



Why your Weight Matters during Pregnancy

Weight is a very sensitive subject for some women. However, because of the great benefit to you and your baby, it is recommended that you should try to reach a healthy weight before you become pregnant. By reaching a healthy weight, you are protecting your health and your baby's wellbeing. Women who are underweight or overweight have a higher chance of problems

in pregnancy. Doctors and midwives often feel uncomfortable bringing up the issue of weight. They are concerned you may feel judged. If you are not a healthy weight, it is important you to talk about this issue with your doctor or midwife so that you can try to reduce the increased chance of complications.

What is BMI?

Your body mass index (BMI) is a comparison of your weight to your height. Your BMI will be calculated at your first antenatal appointment. A healthy BMI is above 18.5 and below 25. Many women are unaware of the how much weight they should put on during pregnancy and some gain more than is ideal. There is no need for you to 'eat for two', as was previously thought. The table shows the recommended range of weight gain in pregnancy by BMI.

BMI	Classification	Range of pregnancy weight gain
Less than 18.5	Underweight	12.5–18kg
18.5–24.9	Normal	11.5–16kg
25–29.9	Overweight	6.8–11.3kg
More than 30	Obese	5–9.1kg

Your doctor or midwife will be able to provide general nutritional information to help you achieve the optimal weight gain during your pregnancy.

What are the problems associated with a low BMI during pregnancy?

Women who are very underweight have an increased chance of miscarriage and their babies may have an increased chance of prematurity, low birth weight and nutritional problems. It is essential that you and your baby receive the vitamins and minerals you require. Most of these can be gained through good nutrition and a healthy diet.

What are the problems associated with a high BMI during pregnancy?

Most pregnant women who have a high BMI can expect to enjoy a healthy pregnancy. However, having a raised BMI increases the chance of complications for both you and your baby. The higher your BMI, the higher the risks.

As your BMI increases, so does the likelihood of one or more of the following problems occurring:

- A blood clot in the leg (deep vein thrombosis) or in your lungs (pulmonary embolism)



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- Gestational diabetes, a form of diabetes that develops during pregnancy
- High blood pressure and pre-eclampsia
- Difficulties with some procedures – having too much body fat can make it difficult to monitor your baby's heartbeat, view certain problems with the baby's anatomy on an ultrasound scan and to give you an epidural.

The problems for your baby associated with a high BMI include:

- Problems with the development of the baby's brain and spine (neural tube defects)
- Higher rate of miscarriage
- A birth weight greater than 4kg
- Admission to a special care nursery
- Higher rate of stillbirth
- Increased chance of obesity and diabetes later in life



How can the chance of having these problems be reduced?

Despite having a high BMI, you can still have a healthy pregnancy. It takes careful management of your weight, attention to diet and exercise, regular antenatal care to monitor for complications, and special considerations for your labour and birth. By working together with your healthcare team, the chance of having problems can be reduced for both you and your baby. Healthy diet and an active lifestyle are important. A healthy diet will provide benefits both during your pregnancy and after the birth. Your doctor or midwife may refer you to a dietician to help you plan a healthy diet or recommend specific supplements. For women with a BMI over 40, your doctor may advise a more

limited weight gain than 5–9kg. Further information about exercise during pregnancy can be found on the RANZCOG website under patient information.

After pregnancy

Once you are home with your baby, stick to your healthy eating and exercise habits to help you reach a normal weight. Highly restrictive diets are not recommended after the birth of your baby, particularly if you are breastfeeding. Breastfeeding is recommended for the first year of a baby's life. Not only is breastfeeding the best way to feed your baby, it may also help with weight loss. Overall, women who breastfeed their babies for at least the first few months tend to lose the weight they gained during pregnancy faster than women who do not breastfeed. Getting to a healthy weight after pregnancy reduces your risks in future pregnancies as well as improving your long-term health.

What are the problems associated with a high BMI during labour and birth?

There is an increased risk of complications during labour and birth, particularly if you have a BMI above 40. If your BMI is above 40 you may need to have your baby at a hospital with the appropriate facilities and experienced clinicians to provide the specialised care that meets your needs.

Some of the problems include:

- Your baby being born prematurely (before 37 weeks)
- Difficulty monitoring the baby's heartbeat
- Anaesthetic complications
- Greater likelihood of requiring an emergency caesarean section
- Shoulder dystocia, which is when the baby's head is born, but the shoulders do not come out. The doctor or midwife will take steps to help the shoulders to be born, and this can be frightening
- Heavy bleeding after birth (postpartum haemorrhage)

Because of these possible complications, you should have a discussion with your obstetrician or midwife about the safest way and place to give birth.

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Exercise during Pregnancy

There are many benefits to be gained from regular exercise during pregnancy. These include physical benefits and the prevention of excessive weight gain, as well as benefits for psychological wellbeing.

In addition to pregnancy-specific benefits, there are significant life-long benefits of regular exercise for all adults including reduced risk of cardiovascular disease, type 2 diabetes and some cancers.

Before you start an exercise program in pregnancy, speak with your doctor or midwife to make sure that you do not have any health issues that may prevent you from participating in regular exercise during your pregnancy.

If there are no health or pregnancy reasons why you should not exercise, you should be encouraged during your pregnancy to participate in regular aerobic and strengthening exercises. Importantly, there is no evidence to suggest that regular exercise during a healthy pregnancy is harmful to the woman or her baby.



How often should I exercise?

Aim to be physically active on most, preferably all days of the week. If you are currently inactive or overweight, start with 3 to 4 days per week on non-consecutive days.

How hard should I exercise if I am fit?

Most women should aim for a 'moderate' intensity. This means a rating of 12 to 14 on Borg's rating of perceived exertion scale (see Table 1). You should feel like you are working 'somewhat hard'.

For women with a high level of fitness who are accustomed to regular vigorous exercise, there is no evidence to suggest that vigorous exercise during pregnancy is harmful, provided that you listen to your body and adjust your routine over time. A rating of 15 to 16 (equating to 'hard') may be appropriate. However, athletes should be wary of pushing too hard. Pregnancy is not a time for serious competition or aiming to reach peak lifetime fitness.

How long should I exercise for?

Aim to accumulate 150 to 300 minutes of moderate intensity physical activity each week. Ideally, this should be achieved by being active on most days of the week for at least 30 minutes at a time.

If you are currently inactive or overweight, start with 15 to 20 minutes and slowly build up to 30 minutes per session. While no evidence exists for an upper limit to exercise duration during pregnancy, it is not advisable to extend exercise duration beyond 60 minutes per session, unless the intensity is relatively light.

What type of exercise should I do?

You should be encouraged to participate in both aerobic and strengthening exercises.

Aerobic exercises

Aerobic exercises involve continuous activities that use large muscle groups and elevate the heart and breathing rates to cause some 'huff and puff'. Common examples include:

- walking (aim for a 'brisk' pace)
- stationary cycling
- swimming and other water-based activities (avoid heated spas and hydrotherapy pools)
- if you are already running regularly prior to your pregnancy, there is no scientific evidence to say whether you should continue or not. This should be decided on an individual basis and in consultation with your doctor or midwife. Listen closely to your body and monitor the intensity appropriately

Strengthening exercises

Strengthening exercises should be performed twice per week, on non-consecutive days, covering the main muscle groups of the body.

Resistance can be provided by light weights, body weight or elasticised resistance-bands.

Aim to perform 1 to 2 sets of 12 to 15 repetitions for each exercise. These strengthening exercises should be performed at a

Exercise during Pregnancy

'moderate' intensity (rating of perceived exertion 12 to 14), with slow and steady movements and proper breathing technique (i.e. exhale on exertion).

Avoid heavy weight-lifting and activities that involve straining or holding the breath. Exercises should not be performed lying flat on the back after the first trimester and walking lunges are best avoided to prevent injury to the pelvic connective tissue.

General considerations for exercise during pregnancy:

- include a gradual warm-up and slow and sustained cool-down with each session
- avoid exercising in high temperatures and humidity, ensure adequate hydration and wear loose-fitting clothing
- avoid activities with the possibility of falling (i.e. horse-riding, skiing) or impact trauma to the abdomen (i.e. certain team sport games)
- perform regular exercises to strengthen the pelvic floor muscles. Avoid activities that add extra load to the pelvic floor (i.e. jumping or bouncing)
- take care with weight-bearing exercise and activities involving frequent changes in direction (i.e. court sports) due to increased risk of injury and changes in balance
- reduce inactive behaviour: minimise the amount of time spent in prolonged sitting and breaking up long periods of sitting as often as possible



Warning signs to stop exercise and seek medical attention:

- chest pain
- unexplained shortness of breath
- dizziness, feeling faint or headache
- muscle weakness
- calf pain, swelling or redness
- sudden swelling of the ankles, hands or face
- vaginal bleeding or amniotic fluid loss
- decreased fetal movement
- uterine contractions or pain in the lower back, pelvic area or abdomen (potentially indicating preterm labour)

How you might describe your exertion	Borg rating of your exertion	Examples
None	6	Reading a book, watching television
Very, very light	7 to 8	Tying shoes
Very light	9 to 10	Chores like folding clothes that seem to take little effort
Fairly light	11 to 12	Walking through the grocery store or other activities that require some effort but not enough to speed up your breathing
Somewhat hard	13 to 14	Brisk walking or other activities that require moderate effort and speed your heart rate and breathing but don't make you out of breath
Hard	15 to 16	Bicycling, swimming, or other activities that take vigorous effort and get the heart pounding and make breathing very fast
Very hard	17 to 18	The highest level of activity you can sustain
Very, very hard	19 to 20	A finishing kick in a race or other burst of activity that you can't maintain for long

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Travelling during Pregnancy

Many women will travel during pregnancy for work, recreation and visiting friends and relatives. In general, the second trimester is the safest and most comfortable time to travel. The chance of miscarriage is very small, nausea and vomiting are likely to have settled and physical constraints have not yet begun to limit your movement.

Always check with your doctor or midwife prior to planning travel to ensure it is safe for you to do so. Travel insurance that covers pregnancy is recommended.



Air travel

Airlines will have restrictions for pregnant travellers, so check with your airline prior to travel.

Most domestic airlines will not permit pregnant women to travel for more than four hours after 36 weeks gestation, international flights restrict travel from 32 weeks. Some will require a letter from your doctor or midwife confirming your due date and whether there are any complications with your pregnancy.

A blood clot in the leg, (deep vein thrombosis, or DVT) is a significant risk of air travel at any time. The risk remains increased up to two weeks after travel. The chance of this happening increases further with pregnancy.

In order to reduce the risk of DVT:

- stay well hydrated. Drink plenty of water and avoid caffeine and alcohol
- wear knee-high fitted compression stockings
- regularly walk around the cabin and/or do frequent leg exercises to improve blood circulation
- some women may be advised to take medication to prevent clots, so check with your doctor
- if you are feeling short of breath or unwell, ask for assistance.

Questions you should consider before you travel:

- Do I have appropriate health insurance?
- Are there any medical or obstetric concerns with me travelling?
- Are there any recommended vaccinations for the region I intend to travel?
- What medical services are available in the area and can I access them?
- Is there a risk of mosquito-borne virus and if so, what is safe to use for protection?
- What medications do I have available in cases of problems such as traveller's diarrhoea?
- How comfortable would I be with my decision if something went wrong?

Land travel

It is generally advised that long, tiring journeys be avoided.

Sitting in a car for a long period can be quite uncomfortable and may increase your risk of DVT. To minimise the risk, make sure you periodically move, flex and extend your knees and ankles. Follow the 'stop and revive' method and stretch your legs every two hours.

Your sitting position is important in minimising the risk of injury in case of an accident. Make sure the seatbelt lap sash is worn around your hips and under your pregnancy belly. The shoulder strap should be fitted above your belly and between your breasts.





Travelling during Pregnancy

Move your seat back from the steering wheel as much as is safe to do so to reduce the risk of airbag impact. Always talk to your doctor or midwife if you do have an accident. Even minor accidents can cause complications, and you and your baby should be reviewed.

Sea travel

Short trips by ferry and boat are generally safe. Cruise liners generally restrict travel earlier in pregnancy than the airlines do, often beyond 28 weeks. They may also have certain requirements so check with them prior to travelling. Sea travel can trigger nausea and vomiting and there is an increased risk of falls on a moving vessel.

Consult your doctor, as there are medications you may be able to take for motion sickness.

Food and water

Consider the risk of water-borne illnesses when travelling overseas. Traveller's diarrhoea is a greater risk in less developed countries but can happen anywhere.

Traveller's diarrhoea can be caused by a variety of different bacteria, viruses and parasites. If there is a concern, use bottled water when able, including when brushing your teeth. Remember ice cubes are usually made with local water and also carry risk. If bottled water is not available, boil water in areas of high-risk and use chlorine based tablets to purify water. Iodine based water purification systems are not advised in pregnancy as they can affect your baby's thyroid gland. Discuss your travel plans with your doctor, as there may be medications and preparations that you can pack for relief but not all preparations are suitable for pregnant women.

Remember to follow general hygiene principles when travelling. Always wash your hands before preparing or eating food. Hand sanitiser is a great alternative when water is scarce or the safety of water is a concern. Wash fruit using bottled water, or peel it. Eat freshly prepared food. Avoid raw and undercooked food, unpasteurised milk products, soft cheeses, pates and prepared salads as they may harbour listeria and toxoplasmosis which are of particular concern during pregnancy.

Destinations

Some destinations are more suitable than others for travel when pregnant. Consider any environmental risks in the area you wish to travel.

As pregnancy progresses you may not tolerate high humidity, extreme heat, high altitude and high levels of air pollution, which may limit your ability to travel. This may be made worse if you suffer from chronic medical conditions such as asthma or (chronic) anaemia. If a concern does arise, transport in and out of islands and remote areas may be difficult. Check that your travel insurance will cover any necessary medical care and evacuation expenses.

In general, it is advisable to delay travel to developing nations until after pregnancy. You should consider not only vaccinations suggested for your travel destination, but whether your general vaccinations are up to date and whether a particular vaccination is recommended in pregnancy. For example, the yellow fever vaccine is only recommended in pregnancy when the risk of contracting the disease is high and travel is unavoidable.

Malaria is a particular risk in some areas. Infection is transmitted by mosquitoes and can be associated with severe anaemia, miscarriage, stillbirth, fetal growth restriction and premature delivery. If travel cannot be avoided, minimise outdoor activity from dusk till dawn, wear long-sleeved clothing, sleep under mosquito nets, and use insect repellent with DEET. Although DEET has been shown to be safe after the first trimester, you should minimise skin absorption by using a spray rather than a roller and spray it on top of your clothes. Areas endemic with highly resistant strains of malaria may require oral medication to minimise the risk of infection. Check with your doctor before you travel.

Useful resources

Australian Government. Department of Health

www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/pregnant-women

NPS. Medicine Wise

www.nps.org.au/medicines/immune-system/vaccines-and-immunisation/for-individuals/who-should-be-vaccinated/pregnant-women

World Health Organisation

www.rbm.who.int/cmc_upload/0/000/015/369/RBMInfosheet_4.htm Additional Resources 1

Better Health Channel, Department of Health Victoria

www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Pregnancy_and_travel

Travel Doctor

www.traveldoctor.com.au



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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.

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Group B Streptococcus

Group B streptococcus ('GBS', or 'group B strep') is a type of bacteria that lives on our bodies.

It is very common and is part of the normal population of bacteria that we carry around in our intestines or vagina. If you happen to carry GBS while you are healthy, it is NOT considered a disease that needs to be treated. It is not a sexually transmitted infection.

About 20% of women have GBS in their vagina around the time of giving birth.

If GBS is present in the vagina at the time of labour, there is a chance that it will be passed to the baby. Most babies who catch GBS remain well, but some babies get very sick and need nursery admission and intravenous antibiotics in the first few days of life. This is called early onset GBS sepsis.

Without treatment, about 1 in 200 women with GBS will have a baby that develops a severe infection.

What can be done to prevent my baby getting sick from GBS?

Your baby can be protected from GBS disease if you have antibiotics during labour. These antibiotics pass across the placenta to the baby before it is born and help prevent severe infection during the first few days of life.

How will I know if my baby is at risk of GBS sepsis?

There are particular situations where the risk of GBS infection is increased. These include:

- premature labour or if your waters break (rupture of membranes) before 37 weeks
- fever above 38°C in labour (at any gestation)
- if your waters have been broken for more than 18 hours (prolonged rupture of membranes)
- if GBS is detected in your urine during pregnancy
- a previous child with severe GBS infection
- GBS detected on a vaginal swab performed within the past 5 weeks

If any of these risk factors are present, then your midwife or doctor should talk to you about receiving antibiotics in labour.

Some hospitals will test all pregnant women for GBS with a vaginal swab at around 36 weeks. Other hospitals only give antibiotics to women with specific risk factors, such as preterm labour or prolonged rupture of membranes.

You should talk to your doctor or midwife about which approach they use.

How do I take the antibiotics if I need them?

Penicillin is the most effective antibiotic against GBS. It is given during labour through an intravenous drip in your arm or hand. It provides the best protection if it is given at least four hours before the baby is born.

There is no need to treat GBS before labour if your waters have not broken. Women who are having a planned caesarean section without labour do not require specific treatment for GBS before the caesarean.

How is my baby checked for GBS sepsis after birth?

If you needed antibiotics in labour because of a chance of GBS infection, your baby should have some additional observations in the first two days of life to make sure there are no signs of infection developing.

These include regular checks of the baby's breathing, heart rate and temperature. If you have any concerns about the condition of your baby, you should alert your midwife or doctor. Your baby will not routinely receive antibiotics unless there are signs of infection.

Are there any potential side effects from having antibiotics during labour?

As with any antibiotic, there is a very small risk of a severe allergic reaction (anaphylaxis). This risk is less than 1 in 2000, which is lower than the risk of a baby dying from GBS infection. Other milder side effects for the mother include rash, nausea, or diarrhoea.

If you have a **known penicillin allergy**, there are alternative antibiotics that can be used. Please remind your midwife or doctor about your drug allergy before accepting any medication.

There are no known serious adverse effects for the baby. The antibiotic treatment should not affect the way you plan to feed your baby.

To swab or not to swab?

There remains some controversy about whether to swab and test all women for the presence of GBS in the vagina and then subsequently treating all those women during their labour.

Remember that 1 in 5 (20%) of women will test positive, but only about 1 in 200 babies will have a severe infection. However, severe GBS infection is a very serious infection when it occurs. It is an important topic to discuss with your doctor or midwife.

If you have any further questions about GBS, please ask your doctor or midwife.





Breech Presentation at the End of your Pregnancy

What is breech?

Breech presentation occurs when your baby is lying bottom first or feet first in the uterus (womb) rather than the usual head first position. In early pregnancy, a breech position is very common.

As pregnancy continues, usually a baby turns into the head first position. Near the due date, only about three babies in every hundred are breech. Most babies are lying head first ready to be born.

A breech baby may be lying in one of the following positions:

Breech birth positions



What causes a breech presentation?

Breech presentation may be more common if you have:

- a low-lying placenta
- lax muscles of the uterus (usually due to having a number of babies)
- too much, or too little, amniotic fluid (waters) around the baby
- an uncommon shape of the uterus, or large fibroids
- previous breech presentation
- twins

If a baby is found to be in a breech position near the due date, an ultrasound will be performed to try to identify the reason. Most commonly though, no specific cause is found.

What are the risks of breech presentation?

If your baby is in a breech position near the due date, there is a greater chance of having a complicated vaginal birth or a caesarean section.

In some situations, with the right resources available, it can be safe to attempt a vaginal birth when the baby is in a breech position. However, there may be increased risks to the baby.

In other cases a caesarean section will be recommended, which also has risks for the mother and future pregnancies. You should discuss all the benefits and risks of both options when deciding what is right for you and your baby.

If your baby is still breech near the due date, the chances of it turning to a head down position without help are low. Attempts to encourage your baby to turn into the head first position may be part of the care which is offered to you.

What are my choices during pregnancy?

External Cephalic Version (ECV)

If you are 36 weeks pregnant and your baby is still in a breech position, your obstetrician or midwife should discuss trying to turn your baby to a head-first position to increase your chances of having a vaginal birth. This technique is called external cephalic version (ECV). ECV is performed by an obstetrician in a specialised facility. Not all obstetricians feel comfortable performing ECV and so it may be necessary for you to see another specialist for this.

Gentle pressure is applied on your abdomen to help the baby turn a somersault in the uterus to lie head first. ECV should not be painful but some women report feeling a little uncomfortable.

Sometimes you will be given a medication to help relax the muscles of the uterus and improve the chance of success. This medication will not harm the baby. ECV is successful 50% of the time.

Breech Presentation at the End of your Pregnancy

You will be given information about the chance of your ECV being a success. If ECV is successful but your baby turns back into the breech position, or if ECV is unsuccessful and your baby does not want to turn, it may be possible to have a second attempt on another day. If your baby does not turn after a second attempt, your obstetrician will discuss your options for birth.

Performed correctly, ECV is safe and does not cause labour to begin. Your baby's heart rate will be monitored before and after the ECV. Like any medical procedure, complications can sometimes occur. To minimise these risks, an ECV should be carried out in a place where the baby can be delivered by emergency caesarean section, if necessary. About one in 200 (0.5%) babies will need to be delivered by emergency caesarean section immediately after an ECV because of bleeding from the placenta or changes in the baby's heartbeat.

ECV is not suitable for everyone and should not be carried out if:

- you need a caesarean section for other reasons
- you have had vaginal bleeding during the previous seven days
- the baby's heart rate tracing (also known as a CTG) is not normal
- your uterus is not the normal (pear) shape
- your waters have broken before you go into labour
- you are expecting twins or more (except delivery of the last baby)

If you have had a previous caesarean section, ECV can usually still be performed, however there are special considerations that need to be discussed with your doctor.

Alternative therapies

There are a number of alternative therapies that have been used to turn babies from a breech to a head-down position. These include postural exercises, acupuncture, moxibustion and chiropractic treatment.

There is no evidence to prove the effectiveness of alternative therapies. The College will not endorse any techniques until they have been shown to be scientifically beneficial. You will need to consider if there are any risks associated with specific alternative therapies.

As with all treatments, medical or alternative, you must ask yourself three questions:

- Does this treatment work?
- Are there any risks to this treatment?
- Are the risks greater than any potential advantages of the treatment?

What are my choices for birth if the baby remains breech?

Depending on your situation, you may consider:

- planned caesarean section
- attempted vaginal birth

Most babies in the breech position at term are now delivered by caesarean section. However, with careful case selection and labour care, in a hospital with adequate experienced staff and resources, it is possible to plan for a vaginal breech birth in some cases.

This will depend upon your individual circumstances and the experience of the clinical team, and the facilities available. Sometimes the clinical team will not have sufficient experience to support a planned vaginal breech birth safely. In this case, you may discuss options for referral elsewhere.

There are benefits and risks associated with both caesarean delivery and vaginal breech birth and these should be discussed between you and your obstetrician or midwife, so that you can choose the best plan for you and your baby.

Vaginal breech birth

Your doctor will discuss with you whether you are suitable for a planned vaginal breech birth. There may be reasons specific to you or your baby that a planned vaginal breech birth is not advised.

Some of these reasons include:

- you have a narrow pelvis
- your baby is presenting as a footling breech
- your baby is large (>3800g)
- your baby is small (<2000g)
- other reasons preventing a vaginal birth, such as low-lying placenta
- your doctor or hospital do not have the necessary skills and resources for a vaginal breech birth

What can I expect in labour with a breech baby?

When you plan a vaginal breech birth your labour will be considered more complicated so you will be advised that your baby's heart rate should be monitored continuously during labour and a paediatrician present at the birth. Vaginal breech birth is more complex, but not necessarily more difficult.

Your labour and pain relief options will be the same as with a baby who is head first.

More information about labour can be found on the RANZCOG website under Patient Information.



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Depression and Anxiety during Pregnancy and following Birth

It is widely thought that having a baby should be one of the happiest times of your life. However depression and anxiety are common for women during pregnancy and the first year of their child's life, with as many as one in five women affected.

There has been increased focus on the early detection and treatment of depression and anxiety during pregnancy and after the birth, due to the recognition of the impact that emotional wellbeing can have on a woman, her partner and family.

There are now national guidelines for professionals and information available for women and their families on best practice for assessment, diagnosis and management.

Depression is associated with symptoms of low mood ranging from mild through to moderate and severe. Severe symptoms can include suicidal ideas.

Depression is more common in women, and is most likely to occur during pregnancy and the year following birth.

Depression is different from the relatively common feelings of stress, tearfulness, sadness and being overwhelmed. Symptoms of depression are often more intense and last for two or more weeks.

Women are more at risk of developing depression during pregnancy and afterwards if they have:

- had depression in the past
- a family history of depression
- inadequate support
- problems with alcohol and drugs
- major stresses in their lives
- a poor relationship with their own mother
- experienced childhood abuse (physical, sexual)
- been exposed to family/partner violence

Depressive symptoms in pregnancy and following birth may be associated with medical conditions such as thyroid disorders and anaemia. Therefore, examination and investigation for other causes is an important part of your doctor's assessment.

What are the signs and symptoms of the condition?

Depression in pregnancy and following birth include:

- loss of interest and pleasure in activities
- feelings of sadness and hopelessness
- emotional irritability, tearfulness
- difficulty concentrating and caring for oneself
- low motivation and feelings of being unable to cope
- low energy
- increased or loss of appetite
- poor sleep or increased sleep and loss of sex drive

It should be remembered that difficulties with sleeping, changes in appetite and a reduction in energy and loss of sex drive may be normal symptoms associated with late pregnancy, breastfeeding and early motherhood.

When depression is more severe it can be associated with having thoughts of wanting to die, being unable to cope, or of wanting to harm your child. Many women with symptoms of depression in pregnancy and the postpartum also have symptoms of anxiety, including persistent worrying and irrational fears.

A very small number of women after childbirth may develop psychotic symptoms including hearing voices, feeling irritable and having irrational beliefs. This may be a condition called 'postpartum psychosis' and requires immediate assessment by your doctor.



What is anxiety?

While we all know what it is like to feel anxious in the lead-up to an event, some people experience these anxiety symptoms on an ongoing basis. Like depression, anxiety can affect the way that you think, feel and behave. For example, thoughts about your developing baby's wellbeing can leave you feeling anxious and worried, and lead you to seek confirmation that everything is ok.

There is a range of different types of anxiety conditions. Some of the most common types include generalised anxiety, panic disorder, obsessive compulsive disorder – and many of these commonly occur in pregnancy and in the year following the birth of a baby. If you have a history of anxiety, or would describe yourself as a 'worrier' you are likely to be at greater risk of developing or experiencing symptoms in pregnancy or in the year following birth.

It is also very common for depression and anxiety to exist at the same time, leaving many feeling sad, down and worried.

How are these conditions diagnosed?

Your doctor, midwife or child health care nurse may ask you to complete a questionnaire called the Edinburgh Postnatal Depression Scale (EPDS). This can identify if you need further medical assessment for depression and/or anxiety.

An assessment may include:

- asking how you have been feeling
- looking at the symptoms of depression and/or anxiety
- asking you about a personal or family history of depression or stressful events you may have experienced, to identify risk factors
- looking at your current supports and relationships
- a physical examination and, potentially, blood tests to check for other contributing causes of your symptoms.

The assessment may involve your partner and family (with your permission). Asking about how you are feeling about your baby and whether you are finding parenting stressful is an important part of assessing depression and anxiety. Treatment may include supports for you as a mother and your family. Although it can be difficult to discuss with your family and tell them that you are struggling, it is important that you answer any questions relating to you and your baby's safety honestly.

How is the condition treated?

Treatment for depression and anxiety should be adjusted according to the level of symptoms and how much they impact on your life. Mild symptoms may be managed through more frequent contact with your doctor, midwife or mental health clinician and you may benefit from general advice on lifestyle factors and enhanced support.

If your symptoms are more significant you may be offered specific psychological treatments such as Cognitive Behavioural Therapy (CBT), Interpersonal Therapy (IPT) or other psychological treatments.

In some situations antidepressant medication may be required. The risks and benefits of antidepressants for you, in pregnancy or during breastfeeding, will be carefully discussed with you and, with your permission, with your partner or family.

Overall, the risk of appropriate pharmacological treatment, when necessary, may be less than the risk for you and your baby were you to remain depressed. It is important that you fully understand the potential risks and benefits of any treatment and you should feel free to ask your doctor to address any concerns that you may have.

What are the risks of treatment?

You and your doctor will need to discuss what the risks and benefits are for each of the treatment options. When considering psychological treatment, these decisions may be affected by:

- availability of various treatments
- your capacity to access the treatment
- the severity of your symptoms

If you are considering medication then a careful discussion of risks in pregnancy and/or breastfeeding will be made in terms of:

- any risk to your baby's physical development
- pregnancy complications
- breastfeeding
- the longer term outcome for your baby

A considerable amount of research has been conducted into finding the safest options for antidepressant treatment and your doctor can discuss with you the information available and appropriate treatment options.

What are the risks of not treating depression?

In recent years it has become clear that untreated depression during pregnancy may increase the risk of complications in pregnancy, and if untreated may also influence the longer term emotional development of your child.

What is the risk of it occurring again if I have another child?

The greatest risk of developing depression and or anxiety is if you have had it before. Women who have previously had postnatal depression have approximately 50% chance of getting it a second time. However, there are many strategies that can prevent its recurrence in future pregnancies. Awareness and intervention can make a significant difference.

It can be difficult to admit to yourself that you are struggling with depression, and then to tell somebody else (i.e. your partner, your family, your child healthcare nurse, or your doctor). However, there is often an enormous sense of relief when this occurs and your problems are validated and addressed. It is far better for you and your baby if you put your hand up and ask for help.

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Umbilical Cord Blood Banking

What is umbilical cord blood?

Umbilical cord blood is the blood remaining in the umbilical cord and placenta after your baby's birth. Cord blood is normally thrown away after birth; however, it can be collected at birth and stored for possible use in the future.

What can umbilical cord blood be used for?

Umbilical cord blood is a rich source of stem cells, which are the building blocks of blood cells in our bodies. Stem cells can be used in the treatment of a range of blood disorders and conditions of the immune system for both children and adults. The diseases currently most commonly treated using stem cells are:

- Immune deficiency, when your body is unable to fight disease
- Leukaemias
- Blood diseases, such as aplastic anaemia
- Metabolic disorders, which interfere with the process by which the body gets energy from food
- Thalassaemia, a blood disorder that affects the way the body makes haemoglobin (a protein in your red blood cells that transports oxygen in your blood)

Some commercial groups claim that cord blood can prevent or cure a range of diseases, but there is currently insufficient evidence to prove this. In the future, the range of diseases treated using cord blood might be expanded as science and technology advances.

How is cord blood collected?

Cord blood can be collected after the umbilical cord has been cut following either a vaginal or caesarean birth. The type of birth does not affect the collection of cord blood. The collection process is quick and painless for both mother and baby, and is performed by a trained cord blood collector, obstetrician or midwife.

A needle is inserted into the umbilical cord vein attached to the placenta and the blood left in the umbilical cord and placenta is drained into a collection bag. The cord blood collection takes about three minutes and can occur either before or after the placenta has been delivered.

Once collected, the cord blood is stored frozen for future use.

Can I have delayed cord clamping and then bank the cord blood?

Delayed cord clamping is the practice where the umbilical cord is not clamped or cut until after pulsations have ceased, or until after the placenta is delivered. You are not able to delay cord clamping when collecting umbilical cord blood as the cord must be clamped early to capture the most stem cells.

What is required if I wish to donate my baby's cord blood?

Participation in donation programs is completely voluntary. There may be circumstances when cord blood collection cannot be guaranteed. This is as staff priority is to provide optimal care to mother and baby and due to the availability of collection staff.

If enough stem cells are collected to bank the cord blood, you will be

asked to complete a questionnaire about your personal and family medical history and give a blood sample which is tested to determine eligibility. After a period of six months, you will be contacted to check on the health of your baby since donation. This information is required to ensure the safety of blood and cell products for use in the future.

All information related to your cord blood donation and your medical and family history is allocated a unique reference number. Only staff at the cord blood bank are able to link this number to your personal details. All information identifying you and your baby is kept confidential and is not passed on to anyone other than you, your doctor and other healthcare professionals involved in your or your baby's care.



What are my options to bank my baby's cord blood?

In Australia, there are two options:

1. Donate to a Public cord blood bank. If an altruistic non-directed donation is chosen, donated cord blood is made available to all patients in need of a blood stem cell transplant in Australia or overseas. No fee is charged for storage. This cord blood will not be kept specifically for your family's use. In special circumstances, your baby's cord blood will be made available for use by your baby or another family member, if it is still in the bank.
2. Storage in a Private cord blood bank for potential use only by your baby or other family members. These banks are private companies and charge a fee for their processing and storage services. The main idea behind storing your baby's blood in a private cord bank is that one day, your child may become ill and you may be able to use those stem cells for treatment. Parents should be aware that many diseases cannot be treated with stem cells, especially if the disease is genetic in origin. This type of banking cannot be viewed as a health insurance policy.

In New Zealand, the only option is to have it banked privately.

Are there any risks involved?

There are no risks to your baby, as cord blood collection does not start until after the umbilical cord has been clamped and cut. The risks to the mother are due to having a blood sample collected and may include discomfort, bruising and, rarely, infection at the site.

Further information can be found at AusCord, the Australian network of umbilical cord blood banks at:

<http://www.abmdr.org.au/auscord/>



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Billing

After you are discharged from hospital, you will receive an account from us for the care of your baby. Our fees depend on whether services were provided during business hours or "after hours" (weekends and during weeknights between 5.00 pm and 7.30 am). The following fees are indicative:-



Initial Consultation - Item 110

Attendance at birth/Caesarean Section – business hours	\$510.00
Attendance at birth/Caesarean Section – 5.00 pm - midnight	\$630.00
Attendance at birth/Caesarean Section – midnight - 7.30 am	\$730.00
Consultation after birth (newborn examination)	\$395.00

Subsequent Consultation - Item 116

Visits in hospital requiring advice/examination/treatment	\$210.00
Daily visits whilst in Special Care Nursery (Scheduled fee)	\$75.50
Frenulotomy (Tongue Tie Snip)	\$125.00

Please note: Medicare rebates apply. Part of the fees generated for babies admitted to the Special Care Nursery and for a 2nd twin may be claimed from your private health fund as well as Medicare. Out of pocket expenses will vary, depending on the services required by your baby.

January 2017

PAEDIATRICIANS



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Introduction

We are a group of private paediatricians with expertise in the management of newborn babies, and have been specifically asked by your obstetrician to see you and your baby. Your obstetrician would have advised you of the referral process and informed you that you will be liable for these additional expenses. We also see older children in our consulting suite with general paediatric problems.



Reason for Referral

Your obstetrician has referred you to us for one of a number of reasons e.g.

- the circumstances of the pregnancy and/or birth (e.g. Caesarean section, forceps delivery)
- to ensure that your baby is well
- concern about your baby's wellbeing during or after the birth
- to exclude or manage any congenital abnormality.

While your baby is in hospital, we will be responsible for:-

- clinical examination and discussing our findings with you
- providing advice as required
- medical management
- treatment as required
- 24-hour on-call in the event of an emergency

Following the initial consultation, one of us (or our locum Paediatrician) will routinely assess your baby daily, except on Sundays and Public holidays, when your baby will be seen only if there are any specific issues. Although your baby will be seen on most days, a fee will be generated only if an examination is undertaken or, specific professional advice or treatment is required for your baby, e.g. neonatal jaundice, excessive weight loss, etc. Babies admitted to the Special Care Nursery will be seen daily and each of these visits will generate a fee.

Follow up

The Maternal & Child Health Nurse (MCHN) will monitor your baby's feeding, weight gain, minor problems etc. Some conditions e.g. hip dysplasia, congenital heart defects etc., may not manifest clinical signs in the early neonatal period. Therefore, we recommend a further consultation in our rooms when your baby is about 8 weeks old.



Please contact the rooms **on the day of discharge or as soon as possible thereafter**, to make this appointment. Should you have any concerns about your baby in the interim you may see your General Practitioner, contact your MCHN or ring our rooms for advice.