



Te Whatu Ora
Health New Zealand

Your Caesarean Section Birth

This booklet is for whānau who are having their pēpi (baby) by Caesarean section. Information is provided on:

- The Caesarean operation
- The different types of anaesthesia used
- What happens on the day of surgery
- Enhancing your recovery after your Caesarean
- Pain relief following your Caesarean
- Caring for pēpi

Caesarean section

A Caesarean section may be carried out because a vaginal birth is not possible or safe. An obstetrician will discuss with you the reasons for recommending a Caesarean, explain the operation and obtain your consent.

Before a planned Caesarean, you will have the chance to speak to an obstetrician to discuss your options.

If the Caesarean section is recommended because of concern about pēpi, a member of the paediatric team will be present to support the midwife in theatre. They will arrange continued specialised care in the Neonatal Intensive Care Unit (NICU) after birth if pēpi needs it.

Occasionally an elective Caesarean section will be delayed or postponed due to hospital acuity.

When is a Caesarean necessary?

A planned or elective Caesarean section

Your Caesarean section may be planned; this is called an elective Caesarean section. This may be recommended if:

- The placenta is blocking the cervix (entrance to the womb) so pēpi cannot be delivered vaginally. This is called placenta praevia.

- There is an active infection in the birth canal such as genital herpes at the onset of labour.
- There is a complication of pregnancy, for either yourself or pēpi) such as pre-eclampsia or a serious medical condition.
- You have had a previous Caesarean and a subsequent vaginal birth is not considered to be safe.
- You have had previous major surgery to the uterus (womb) or have uterine abnormalities.
- Growth restriction and prematurity of pēpi.
- Pēpi is in a transverse (lying sideways), or in another unfavourable position, and cannot be born vaginally.

An emergency Caesarean section

In some cases, a Caesarean section may be recommended in a hurry, usually when you are already in labour. This is an emergency Caesarean section. This may be necessary if:

- The labour is prolonged and not progressing.
- Pēpi's heartbeat shows signs of distress.
- The cervix does not open (dilate) for pēpi to pass through.
- An attempt at a forceps or ventouse delivery has been unsuccessful.
- The birthing person develops serious complications of pregnancy such as worsening pre-eclampsia.
- The placenta detaches itself from the uterine wall (called a placental abruption) that results in excessive bleeding.
- The umbilical cord has dropped out through the cervix.
- Infection of the uterus, particularly if the waters have been broken for some time.
- Uterine rupture.

Anaesthesia

There are two main types of anaesthesia for Caesarean section; regional (you stay awake) and general (you are asleep). The anaesthetist will meet you before your operation to discuss the choice of anaesthetic and answer any questions you may have. In some emergency situations this discussion may not be possible.

Obstetric anaesthetists are doctors who specialise in the anaesthetic care of pregnant whānau (family) and their pēpi. Most Caesarean sections are done under regional anaesthesia, where you are awake but you are numb from the chest down. There are occasions when you may be advised that one technique is better for you over another.

Regional Anaesthesia

There are three types of regional anaesthesia:

- **Spinal.** This may be used in planned or emergency Caesarean section. The spinal cord and nerves that control movement and feelings in your lower body are contained in fluid inside a membrane within your spine. Local anaesthetic and a pain reliever is put inside this bag of fluid by an injection into your back using a very fine needle. A spinal works quickly with a small dose of anaesthetic.
- **Epidural.** A thin plastic tube (or catheter) is put outside the membrane near the nerves carrying pain sensations from your uterus (womb). An epidural is often used for pain relief in labour, using weak local anaesthetic solutions that are put down this tube when needed. It can also be topped up if you need a Caesarean section by using a stronger local anaesthetic solution.
- **Combined Spinal Epidural (CSE) – a combination of the two.** The spinal makes you numb quickly and is used for Caesarean sections. The epidural can be used to give more anaesthetic if needed during the operation and to give pain relieving drugs afterwards.

Some common questions about regional anaesthesia

What will I feel during the Caesarean?

Some people feel nothing at all. Others feel pulling, pushing and tugging sensations which have been described as similar to pēpi movements but stronger or like “someone doing the washing up in my tummy.” These sensations normally don’t last long. It is rare to feel discomfort or pain, but if you do you should tell the anaesthetist straight away. Extra pain relief or a general anaesthetic (where you are asleep for surgery) can be given if needed.

What happens if the regional anaesthesia does not work?

Your anaesthetist will check the anaesthetic is effective before surgery starts. Occasionally the regional anaesthetic fails to work and a general anaesthetic (when you are sent to sleep) has to be given.

Are there any side effects?

A regional anaesthetic is usually safer for the birthing person and pēpi, and allows you and your partner or whānau (family) to experience the birth together.

Although many people experience no ill effects at all, regional anaesthesia can be associated with some side effects:

- Low blood pressure. This can make you feel sick but is easily treated.
- Severe headache in 1 in every 200 people. This can be treated.
- Temporary bruising to the nerves in one leg which may last several weeks to several months. This happens to in 1 in 10,000 people.
- Itching during the operation and afterwards; this can be treated.
- Feeling shaky; this is not serious and settles with time.
- Tenderness in the back for a few days. This is not unusual and is eased by simple pain relievers such as paracetamol and/or anti-inflammatory pain relief (unless there are reasons you cannot take these).
- Very serious rare complications can include pressure on the spinal cord from blood clot or abscess; or injury to the spinal cord or nerves causing

weakness or numbness of the leg(s). The risk of this lasting more than 6 months is less than 1 in 82,000.

Spinals, epidurals or the CSE do NOT cause chronic backache. Unfortunately, backache is very common after childbirth, particularly among those who have suffered with it before or during pregnancy, but spinals or epidurals do not make it worse. Backache during and after pregnancy usually gets better with time. Usually it does not require any intervention apart from pain relief. You can ask your LMC to arrange physiotherapy if backache is an ongoing problem for you.

Are there any advantages?

Many whānau are pleased to have a Caesarean section under regional anaesthesia as they are awake and can see pēpi straight after birth. Other advantages are:

- Regional anaesthesia is usually safer for the birthing person and their pēpi.
- You and your partner/whānau share in the birth.
- You can start bonding with your pēpi and have skin-to-skin contact while in theatre, continuing in the recovery area if pēpi, and the birthing person, and surgery are all going well.
- Pēpi can be more alert.
- You are not sleepy afterwards and can take part in caring for your pēpi straight away.
- It helps with pain relief after surgery.

If I had an epidural for labour can it still be used for Caesarean section?

If you have had an epidural to relieve labour pains and then unexpectedly need to have a Caesarean section, the same epidural can usually be “topped up” for surgery. An epidural can also be left in place after the Caesarean section for managing pain relief.

General Anaesthesia

If you have a general anaesthetic you will be asleep for the Caesarean section. It is used less often nowadays. There are occasions when a general anaesthetic is needed:

- There is not enough time for a regional to work.
- Regional anaesthesia is unsuitable/best avoided, such as when your blood cannot clot properly or if there is a lot of bleeding.
- If you have a very curved back or some back surgery which makes regional anaesthesia very difficult to do or impossible.
- If you prefer to be asleep.

The anaesthetist will discuss this with you and give advice as to the suitability of this technique for you.

If you have whānau support, they will be shown where to wait while you are in the operating theatre as they are unable to be present during surgery under a general anaesthetic. We will support you to have early skin-to-skin contact with pēpi while in theatre, assuming you are both well. Skin-to-skin helps with bonding and breastfeeding and helps you to make more milk. Pēpi might self-attach on the breast in theatre but most will breastfeed in PACU in the first hour after birth. It's best to wait till pēpi is showing signs they are ready to feed before trying to latch pēpi; opening their mouth, sucking their hands, and moving towards the nipple. You and pēpi will be well supported by the staff in theatre while having skin contact.

Some questions asked about general anaesthesia

How quickly will I wake up?

You will usually wake soon after the operation is completed, but you may be drowsy for a few hours.

Will I be sick after the anaesthetic?

You may feel sick after the operation but if you do, please tell the anaesthetist or PACU nurse.

Preoperative assessment

If you are having a planned or elective Caesarean section you will be invited to speak to an obstetric anaesthetist, either in-person or by phone or video call.

They will explain:

- The different options for your anaesthetic
- When to stop eating and drinking before your surgery

They will also review your health, pregnancy, medical history, and previous anaesthetic.

You will be sent forms for blood tests which you should do the day before your planned surgery.

Please do not hesitate to ask any questions or discuss any concerns you may have at this time.

If you have any questions after this appointment or require help with the blood forms please speak to your Lead Maternity Carer (LMC).

On the day

Operating Room Day of Admission (ORDA)

Before you come into hospital, on the morning of your operation it is important to have a shower and wash your hair to reduce the chance of a postoperative infection.

If you have any antenatal expressed colostrum please bring this in with you frozen and labelled, and it can be stored on the ward freezers until it is needed. Please speak with your LMC if you have any questions regarding this.

On the day of your elective Caesarean section you will be admitted to ORDA on level 9, Building 32, Auckland City Hospital. A nurse will prepare you for your Caesarean section. It is important to follow the instructions for eating and drinking on the day of surgery. You should drink water only, until your arrival at hospital, you will then be offered water to drink whilst you wait. Your surgery may have to be delayed for your safety if you do not fast correctly.

Please speak to your Lead Maternity Carer (LMC) if you have any religious or cultural requests that will make you more comfortable during your procedure and stay in hospital. If you would like to take your placenta (whenua) home with you, let your LMC and the team caring for you at the hospital know. It is helpful to bring a small chilly bin/bag with you to store the whenua while you are staying with us. The staff on the ward can provide you with information on caring for your whenua at home, if you would like.

Information for whānau supporting you in hospital

- Whānau supporting you should be well and free from respiratory symptoms such as cough, runny nose or sore throat, or symptoms of other infectious illness such as vomiting or diarrhoea.
- If you have a regional anaesthetic and stay awake for your operation, your whānau are very welcome to accompany you to theatre and stay with you throughout the surgery. For safety reasons, only one person is allowed to support you in the theatre as the space is limited. If you are having a

general anaesthetic (going to sleep for your operation), your whānau support will be asked to wait in a waiting area.

- Your whānau support will be shown where to change into theatre scrubs and be given a name sticker to wear. They will have an orientation of the operating theatre, and will be shown where to sit.
- Once your pēpi is born, you will be supported to have skin-to-skin contact in theatre if you and pēpi are both well. If pēpi is being checked after skin contact, they will be invited to where the midwife or paediatrician is checking pēpi.
- If they feel faint or unwell at any time, they should tell staff straight away. We encourage you to welcome your pēpi and take as many photos of whānau and pēpi as you wish, although videos are not permitted in the operating theatre or recovery area. Please don't photograph any staff without their permission.
- For safety reasons, only one person is allowed to support you in the theatre as the space is limited. They must follow the instructions of theatre staff at all times.
- Please do not use cell phones to make or receive calls whilst in theatre or post anaesthesia care unit. Video calling and livestreaming is also not permitted.

Inside the operating theatre

In theatre, whether you are awake or asleep for your birth, you will have some equipment attached to you to measure your heart rate, blood pressure and the amount of oxygen in your blood.

The anaesthetist (or technician) will put a drip in your hand or arm. This is to give you fluid and medication. A local anaesthetic will be used to numb the skin first.

What happens if I have regional anaesthesia?

- If you have regional anaesthesia, you will be asked to sit up on the theatre bed (or sometimes lie on your side).

- After painting your back with an antiseptic solution (it will feel cold!), a suitable point in the middle of your back is found and a little local anaesthetic injection is given to numb the skin.
- Then the regional anaesthetic needle is placed in your back. Sometimes as this needle goes in you feel a momentary tingling, like an electric shock going down your back, hip or leg. You should mention this, but it is important to try to keep still.
- When the needle is in the correct position, an injection of local anaesthetic and pain-relieving medicine is given and the needle removed. This usually takes a few minutes but can take longer if it is difficult to place the needle.
- If you are having an epidural or combined spinal epidural anaesthetic, after the injection of the anaesthetic medicines, a catheter (tube) is threaded down the needle. The needle is removed, leaving just the flexible catheter in your back. This will be taped down securely.
- The anaesthetic takes effect quickly. Your legs will feel warm, start to tingle and feel heavy. Numbness will spread up your body so you will feel numb from your chest to your toes.
- Whilst the anaesthetic is taking effect, a urinary catheter (a fine tube) will be inserted to drain urine from your bladder. This should not be uncomfortable and will usually be removed 8 – 12 hours after your Caesarean section.
- You will be placed on your back for the operation with a tilt towards the left side. A screen separates you and your whānau support from the operation site but, if you wish, this may be temporarily lowered so you can see your pēpi the moment they are born.
- A particular advantage of having a regional anaesthetic is that you are awake when your pēpi is born and you, your whānau and pēpi can start bonding together. The midwife in theatre will help you to have skin-to-skin time with pēpi. Having skin-to-skin contact with pēpi immediately after birth helps the bonding process.

- In the recovery ward, your nurse or midwife will help you to breastfeed if pēpi is interested.
- There can be 8-10 staff members in theatre. This may seem like a lot but each person has a specific role and is there to make your Caesarean section as safe and smooth as possible.
- You may be given additional pain-relieving medicine towards the end or shortly after the surgery. This is usually paracetamol and an anti-inflammatory pain reliever (unless these are not suitable for you).
- Occasionally local anaesthetic injections to the wound site, or just above your hips, may be given as further pain relief.
- From the start of the operation, it takes approximately ten minutes before pēpi is born, and a further fifty minutes for the surgery to be finished. Then you will be transferred with your whānau support and pēpi to the Post Anaesthesia Care Unit (PACU).

What happens if I have a general anaesthetic?

- You will be positioned on the anaesthetic table lying on your back, with a tilt towards the left.
- You will be given oxygen to breathe and the anaesthetic is injected into your drip. As you go to sleep, gentle pressure is placed on your neck so you don't vomit.
- When you are asleep a tube is placed in your windpipe to allow a machine to breathe for you, and to prevent stomach contents entering your lungs.
- When you wake up you may feel sleepy and your throat may feel sore from the tube. Whilst you are asleep, medicines are given to keep you comfortable and stop you feeling sick; you can ask for more of these when you wake up, if needed.
- After the operation you will be transferred to the Post Anaesthetic Care Unit (PACU). Your whānau and pēpi will join you there when you are comfortably awake.

Neonatal Intensive Care Unit (NICU)

If pēpi is admitted to the Neonatal Intensive Care Unit (NICU) your whānau support can usually accompany pēpi to the unit. If possible, we will take you to NICU to see your pēpi before you go to the postnatal ward. We will support you to hand express your colostrum within the first hours after birth, and to continue to do this at least 8 times in 24 hours (approximately every 3 hours).

Post Anaesthetic Care Unit (PACU)

From the operating theatre, you will be transferred to the PACU with your pēpi in skin-to-skin contact with you and your whānau support. During this recovery time you will be carefully monitored by the nursing recovery staff. You will be supported to keep pēpi in skin-to-skin contact regardless of your feeding method, and when pēpi is showing signs they are ready to feed we will give help as needed. You will normally be offered water to drink once in PACU.

Please feel free to take photos of whānau and pēpi, whilst respecting the privacy of other patients. Please do not use cell phones to make or receive calls.

The effects of a regional anaesthetic should wear off over approximately 2 - 3 hours. After 1-2 hours you will be transferred to a postnatal ward— Tamaki Ward or Wards 96/98.

Please note that visiting in PACU is restricted to one whānau support, only because we need to monitor your recovery closely. If you have had a general anaesthetic your whānau support will be brought in with pēpi as soon as you are comfortably awake and stable.

Enhancing recovery after obstetric surgery (EROS)

EROS is a programme specifically designed to accelerate recovery after Caesarean sections and improve your experience. It has a structured approach to care in which you are actively involved and encouraged to set goals for your recovery.

Before your Caesarean Section, your goals are:

- Drinking clear fluids on the day of your birth until 2 hours before your surgery time. This has been shown to improve your comfort and reduce nausea and sickness.
- You may be given a non-fizzy carbohydrate drink in ORDA. This has been shown to reduce the stress of the operation on your body, so helping your recovery. Please note it is not suitable for everyone, for example if you are diabetic or have developed diabetes in the pregnancy. So please do not be concerned if you do not get one.
- It is important that you have the clear fluids as instructed. You should drink water and will be given pain-relief in PACU.

During the first few hours on the postnatal ward, your goals are:

- Aim to drink normally.
- Have a snack or light meal.
- Start mobilising 6-8 hours after your operation such as moving from your bed to sit in a chair or taking a short walk round your room. A midwife or nurse will help you with this and check it is safe for you to get out of bed. It is important you tell staff if your legs are still weak 6 hours after surgery.
- Keep your pēpi skin-to-skin with you and feed pēpi responsively.
- Your bladder catheter will be taken out 8-12 hours after the Caesarean section.

24-48 hours after Caesarean Section, your goals are:

- Eat and drink as usual.
- Have a shower (with assistance).
- Change into your own clothes (loose fitting).
- Move regularly such as walking around your room; walk to the bathroom; move from your bed to sit in a chair.
- Continue skin-to-skin with pēpi. This is with you, and/or your whānau support.
- Feed and care for pēpi responsively.
- Breastfeed and/or hand express. Pēpi needs to be fed often in the first days after birth. 8-12 feeds in 24-hours is normal.
- Stop your pain pump.
- Take regular oral pain relievers and laxatives as required.
- Transfer to Birthcare or discharge home.

48-72 hours after Caesarean section, your goals are

- Eat and drink your usual diet.
- Aim to shower and dress independently.
- Take regular walks around the ward and to the bathroom.
- Feed and care for your pēpi with your whānau.
- Take regular oral pain-relief and laxatives as required.
- Transfer to Birthcare or discharge home.

Care for your pēpi may influence the time of your discharge/transfer to Birthcare, even if your recovery has been as good as expected.

Pain Relief after your Caesarean Section

Your pain relief will be a combination of regular oral pain relievers and a pain-relieving pump.

Pain Relieving Pump

The pump is safe and under your control. There are two types of pain-relieving pump. You will have either:

- **A Patient Controlled Intravenous Analgesia Pump (PCIA).** This contains morphine or oxycodone, which are a strong pain relievers. It is connected to your cannula in your vein (usually in your arm). When you press the button on your hand-held controller, the pain relief is delivered into your blood stream.
- **A Patient Controlled Epidural Analgesia Pump (PCEA).** This contains pethidine, a strong pain reliever. If you have an epidural catheter left in your back after your anaesthetic, you will have this type of pump connected to the epidural catheter. When you press the button on the hand held controller the pethidine is delivered into your epidural space. This will not affect your ability to move.

It is important to avoid using hot or cold packs, or hot water bottles whilst you are still numb from your anaesthetic or whilst your epidural is in progress, as they can cause burns.



The anaesthetist will decide which type of pain pump you have after discussion with you in the pre-assessment clinic and/or when you arrive in ORDA.

Both types of pain-relieving pumps will help to keep you comfortable after until the day after the birth. They are safe with breastfeeding.




The PACU nurses and staff on the post-natal ward will explain and show you how to use the pump. Once you are in the post-natal ward, your team will continue to check in on you and your pain-relieving pump.

Pain Relief Tablets

In addition to the pain relieving pump, you will be given pain relief tablets:

	<p>Paracetamol every 4-6 hours</p>
	<p>An anti-inflammatory pain relief such as Voltaren or Ibuprofen (with food, if these are suitable for you).</p>

It is important that you take these tablets regularly as they help to lessen the number of times you need to use the pain-relieving pump. You can continue taking them after you leave hospital until you have almost no pain at all (usually 7-14 days after surgery).

	<p>Slow-release opioid tablets - M-Eslon (Morphine) or Oxycontin (Oxycodone). These are strong pain relievers and are given either on a regular basis, usually for 2 days after surgery, or as needed.</p>
	<p>Sevredol (Morphine) or Oxycodone (Oxynorm) – when you no longer need the pain pump these give more pain relief than paracetamol and the Voltaren/Ibuprofen given on their own. It is fast acting, becoming effective within twenty minutes.</p>
	<p>Tramadol may also be used for relief of moderate pain when you no longer have your pain pump. This medicine takes about thirty minutes to be effective.</p>

A prescription for pain-relief tablets will be provided on discharge from hospital. All these medications are safe to take if you are breastfeeding pēpi.

Side effects of pain medication

- Possible side effects of the pain-relieving medicines may include nausea, vomiting, constipation and itch.
- If you experience any of these please let your midwife or nurse know.
- Medication is available to prevent or reduce these side effects.
- Please be aware that there is no advantage to you feeling pain after your Caesarean. Some discomfort is normal as long as it does not stop you doing your normal activities and looking after your pēpi.
- The acute pain team will see you daily until your pain is well controlled on tablets.

Postnatal care and Discharge Planning

Transition Lounge

Before discharge, you will be taken to the Transition Lounge where you can wait for discharge paperwork or to be picked up to go home.

The Transition Lounge is on Level 5. As you enter off Park Road, take the ramp to Carpark A (which is Level 5). The lounge is to your right, around the corner from the information desk.

There is a 20-minute free parking zone where whānau can park when they collect you from the Transition Lounge. These are opposite Carpark A, and have signs saying “Transit Lounge”. There is also 5-minute free parking zone outside the entrance of Building 32, as you enter through the main entrance off Park Road.

You will need a carseat to safely transport pēpi.

Birthcare

Auckland Hospital (Te Toka Tumai) Women’s Health work in partnership with Birthcare to provide quality postnatal care for whānau.

Birthcare is an independent maternity unit in the grounds of the Domain. It is staffed by nurses and midwives 24 hours a day, 7 days a week. At Birthcare there is additional breastfeeding support from a lactation consultant, a neonatal doctor

available during the day, paediatric care and physiotherapy services. Birthcare provides the same pain relief tablets as Te Toka Tumai.

Your stay at Birthcare will be in a shared room. There are single and deluxe rooms available at a cost. Please see www.birthcare.co.nz for details.

How long you stay in hospital after a Caesarean section will depend on how well you and pēpi are doing. A well whānau and pēpi will stay in Auckland Hospital for one night and then go to Birthcare. If you or your pēpi need ongoing hospital care, you will stay at Auckland City Hospital. Please discuss your discharge planning and post-natal care with your Lead Maternity Carer (LMC).

Caring for your pēpi

Having skin-to-skin contact and breastfeeding pēpi will help to establish your milk supply. We will help you to feed when pēpi shows signs they are ready, usually in PACU.

Initially, your midwife will help to care for your pēpi and help position you both comfortably for breastfeeding. Doing lots of safe skin-to-skin contact and breastfeeding pēpi frequently will help establish your milk supply.

Some babies can be mucousy for about 48 hours following a Caesarean birth. This is not usually a problem.

If pēpi is unwell and must be cared for in the newborn unit you will be encouraged to visit often and to express milk for your pēpi.

On the second night it is normal for pēpi to be more unsettled.

Looking after yourself at home in the weeks after a Caesarean section

- To help wound healing we recommend that you avoid heavy lifting for up to six weeks after your surgery. This includes lifting other children, full laundry baskets, nappy buckets and groceries. We also suggest

you avoid vacuuming and that you do not drive a car for approximately four to six weeks after your Caesarean. After this time begin to resume normal day to day activities, as you feel able to.

- Your LMC will continue to provide your postnatal care for up to six weeks. Discuss any concerns you have with your LMC. This could include discussion about your recent surgery as well as advice for future pregnancies. You will be referred to a Well Child provider for on-going follow-up of your pēpi.

Can I have a vaginal birth after a Caesarean birth?

At Te Toka Tumai, we encourage whānau who have had a Caesarean birth to plan for a Vaginal Birth after Caesarean (VBAC) for their next pēpi. A VBAC is the safest plan for both you and your pēpi. At Te Toka Tumai, two out of three whānau who plan a VBAC will have a vaginal birth.

Because there is now a scar on your womb (uterus), it is safest to wait at least one year before getting pregnant again. This time allows your womb to heal fully from the operation. Your LMC or family doctor can help you with contraception, so you can decide on the right timing for your next pregnancy.

The doctor who performed your Caesarean section will talk to you about whether there is a medical reason you could not attempt a VBAC in your next pregnancy. The Positive Birth After Caesarean (PBAC) Clinic is a clinic where you can meet with a doctor to discuss your options for your next birth. You can make an appointment by calling 0800 472 221.

Helpful contacts

My LMC's contact _____

Labour and Birthing Suite: 09 307 2888

Health Advocates Service: 0800 555 050



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Health New Zealand
Te Toka Tumai Auckland

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