

Brachial plexus blocks

Regional anaesthesia for
hand and forearm surgery



What is a brachial plexus block?

A brachial plexus block is a procedure that involves carefully injecting local anaesthetic around a group of nerves called the brachial plexus that can either be found next to your collarbone or inside your armpit. Since these nerves go on to run all the way down your arm to supply the hand, wrist and forearm, it means that the injection will cause your entire arm to go numb and allow surgery to proceed without the need to go to sleep for the operation.

Your anaesthetist will meet with you beforehand to discuss your anaesthetic including the risks, benefits, your preferences and if a brachial plexus block is suitable for you. If you are anxious then the option of having some sedative medication to help you relax can also be explored.

What are the benefits of having a nerve block?

Nerve blocks provide excellent pain relief during and after surgery, meaning less need for strong painkillers which can make some people feel drowsy or sick. They allow you to avoid the need for a general anaesthetic and its associated risks and side effects. Nerve blocks commonly allow you to recover quicker and leave hospital sooner.

What can I expect to happen during the procedure?

You will be brought into a room where the nerve block will be performed. This is usually a separate area from where your operation will be performed. You will be asked to lie down on a bed. The team looking after you will ensure that you are comfortable and in the correct position.

You will have been asked to stop eating as if you were having a general anaesthetic and this will be checked with you, but you are able to continue drinking clear fluids up until the time of your operation.

Your anaesthetist will attach some equipment to you that monitors your heart rate, blood pressure and oxygen levels. Then a small, intravenous cannula (thin plastic tube) will need to be placed in the hand or arm that is not being operated on. Your arm to be operated on will be positioned so that the anaesthetist can access the nerves that need to be blocked. The skin will be cleaned thoroughly and some clear jelly will be applied so that your anaesthetist can use an ultrasound machine to scan the inside of your body to identify where the nerves are and guide the local anaesthetic needle to the correct place.

If you are in discomfort at any stage, please let your anaesthetist know.

Why does the whole arm need to be numb?

It may seem strange that the whole arm needs to be numbed for an operation on your wrist or hand. However, at the beginning of your operation a very tight band, called a tourniquet, is put around the top of your arm to reduce bleeding during the operation. This would be uncomfortable for you if the top of the arm was not numb.

How long does it take for the local anaesthetic to work?

Once the local anaesthetic has been injected around the nerves in your armpit, your arm will start to feel warm and tingly. Over the next 20 to 40 minutes the arm will become numb, heavy and difficult to control. The block will be tested before surgery is commenced. You might still be able to feel movement and touch, but should not experience any pain. A screen will be positioned so that you cannot see the surgery being done. A member of the theatre team will be with you at all times should you require any assistance.

Occasionally, the local anaesthetic does not spread to all the nerves as effectively, and some supplemental pain relief including further

'top up' injections of local anaesthetic around the elbow, forearm, wrist or hand may need to be given. Please be reassured that if your block does not work well enough, your anaesthetist will provide another form of anaesthetic or pain relief.

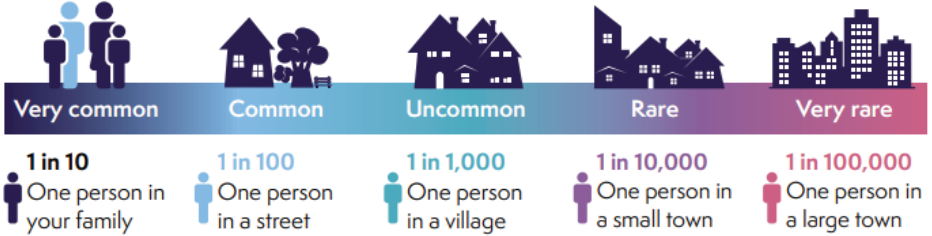
How long does the local anaesthetic take to wear off?

The numb heavy feeling in the arm will last for between four and 24 hours. Usually it is 10-12 hours and you may experience some pins and needles as it wears off. Your arm or hand will need to be protected in a sling until the strength and feeling has returned to normal. In particular, please do not operate any machinery or domestic appliances and take care around heat sources such as radiators. You will be advised which painkillers to take and when to do so as the local anaesthetic effects wear off.

Are there risks associated with the axillary nerve block?

This is a very commonly performed routine procedure, with the highest regard for your safety. All medical interventions carry some risk. This procedure carries a small risk of bleeding or infection at the site of the injection. Very occasionally, patients can experience a reaction to the local anaesthetic medication itself (less than 1 in 1000). Nerve injury is rare but can result in some numbness and/or weakness that does not resolve within a day or two of your surgery. The vast majority of these injuries are temporary, with strength and sensation returning within 4-6 weeks, although it can take up to a year to recover. There is a very small risk (somewhere between 1 in 2000 and 1 in 5000) that the injury is permanent; that is to say the symptoms do not completely resolve. If the injection is done around the collarbone then there is a small risk (less than 1 in 1000) of damaging the covering of the lung which can lead to some degree of collapse of the lung (called a pneumothorax).

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



Further information:

You can find more information from the Royal College of Anaesthetists website www.rcoa.ac.uk in the information for patients section:

- Nerve damage associated with peripheral nerve blockade: <https://www.rcoa.ac.uk/sites/default/files/documents/2019-11/13-NerveDamagePeripheralNBweb.pdf>



Nerve damage associated with peripheral nerve block

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