Anaesthetics for Caesarean birth

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

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 the anaesthetic care and welfare of pregnant women and their babies.

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 are done under regional anaesthesia, when you are awake but sensation from the lower body is numbed. It is usually safer for mother and baby and allows both you and your partner to experience the birth together.

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 need 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 operation 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 after the operation.

General anaesthesia

If you have a general anaesthetic you will be asleep for the 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

Pre-operative assessment

If you are having an elective or planned Caesarean birth, you will be invited to attend a pre-op class and assessment in the antenatal clinic at the Royal Berkshire Hospital about one week before you come in for your operation. The date for this will be given to you as well as the planned operation date when the Caesarean birth is booked. A midwife will see you and give you a form for some blood tests. You will be given a prescription for some painkillers (for afterwards) and for tablets to reduce the acid in your stomach. You need to take one of the antacids called ranitidine the night before the operation and one on the morning itself. 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. Anyone with specific anaesthetic concerns or questions should mention this to the midwife during the pre-operative assessment or during any antenatal clinic visit and it can be arranged for you to meet with an anaesthetist. You will meet your anaesthetist for your caesarean on the morning of your Caesarean and they will discuss the anaesthetic choices with you and answer any questions.

If you are having 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?

Equipment will be attached quite painlessly 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 set up a drip to 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 mention this, but it is important that you keep still while the spinal 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 don't have to keep still.

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 operation. 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 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 about12 hours, so you won't need to worry about being able to pass water.

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 you.

The operation

A screen separates you and your birthing partner from the operation site. 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. Once the operation is underway 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 your partner can help you to hold your baby on your chest. If you are feeling well you can begin to have skin to skin contact. Please speak to your midwife and anaesthetist if you would like to do this.

When the operation is over you will be placed on your side 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 partner (if any) can stay with both of you. Your baby will be weighed and then you can begin breastfeeding, if you like. 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. 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 tummy 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 your neck. This is to prevent stomach fluids getting into your lungs. The anaesthetic works very quickly.

When you are asleep, a tube is put into your windpipe to prevent 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 deliver your baby safely. But you won't know anything about all this.

When you wake up, your throat may feel uncomfortable from the tube and you may feel sore from the operation. 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 whilst 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 codeine (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.
- They enable you and your partner to share in the birth.
- You will not be sleepy afterwards.
- They allow earlier feeding and contact with your baby.
- You will have good pain relief afterwards.
- Your baby will be born more alert.

Disadvantages of regional compared with general anaesthesia:

- Spinals and epidurals can lower the blood pressure, though this is easily treated.
- In general, 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 you may need a general anaesthetic.

Spinals and epidurals do not cause chronic backache.

Unfortunately, backache is very common after childbirth, particularly among women who have suffered with it before or during pregnancy, but spinals and epidurals do not make it more so. 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?**
Significant drop in blood pressure.	1 in every 5 women (spinal) 1 in every 50 women (epidural)	Common Uncommon
Not working well enough for a Caesarean birth so you need to have a general anaesthetic.	1 in every 20 women (epidural) 1 in every 100 women (spinal)	Sometimes Occasional
Severe headache	1 in every 100 women (epidural) 1 in every 500 women (spinal)	Uncommon Uncommon

Risks of having a regional anaesthetic (epidural or spinal)

Type of risk	How often does this happen?	How common is it?
Nerve damage (numb patch on a leg or foot, or having a weak leg). Effects lasting for more than 6 months.	Temporary - 1 in every 1,000 women Permanent - 1 in every 13,000 women	Rare Rare
Epidural abscess (infection). Meningitis. Epidural haematoma (blood clot).	1 in every 50,000 women 1 in every 100,000 women 1 in every 170,000 women	Very rare Very rare Very rare
Accidental loss of consciousness.	1 in every 5,000 women	Rare
Severe injury, including being paralysed.	1 in every 250,000 women	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 5 women	Common (most are not severe)
Sore throat	1 in every 5 women	Common
Feeling sick	1 in every 10 women	Common
Airway problems leading to low blood-oxygen levels	1 in every 300 women	Uncommon
Fluid from the stomach entering the lungs, and severe pneumonia	1 in every 300 women	Uncommon
Corneal abrasion (scratch on the eye)	1 in every 600 women	Uncommon
Damage to teeth	1 in every 4500 women	Rare
Awareness (being awake part of the time during your anaesthetic)	1 in every 600 to 1200 women	Rare
Anaphylaxis (a severe allergic reaction)	1 in every 10,000 to 20,000 women	Very rare
Death or brain damage	Death: less than 1 in 100,000 women Brain damage:	Very rare (1 or 2 a year in the UK) Very rare (exact figures do not exist)

Acknowledgements

This information is based on good evidence. Please speak to an anaesthetist if you wish to be given any of the references used.

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

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This document can be made available in other languages and formats upon request.

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