# Anaesthetics for Caesarean birth

Royal Berkshire NHS Foundation Trust

**About one in two babies is born by Caesarean birth and approximately 16% of these are unexpected; so, you may find it helpful to look at this information, even if you do not expect to have a Caesarean yourself.**

## What are the options available?

There are several types of anaesthesia available for Caesarean birth. This information outlines and explains the various choices. You can discuss the choice of anaesthetic with your anaesthetist. Obstetric anaesthetists are doctors who specialise in your anaesthetic care and welfare.

## Types of anaesthesia

There are two main types; you can be either awake or asleep. A general anaesthetic involves you going to sleep but most Caesareans take place with regional anaesthesia when you are awake but sensation from the lower body is numbed. It is usually safer for you and baby and allows you to be awake and experience the birth with your birth partner.

**There are three types of regional anaesthesia:**

1. **Spinal** – the most commonly used method. It may be used in a planned (elective) or emergency Caesarean birth. The nerves and spinal cord that carry feelings from your lower body (and messages to make your muscles move) are contained in a bag of fluid inside your backbone. Local anaesthetic is put inside this bag of fluid using a very fine needle. A spinal works fast with a small dose of anaesthetic.
2. **Epidural** – a thin plastic tube (catheter) is put outside the bag of fluid, near the nerves carrying pain from the uterus. An epidural is often used to treat the pain of labour using weak local anaesthetic solutions. It can be topped up if you have a Caesarean birth by giving a stronger local anaesthetic solution. In an epidural, a larger dose of local anaesthetic is necessary than with a spinal, and it takes longer to work. Your epidural can also be topped up during the birth if needed.
3. **Combined spinal-epidural or CSE** – a combination of the two. The spinal can be used for the Caesarean birth. The epidural can be used to give more anaesthetic if required, and to give pain-relieving drugs afterwards.

## General anaesthesia

If you have a general anaesthetic you will be asleep for your Caesarean birth. General anaesthesia is used less often nowadays. It may be needed for some emergencies, if there is a reason why regional anaesthesia is unsuitable, or if you prefer to be asleep.

The pros and cons of each are described later.

Further information about Caesarean births can be found in the following leaflets –'Information for women having a booked (elective) Caesarean birth' and 'Unplanned (emergency)

Caesarean birth.' There is also a video outlining the elective surgical process on YouTube – https://www.youtube.com/watch?v=VfoI3d2asVs

## What happens next?

Once your date for Caesarean birth has been confirmed you will be emailed with multiple leaflets explaining what will happen. During your appointment with the doctor who requested your Caesarean birth, you should have been advised to collect a prescription from Lloyd's pharmacy within the hospital. This prescription includes painkillers (for afterwards) and tablets to reduce the acid in your stomach. You need to take one of the antacids called omeprazole the night before the operation and one on the morning itself. There is also a tablet called metoclopramide to take in the morning. This will be explained to you.

You will only be seen by an anaesthetist before the day of Caesarean if this has been highlighted after review of your medical history or problems with previous anaesthetics. If you believe you should have been seen by an anaesthetist due to your history or risk factors, please discuss this with your midwife and it can be arranged for you to meet with an anaesthetist. Otherwise, you will meet your anaesthetist on the morning of your birth, and they will discuss the anaesthetic choices with you and answer any questions.

If you need an emergency Caesarean birth (unplanned or needs to happen once you are already in labour), the anaesthetist will assess you before you go to the operating theatre and again will be able to discuss the choice of anaesthetic and answer any questions.

## What will happen in the operating theatre?

Monitors will be used to measure your blood pressure, heart rate and the amount of oxygen in your blood. Using a local anaesthetic to numb your skin, the anaesthetist will insert a cannula so that a drip can give you fluid through your veins. Then the anaesthetic will be started.

## What will happen if you have regional anaesthesia?

You will be asked either to sit or to lie on your side, curling your back. The anaesthetist will spray your back with sterilising solution, which feels cold. They will then find a suitable point in the middle of the lower back and will give you a little local anaesthetic injection to numb the skin. This sometimes stings for a moment. Sometimes an ultrasound scan is used on your back to find the best location and is similar to the ultrasound used on your front to see your baby.

For a spinal, a fine spinal needle is put into your back; this is not usually painful. Sometimes, you might feel a tingling, like a small electric shock, going down one leg as the needle goes in. You should tell us if you feel this, but it is important that you keep still while the needle is being put in. When the needle is in the right position, local anaesthetic and a pain-relieving drug will be injected, and the needle removed. It usually takes just a few minutes, but if it is difficult to place the needle, it may take longer.

For an epidural, a different needle is needed to allow the epidural catheter to be threaded down it into the epidural space. As with a spinal, this sometimes causes a tingling feeling or small electric shock down your leg. It is important to keep still while the anaesthetist is putting in the

epidural, but once the catheter is in place the needle is removed and you will be able to move around. If you already have an epidural catheter for pain relief in labour, the anaesthetist will put a stronger dose of local anaesthetic down the catheter, which should work well for a Caesarean birth. If the Caesarean  birth is very urgent, it may be decided that there is not enough time for the epidural to be extended, so a different anaesthetic may be recommended.

You will know when the spinal or epidural is working because your legs will begin to feel very heavy and warm. They may also start to tingle. Numbness will spread gradually up your body. The anaesthetist will check how far the block has spread to make sure that you are ready for the Caesarean  birth to begin. It is sometimes necessary to change your position to make sure the anaesthetic is working well. Your blood pressure will be taken frequently.

While the anaesthetic is taking effect, a midwife will ask you to lie with your legs apart so they can insert a tube (a urinary catheter) into your bladder to keep it empty during the operation. This should not be uncomfortable. The tube will be left in place for about 12 hours, so you will not need to worry about being able to go to the toilet to wee.

For the operation, you will be placed on your back with a tilt towards the left side. If you feel sick at any time, you should mention this to the anaesthetist. It is often caused by a drop in blood pressure. The anaesthetist will administer appropriate treatment to help.

## The operation

A screen separates you and your birthing partner from the operation site in order to prevent infection It may be possible to use a mirror to see over the screen at the time of your baby's birth. The anaesthetist will stay with you all the time. You may hear a lot of preparation in the background. This is because the obstetricians work with a team of midwives and theatre staff.

Your skin is usually cut slightly below the bikini line, which may require shaving You. may feel pulling and pressure, but you should not feel pain. Some women have described it as feeling like "someone doing the washing up inside my tummy". The anaesthetist will assess you throughout the procedure and can give you more pain relief if required. Whilst it is unusual, occasionally it may be necessary to give you a general anaesthetic.

Whilst the operation is being completed, we  encourage a period of skin-to-skin contact between you and your baby provided you are both well enough to do so Your birth partner can help you to hold your baby on your chest behind the screen (see Skin to Skin contact leaflet).  Please speak to your midwife and anaesthetist if you would like to do this. If you do not want this or would prefer your birth partner to give skin-to-skin please let us know.

When the obstetrician has finished stitching your wound you will be transferred to your bed and then taken to the recovery room, or back to the delivery suite, where you will be under observation for a while.

Often your baby is tucked into the bed with you, and your birth partner (if any) can stay with both of you. Your baby will be checked over, weighed, and then given back to you as quickly as possible, so you can resume skin-to-skin contact, get to know your baby and notice any feeding signals, if you are yet to feed. Our staff can help you recognise these and support you with your first feed should you wish, in skin to skin contact. It is perfectly safe to breastfeed after anaesthesia.

In the recovery room, your anaesthetic will gradually wear off and you may feel a tingling sensation in your legs. Within a couple of hours, you will be able to move them again.
The pain relieving drugs given with your spinal or epidural should continue to give you pain relief for a few hours. When you need more pain relief, ask the midwife.

## What will happen if you have a general anaesthetic?

You will be given an antacid to drink, and a urinary catheter may be inserted before your general anaesthetic if delivery of your baby is very urgent. Unfortunately, it will not be possible to have your birth partner present for safety reasons. The anaesthetist will give you oxygen to breathe through a facemask for a few minutes. Once the obstetrician and all the team are ready and your stomach down to bikini line has been cleaned with a sterilising solution, the anaesthetist will give the anaesthetic in your drip to send you to sleep. Just before you go off to sleep, the anaesthetist's assistant will press lightly on the front of your neck. This is to prevent stomach fluids getting into your lungs. The anaesthetic works very quickly, and you will be unconscious throughout.
**When you are asleep**, a tube is put into your windpipe to prevent your stomach contents from entering your lungs and to allow a machine to breathe for you. The anaesthetist will continue the anaesthetic to keep you asleep and allow the obstetrician to perform your Caesarean birth. Your baby is checked and looked after by your midwife and a paediatric (baby) doctor and if well enough can be taken out of theatre to join your birth partner who can be helped with providing skin to skin contact.
**When you wake up**, your throat may feel uncomfortable from the tube, and you may feel sore from the Caesarean birth. You may also feel sleepy and perhaps nauseated for a while, but you should soon be back to normal. You will be wheeled to the recovery area where you will meet up with your baby and partner.

## Some reasons why you may need general anaesthesia:

- In certain conditions, when the blood cannot clot properly, regional anaesthesia is best avoided.
- There may not be enough time for regional anaesthesia to work.
- Previous back surgery, injury or deformity may make regional anaesthesia difficult or impossible.
- Occasionally, spinal or epidural anaesthesia does not work sufficiently well to proceed with surgery.
- Also on occasion, a general anaesthetic may become necessary during the course of your Caesarean birth either because the regional anaesthesia is not fully effective or surgical complications have arisen. This is very uncommon.

## Pain relief after the operation

If you had a regional anaesthetic you will have been given a long acting painkiller with the spinal or epidural. During a general anaesthetic painkillers are given into the drip and local anaesthetic can also be placed between the muscle layers of your tummy while you are still asleep.

There are several ways to give you pain relief after Caesarean birth:

- **By mouth:** a midwife can give you tablets such as ibuprofen, paracetamol or dihydrocodeine (see separate information leaflet 'Pain relief when breastfeeding'). A morphine-containing liquid is available if you need stronger pain relief
- **Epidural:** Sometimes the epidural catheter is left in for later use.
- **Injection** of morphine or similar painkiller into a muscle by a midwife or into the vein (drip) via a patient controlled analgesia device (PCA) which allows you to safely administer small doses of your own painkiller at 5 minute intervals.

## Advantages of regional compared with general anaesthetic:

- Spinals and epidurals are usually safer for you and your baby. Please see table below for more information.
- They enable you and your birth partner to share in the birth.
- You will not be sleepy afterwards.
- They allow earlier feeding and contact with your baby.
- Your pain relief will be better due to the long acting drug placed in the spinal or epidural space.
- Your baby will be born more alert because it will not have been exposed to a general anaesthetic.

## Disadvantages of regional compared with general anaesthesia:

- Spinals and epidurals can lower the blood pressure, though this is easily treated.
- They may take longer to set up than a general anaesthetic.
- Occasionally, they may make you feel shaky or itchy.
- Rarely, they do not work perfectly so a general anaesthetic may be necessary. Very rarely, spinals and epidurals are overly effective and the numbness becomes too high, and you may need a general anaesthetic.

## Spinals and epidurals 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 and epidurals do not make it worse. You may however feel local tenderness or bruising in your back for a few days over the site of the injection. This is not unusual but let your midwife or doctor know if it gets worse.

The tables below outline the risks associated with both regional and general anaesthetics.

| **Risks of having a regional anaesthetic (epidural or spinal)** | | |
|---|---|---|
| **Type of risk** | **How often does this happen?** | **How common is it?** |
| Itching | 1 in 3-10 | Common |
| Significant drop in blood pressure. | 1 in every 5 (spinal)<br>1 in every 50 (epidural) | Common<br>Occasional |

| **Risks of having a regional anaesthetic (epidural or spinal) *continued*** | | |
|---|---|---|
| **Type of risk** | **How often does this happen?** | **How common is it?** |
| Not working well enough for a Caesarean birth so you need to have a general anaesthetic. | 1 in every 20 (epidural)<br>1 in every 50 (spinal) | Sometimes<br>Occasional |
| Severe headache | 1 in every 100 (epidural)<br>1 in every 500 (spinal) | Uncommon<br>Uncommon |
| Nerve damage (numb patch on a leg or foot or having a weak leg). | Effects lasting less than six months) - 1 in every 1,000 -2000<br>Effects lasting more than 6 months - 1 in every 24,000 | Quite rare<br><br>Rare |
| Epidural abscess (infection).<br>Meningitis.<br>Epidural haematoma (blood clot). | 1 in every 50,000<br>1 in every 100,000<br>1 in every 168,000 | Very rare<br>Very rare<br>Very rare |
| Accidental loss of consciousness. | 1 in every 2,000 | Quite rare |
| Severe injury, including paralysis. | 1 in every 100,000 | Extremely rare |

There are no accurate figures available from published literature for all of these risks. Figures are estimates only and may vary from hospital to hospital.

A national survey has found that regional anaesthesia for pregnant women carries lower risks of permanent harm than for other groups of patients.

| **Risks of having a general anaesthetic** | | |
|---|---|---|
| **Type of risk** | **How often does this happen?** | **How common is it?** |
| Chest infection | 1 in every 100 | Common (most are not severe) |
| Sore throat<br>Shivering | 1 in every 2<br>1 in 3 | Common<br>Common |
| Feeling sick<br>Cuts or bruises to lips or tongue | 1 in every 10<br>1 in 20 | Common<br>Occasional |
| Airway problems leading to low blood-oxygen levels | 1 in every 250 | Uncommon |
| Fluid from the stomach entering the lungs, and severe pneumonia | 1 in every 1000 | Quite rare |
| Corneal abrasion (scratch on eye) | 1 in every 600 | Uncommon |
| Damage to teeth | 1 in every 4500 | Rare |
| Awareness (being able to recall part of the time during anaesthetic) | 1 in every 670 | Rare |
| Anaphylaxis (severe allergic reaction) | 1 in every 10,000 | Rare |
| Death or brain damage | Death: less than 1 in 100,000<br>Brain damage: exact figures unknown | Very rare (1 or 2 a year in the UK)<br>Very rare (exact figures do not exist) |

## Acknowledgements

This information has been adapted from that written by the Information for Mothers Subcommittee of the Obstetric Anaesthetists Association (OAA). You can get more information on anaesthetics and anaesthetic risks from the Royal College of Anaesthetists www.youranaesthetic.info or from the OAA: www.oaaformothers.info

### References

1. Holdcroft A, Gibberd FB, Hargrove RL, Hawkins DF, Dellaportas CI. Neurological complications associated with pregnancy. British Journal of Anaesthesia 1995 – chapter 75, pages 522–526.
2. Jenkins K, Baker AB. Consent and anaesthetic risk. Anaesthesia 2003 – chapter 58, pages 962–984.
3. Jenkins JG, Khan MM. Anaesthesia for Caesarean section: a survey in a UK region from 1992 to 2002. Anaesthesia 2003 – chapter 58, pages 1114–1118.
4. Jenkins JG. Some immediate serious complications of obstetric epidural analgesia and anaesthesia: a prospective study of 145,550 epidurals.
5. International Journal of Obstetric Anaesthesia 2005 – chapter 14, pages 37–42.
6. Reynolds F. Infection a complication of neuraxial blockade. International Journal of Obstetric Anaesthesia 2005 – chapter 14, pages 183–188.
7. Cook TM, Counsell D, Wildsmith JAW. Major complications of central neuraxial block: report on the third National Audit Project of the Royal College of Anaesthetists. British Journal of Anaesthesia 2009; 102: 179-190.
8. Pandit JJ and Cook TM. NAP5- The 5th National Audit Project of the RCoA and AAGBI. Accidental Awareness during General Anaesthesia. September 2014. http://www.nationalauditprojects.org.uk/NAP5report
9. Guideline on anaesthesia and sedation in breastfeeding women 2020 Guideline from the Association of Anaesthetists J.Mitchell,1W.Jones,2E.Winkley3andS.M.Kinsella https://onlinelibrary.wiley.com/doi/pdf/10.1111/anae.15179

To find out more about our Trust visit www.royalberkshire.nhs.uk

**Please ask if you need this information in another language or format.**

Consultant Anaesthetist (Obs & Gynae), November 2007
Reviewed: October 2023
Next review due: October 2025