



Nerve blocks for surgery on the shoulder, arm or hand

This leaflet is for anyone who is thinking about having a nerve block for an operation on the shoulder, arm or hand. It will be of particular interest to people who might prefer not to have a general anaesthetic, or have been advised that their surgery should be performed under a block due to underlying health conditions.

This leaflet has been written by anaesthetists with the help of patients who have had a nerve block for their operation.

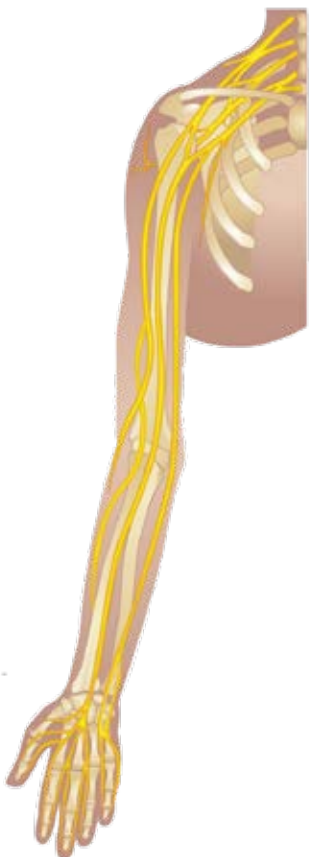
About nerve blocks

Brachial plexus block

The brachial plexus is the group of nerves that lies between your neck and your armpit. It contains all the nerves that supply movement and feeling to your arm – from your shoulder to your fingertips.

A brachial plexus block is an injection of local anaesthetic around your neck, collar bone or armpit to 'block' information (including pain signals) travelling along these nerves. After the injection, your arm becomes numb, heavy and immobile and you will feel no pain, although you may still feel movement and pushing or pulling as your arm is moved for you.

A brachial plexus block is designed to numb the shoulder and/or arm. It can be used instead of a general anaesthetic in some circumstances – this is particularly advantageous for patients who have medical conditions which put them at a higher risk from a general anaesthetic. Another advantage of having surgery under a block is that it may avoid some of the potential complications



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that may occur with general anaesthetics, like feeling sick or having a sore throat (please see our leaflet *You and your anaesthetic* which is available from our website rcoa.ac.uk/patientinfo/leaflets-video-resources).

If you wish, you can be sedated when you have the brachial plexus block injections and/or during the operation. This may make you feel relaxed or drowsy but you will not be completely anaesthetised and you may be aware of your surroundings.

A brachial plexus block can also provide pain relief for up to 24 hours after surgery, although some areas may have reduced or altered sensation for up to 48 hours. It can be combined with a general anaesthetic. This means you have the advantage of the pain relief afterwards, but you are also unconscious during the operation.

Your anaesthetist can explain the options available and what might be best for you. Please note that not all anaesthetists will be able to perform these specialist nerve blocks.

Benefits of a brachial plexus block

- Better pain relief afterwards.
- Less need for strong pain killers – these can make you feel sick and may cause constipation. More rarely there is a risk of addiction if you take them for a long time.
- Avoiding a general anaesthetic, including its risks and side effects. The common side effects of a general anaesthetic include sickness, sore throat and drowsiness.
- Being able to get up and move around earlier and leaving hospital sooner.

Other nerve blocks

If your operation is on the hand or forearm, it may be possible to do a nerve block on nerves further down the arm, closer to the hand. Your anaesthetist can discuss the options with you.

RA-UK, the specialist society for regional anaesthesia, has produced an information video for patients on nerve blocks: *Nerve blocks: an information video for patients* ra-uk.org/index.php/patient-info-video

Before the surgery

If you are having a planned operation you might be invited to a preoperative assessment clinic a few weeks or days before your surgery. Sometimes, for more minor surgery, a nurse will arrange a telephone call to go through some questions with you.

Please bring with you:

- a current prescription or bring your medicines in their full packaging
- if you take any drugs to thin your blood, it is important that the pre-assessment team know and discuss whether you need to stop taking these drugs before your surgery
- any information you have about tests and treatments at other hospitals



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- information about any problems you or your family may have had with anaesthetics
- any recent blood pressure measurements.

You may meet with an anaesthetist at the clinic. Otherwise you will meet your anaesthetist in the hospital on the day of your surgery.

Questions you may like to ask your anaesthetist

- 1 Who will be doing the injection?
- 2 What will I feel during the surgery?
- 3 Do I have any particular risks from having this kind of anaesthetic?
- 4 Do I have any increased risk from a general anaesthetic?
- 5 What is the best option for me?
- 6 What happens if the block does not work and I can feel pain? How often does this happen?
- 7 When will my arm feel normal again?
- 8 What number should I call if I am concerned about the after effects of the block?

Our Fitter Better Sooner resources will provide you with the information you need to become fitter and better prepared for your operation. Please see our website for more information:

rcoa.ac.uk/fitterbettersooner

You can find more information leaflets on the College website: rcoa.ac.uk/patientinfo.

The leaflets may also be available from the anaesthetic department or pre-assessment clinic in your hospital.

On the day of the operation

The hospital should give you clear instructions about eating and drinking. These instructions are important. If there is food or liquid in your stomach during your anaesthetic, it could come up into your throat and lungs and endanger your life.

Having the injection

You will usually be taken to a room near the operating theatre to have the nerve block.

The injection for a brachial plexus block can be either in the side of your neck, in your armpit, or close to your collar bone. Other nerves can be blocked near the elbow, or in the forearm, wrist or hand.

You may be offered sedation before the injection to help you relax and feel less anxious. If you are having a general anaesthetic as well, this may be given before or after the injection.

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The skin around the injection site will be cleaned and a small injection of local anaesthetic will be used to numb your skin – it does sting a little as it goes into the tissues. The anaesthetist will use an ultrasound machine and/or a small machine that makes your arm twitch to locate the nerves.

Most people find that the injection is no more painful than having a cannula inserted into a vein. Please see our leaflet *You and your anaesthetic* for more information about a cannula and general anaesthesia. This is available from our website:

 rcoa.ac.uk/patientinfo/leaflets-video-resources

Your arm will start to feel warm and tingly before finally feeling heavy and numb. The injection typically takes between 20 and 40 minutes to work. The anaesthetist will check the sensations you can feel at different parts of your arm and shoulder. You will not be taken to theatre until the anaesthetist is happy that the block is working well.

If the block does not work fully, you will be offered more local anaesthetic, additional pain relief or a general anaesthetic.

During the operation

A screen will be positioned in a way that you cannot see the surgery being done, unless you want to.

You may be able to listen to your own music on your own device with headphones during the surgery – ask if this is possible.


An operating theatre is a busy place – there will typically be between five and eight people in theatre, each with their own role in helping look after you. A member of your anaesthetic team will be with you throughout the surgery and sometimes other members of the team may also speak with you and help with your care.

You may also meet Anaesthesia Associates, who are highly trained healthcare professionals. You can read more about their role and the anaesthesia team on our website:

 rcoa.ac.uk/patientinfo/anaesthesia-team

If you are having sedation, you will be relaxed and drowsy. You may be given oxygen through a light plastic facemask. You may have memories of being in the operating theatre, although these may be patchy.

For more information about sedation, please see our *Sedation explained* leaflet which is available on our website: rcoa.ac.uk/patientinfo/sedation

 If you have a general anaesthetic you will not remember anything about the operation.

After the operation

During the time the block is working your arm will feel very heavy and needs to be supported with a sling until your muscles start working again. You may need someone to help you carry out everyday tasks.

As the nerve block wears off you may experience pins and needles in your fingers. This is completely normal.



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Aftercare at home

You should keep your arm in the sling you are given for support and protection. You will not be fully aware where your arm is – so it can be injured as a result. This numbness may commonly last up to 48 hours.

- Take special care around heat sources, such as fires or radiators. You will not feel heat while your arm is numb and you may burn yourself.
- Avoid using any machinery or domestic appliances. Injury is more likely while you have no sensation in your arm.
- Start taking your pain relief medicines before the block wears off, as instructed by the hospital. This is important as the pain can start quite suddenly.



Further help

You will need to seek help from the emergency medical services if:

- you notice unexplained breathlessness
- you experience severe pain that is not controlled by your tablets.

If the block has not fully worn off two days after the operation you should contact your anaesthetist by calling the number given on your discharge paperwork.

Side-effects, complications and risks

In modern anaesthesia, serious problems are uncommon, but risk cannot be removed completely. Modern drugs, equipment and training have made anaesthesia a much safer procedure in recent years.

People vary in how they interpret words and numbers. This scale is provided to help.



Anaesthetists take a lot of care to avoid all the risks given in this section. Your anaesthetist will be able to give you more information about any of these risks and the precautions taken to avoid them. You can also find out more information from the patient information pages on the College website: rcoa.ac.uk/patientinfo/risks/risk-leaflets



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Risks of nerve blocks in the arm

- **Injection in the side of the neck:** hoarse voice, droopy eyelid, changes in your vision and possibly some shortness of breath. These side effects are **common** and go away as the block wears off.
- **Injection around the collar bone: there is a rare risk:** less than 1 in 1,000 risk of damage to the covering of the lung. This can lead to some degree of collapse of the lung – called a pneumothorax. Air goes into the space between the chest wall and the lung, called the pleural space. Treatment depends on how big this is – it may cause no symptoms at all and just be noticed on a chest X-ray. If it is large, and you become short of breath, you may need a chest drain (a plastic tube) to help manage it. You can ask your anaesthetist to discuss this in more detail with you.
- **All injection sites:** it is **common** to puncture a blood vessel – your anaesthetist will put pressure over the area to stop any bleeding.
- There is a **rare risk** of having a fit or another life-threatening event. Your anaesthetist will manage these promptly. They can tell you more about these very rare events.

Nerve damage

- The risk of long-term nerve damage caused by a brachial plexus block leading to altered or loss of sensation or power is difficult to measure precisely. Studies show that it happens in between 1 in 700 and 1 in 5,000 blocks – meaning it is uncommon or rare.
- If you have a block lower down the arm, the risk of nerve damage and its consequences may be less.
- Very commonly, about 1 in 10 patients notices a prolonged patch of numbness or tingling in their arm. These symptoms will resolve within six weeks in 95 per cent of these patients, and within a year in 99 per cent of patients.
- There is a risk of nerve damage after any operation regardless of the type of anaesthetic technique used. This can be due to the operation, the position you lie in or the use of a tourniquet (a tight band on the upper arm, which prevents bleeding during the operation). Swelling around the operation site or a pre-existing medical condition, such as diabetes, may also contribute to nerve damage.

For more information on nerve damage, please see our leaflet *Nerve damage associated with peripheral nerve block* which is available on our website: rcoa.ac.uk/patientinfo/risks/risk-leaflets



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Tell us what you think

We welcome suggestions to improve this leaflet.

If you have any comments that you would like to make, please email them to:
patientinformation@rcoa.ac.uk

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This leaflet will be reviewed within three years of the date of publication.

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