

Mr. James Henderson

MA, MB, BChir, MRCS, MD, FHEA,
EurDipHandSurg, FRCS(Plast)

Consultant Plastic, Reconstructive & Hand Surgeon
Honorary Senior Lecturer, University of Bristol



www.jameshenderson.net

Regional Anaesthesia

What is a regional anaesthetic?

A regional anaesthetic or 'nerve block' is a type of anaesthetic or pain relief often used for operations on the arm and hand. It involves the careful injection of local anaesthetic around the nerves that provide sensation to this area to make them numb for surgery. Patients stay awake during the procedure, although can be given sedation if they wish.

What are the benefits?

The block should provide you with excellent pain relief during and after your operation. This means that strong painkillers and a general anaesthetic can usually be avoided—so that your chance of feeling drowsy, sick and other risks or side effects is much reduced. This may be particularly important for patients with other health problems. Your recovery from a regional anaesthetic will also be much quicker and you will be able to eat and drink immediately after your surgery. If you are a day-case patient, you will be able to go home earlier than after a general anaesthetic. Your pain relief is generally excellent after the surgery without strong drugs.

What does a nerve block involve?

Nerve blocks are performed by anaesthetists trained in the technique and they will discuss the procedure fully with you. A small intravenous line (drip) is placed in the hand or arm not being operated on and some routine monitoring equipment attached. The injection takes place usually at the top of the arm (near the armpit) or just above the collarbone. First, the skin is cleaned and then made numb with a small amount of local anaesthetic. A fine needle is then carefully guided towards the nerves using either an ultrasound machine or a nerve stimulator—a small machine which makes your muscles briefly twitch. More local anaesthetic is then injected around the nerves to 'block' them. Most people find that the injection is no more painful than having an intravenous drip inserted but sometimes sedation can be used.

Your hand and arm will start to feel warm, tingly and heavy soon after the injection. Your anaesthetist will carefully check the block before surgery starts. Occasionally a top-up of local anaesthetic is needed to ensure the block is complete.

During your operation

A screen is placed to block your view unless you wish to see your operation. A member

of staff will be there to answer any questions and ensure you are comfortable. Before surgery, a tight band (called a tourniquet) will be wrapped around the top of your arm. This helps prevent bleeding in the area of surgery. When the operation starts it is normal to sometimes feel some movement or touch but you should not be able to feel any discomfort or pain. You may bring your own electronic device and headphones with you should you wish. If you prefer, sedation can be provided and, whilst you remain conscious, this will make you relaxed and sleepy. Occasionally a general anaesthetic will be required depending on the type and length of surgery.

After your operation

Your hand and arm may remain numb, with reduced power and movement, for up to 24 hours depending on the type of block performed. Your arm will be supported in a protective sling until the sensation and movement return to normal. It is important that you take care of your arm while numb and avoid contact with sources of hot or cold.

As the block wears off your arm may again feel tingly with pins and needles and the strength and power will slowly return. It is important that you have started taking the tablet painkillers supplied to you by this time so that you are comfortable when the block wears off.

What are the risks of having a nerve block?

Nerve blocks are a safe and effective form of anaesthesia and problems are unlikely.

- Occasionally a block will not work well enough for your operation and a general anaesthetic may be required. In this situation, the block may still provide good pain relief afterwards although, if necessary, other painkillers can also be used to keep you comfortable.
- There is a small risk of nerve damage after any operation regardless of the type of anaesthetic used. This is due to the operation, the position you lie in or the use of a tourniquet. Swelling around the operation site or other medical conditions such as diabetes may also lead to nerve damage.
- The risk of long-term nerve damage following a nerve block is between 1:2000 and 1:5000 cases. The risk varies between different blocks. About 0.5% to 1% of patients may notice a prolonged patch of numbness, tingling or weakness in the affected area (lasting >48 hours postoperatively). This will get better in 95% of patients within 4–6 weeks, and in 99% within a year.
- Other emergency problems such as fitting or heart problems are very rare. Your anaesthetist is trained to deal with these emergencies.

In summary

Regional anaesthesia or nerve blocks are an effective and low-risk form of anaesthesia for operations on the arm or hand and provide excellent pain relief for many hours afterwards. You can stay fully awake, or request sedation during the procedure.