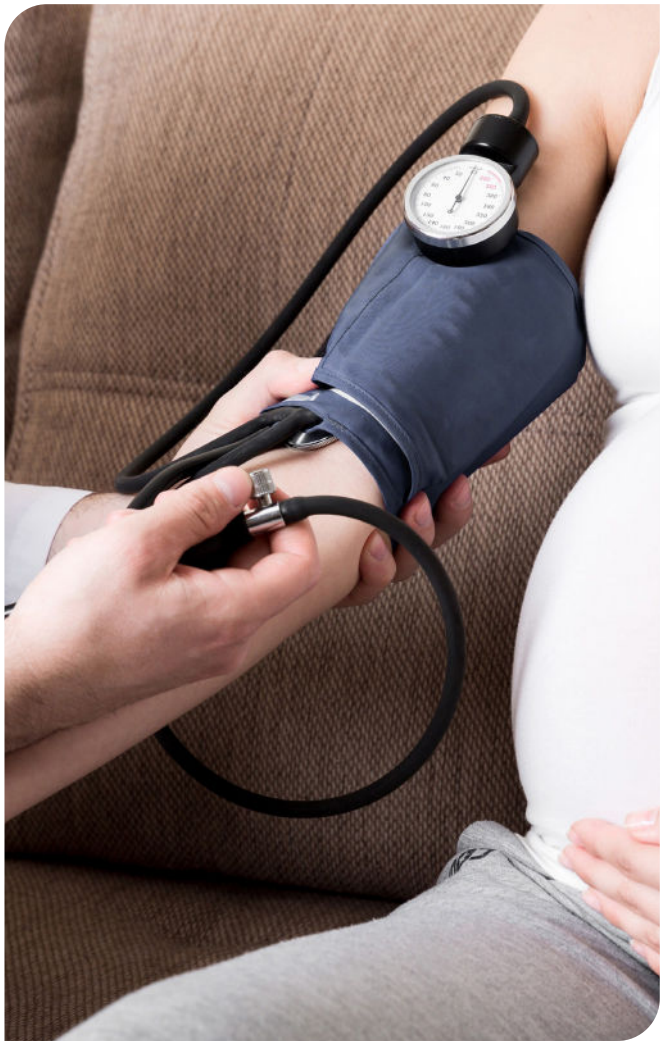
A blood pressure measurement is usually recorded as two numbers, such as '120 over 80' (120/80). High blood pressure occurs when either the top or the bottom number is higher than normal. High blood pressure is also called hypertension.

Preeclampsia is a serious condition that can occur during pregnancy and is characterised by high blood pressure.

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 birth (before 37 weeks pregnant) 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 unplanned birth in some cases
- Preeclampsia – 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 pregnant). This type of hypertension usually continues after the birth of your baby. Women with chronic hypertension should discuss any plans of having babies with their doctor before trying to get pregnant.

If you have chronic hypertension, you will usually need to take medication throughout your pregnancy. Your blood pressure will be monitored regularly

during pregnancy and medications adjusted as necessary. Your baby's growth can be monitored for wellbeing, with ultrasound scans and other tests.

2. Gestational hypertension

Women who develop high blood pressure in the second half of pregnancy without any effects on their kidneys or other organs have "gestational hypertension". Gestational hypertension is characterised by the new onset of a mother's raised blood pressure (hypertension) after 20 weeks gestation without any maternal or fetal features of preeclampsia, followed by the return to normal blood pressure levels within 3 months of giving birth. This condition requires monitoring in case there is a worsening of blood pressure, or progression to preeclampsia.

3. Preeclampsia

Preeclampsia is a serious condition that occurs only in pregnant women. It only occurs 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 preeclampsia by measuring your blood pressure and testing your urine for protein (proteinuria). Once preeclampsia develops, it does not go away until after the baby is born. Women with preeclampsia may require an earlier birth either by labour induction or caesarean birth in order to protect the health of themselves and their baby. In some cases, preeclampsia can develop after childbirth and you should alert your doctor or midwife of any concerns you may have after your baby is born such as persistent headaches or generally feeling unwell, particularly in the first week after childbirth.

Preeclampsia

Am I at increased risk for preeclampsia?

Preeclampsia can occur in any pregnancy. About 3-4% of all pregnant women in Australia and Aotearoa New Zealand develop preeclampsia.

You are more likely to develop preeclampsia during pregnancy if you:

- have chronic hypertension
- had preeclampsia 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 preeclampsia (i.e., your mother had preeclampsia)
- 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 with increased chances of having preeclampsia will usually be advised to take low dose aspirin +/- calcium from early pregnancy. It is important to understand that no medication completely prevents preeclampsia, so close

monitoring is still required among women who have a higher chance of having preeclampsia. Regular moderate level exercise may also be recommended to reduce the risk of preeclampsia.

What are the signs and symptoms of preeclampsia?

Most women with preeclampsia do not have any symptoms. Preeclampsia is usually detected during a routine antenatal appointment by assessment of blood pressure, urine, weight and blood tests.

However, women with severe preeclampsia 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 preeclampsia treated?

When you are diagnosed with preeclampsia, 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 preeclampsia is the birth of your baby. The management of preeclampsia 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, then your doctor may recommend that you have an earlier- than-planned birth to avoid any decline in your health due to preeclampsia.

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. Monitoring may be done in an outpatient clinic if you have mild preeclampsia, or in hospital (inpatient) if your condition is more severe.

If your blood pressure becomes very difficult to control, or 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.

If you are undergoing any kind of healthcare treatment, procedure or other intervention, you have the right to make an informed choice about your care. Informed consent is your permission, given voluntarily, to proceed with treatment.

It is a clinician's responsibility to ensure informed consent is properly obtained and appropriately timed by communicating and working with you to help you make the best decision for yourself.

When preparing your maternity care and birth plan, it is important that you inform your doctor or midwife of your cultural considerations so these can be included in your care.

What are the potential complications of severe preeclampsia?

While the vast majority of women have good outcomes with blood pressure control and timed birth, some women develop serious complications from preeclampsia, 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)
- hemolysis (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 new-born care are limited, many women and babies die from the consequences of preeclampsia or high blood pressure. While hypertensive disorders may cause or contribute to maternal deaths and stillbirth in Australia and Aotearoa New Zealand, fortunately they are very rare.

What happens after the birth?

Women with preeclampsia 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 is born early or is smaller than expected, they may need to be cared for in a special care nursery. You will still be encouraged to breastfeed, should you intend to do so. If you are taking medications to lower your blood pressure while breastfeeding, check the medication with your doctor.

Will I get preeclampsia in a future pregnancy?

Women who develop preeclampsia in one or more pregnancies have a greater chance of having high blood pressure in future pregnancies. It is important to tell your doctor if you have had preeclampsia before, and to have regular wellness checks.

Useful resources

- https://www.aapec.org.au/
- https://www.nzapec.co.nz/
- https://www.thewomens.org.au/health-information/pregnancy-and-birth/pregnancy-problems/pregnancy-problems-in-later-pregnancy/preeclampsia/
- https://www.pregnancybirthbaby.org.au/high-blood-pressure-in-pregnancy
- https://www.betterhealth.vic.gov.au/health/healthyliving/pregnancy-preeclampsia

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