

Brachial Plexus Block for shoulder, arm and hand surgery

What is the Brachial Plexus?

This is the name given to a group of nerves that supplies the shoulder, arm and hand, providing sensation and power. The nerves originate in the neck and travel down the arm to the hand. (See diagram)

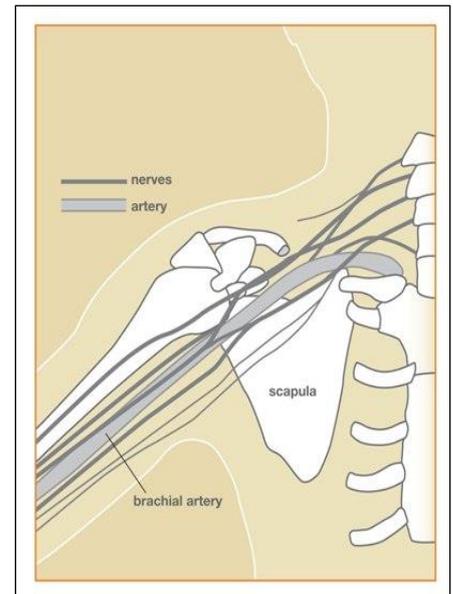
What is a Brachial Plexus Block?

It involves injecting local anaesthetic directly around the nerves of the brachial plexus, which then leads to loss of feeling and/or power. Depending on the site of surgery, it may be done by the side of the neck, above or below the collar bone, or in the armpit.

What is the Brachial Plexus Block for?

Injecting local anaesthetic around nerves provides very good pain relief. The block can be used as the sole anaesthetic for operations on the shoulder, arm and hand. If you are having a key-hole (arthroscopic) operation, you may wish to watch your operation on the video screen. Alternatively, you can listen to music during the operation.

The block can also be used **in combination** with a general anaesthetic (where you're put to sleep). In this case, the block may be done either awake before the general anaesthetic, or after you are asleep.



Advantages of a Brachial Plexus Block

There are many benefits to having a brachial plexus block.

1) Pain relief

A brachial plexus block provides good pain relief during and after the operation. This allows you to be mobilise your shoulder more quickly, without pain, after the operation. It also reduces the amount of strong pain killers required, which tends to cause you to be drowsy and sick.

2) Surgery can be undertaken as a day procedure/Less time in hospital

Surgery can be carried out as day procedure, and your hospital stay is shorter. Patients having a local or regional anaesthetic are typically fit for discharge earlier than patients receiving a general anaesthetic.

3) Avoiding the risks of a general anaesthetic

This is beneficial in some patients who have severe heart or breathing problems and may not be suitable to have a general anaesthetic.

How is the brachial plexus block is performed

- **You must not eat anything for 6 hours before the procedure. You can have a sip of water upto 2 hours beforehand, as for a general anaesthetic.**
- When you enter the anaesthetic room, monitors to measure your blood pressure, heart rhythm and oxygen levels will be placed.
- Your anaesthetist will then place a cannula (plastic tube) into a vein in your hand/ arm. This will give him/her access to administer any drugs, if necessary.
- Your anaesthetist will clean the skin around the site of the injection and will then inject local anaesthetic to numb your skin. This will initially sting, but will settle down in a few seconds.
- The brachial plexus is identified by using an **ultrasound** machine or a needle attached to a nerve stimulator. This will

pass a very small amount of current, which will make muscles in your arm twitch. It may feel uncomfortable, but should not be painful. After the brachial plexus has been identified, local anaesthetic is injected around the nerves. Your arm will initially feel warm and tingly and then become heavy and numb within 45 minutes.

- Additionally, at times, a catheter (small plastic tube) can be passed through the needle and placed around the nerves thus allowing a continuous infusion of medication.

How long does a brachial plexus block last?

The effects of the anaesthetic usually last between 6-24 hours (average 12 hrs). During this time, your arm will be placed in a sling. Your arm will be numb and heavy, and you may not be able to appreciate the presence of your arm. **Please ensure that the feeling and strength has returned completely before using your arm normally.**

Risks associated with a Brachial Plexus Block

Although these procedures are carried out routinely, there are risks, as with any medical treatments. In the case of a brachial plexus block these include:

- **Failure to work adequately**, in which case your anaesthetist will supplement your anaesthetic or give more pain relief.
- **Allergic reaction** to the local anaesthetic drug we use, although this is **very rare**. It is less likely to occur than an allergy to a general anaesthetic. Serious problems causing fits, heart or breathing problems can occur. Your anaesthetist is trained to deal with these emergencies.
- **Nerve damage** can occur due to one of the following:
 - A blood clot
 - An Infection
 - Direct injury caused by the needle or surgery
 - Other reasons unrelated to the block include: pre-existing medical conditions such as diabetes, tissue swelling around the nerve, or the use of a tourniquet.

Temporary symptoms such as a tingling sensation and/or numbness in the shoulder, arm or hand occurs in less than 5

out of every 100 patients, and usually resolves within 3 weeks to 3 months.

- **Permanent nerve damage is very rare** and may happen in between 1 in 15,000 to 1 in 30,000 patients who have nerve blocks. Beside the temporary symptoms, there may also be weakness of the muscles in that area. Your anaesthetist or surgeon may refer you to see a neurologist to investigate this further.
- **Risks to nearby structures** - if the injection is placed in the side of your neck you may experience certain side effects, which include a **hoarse voice** and a **droopy upper eyelid**; you may find **breathing** a bit more of an effort. All these side effects are **temporary** and should get better when the block wears off.
- There is a **small risk of damage to the lung** if the injection is placed near the collar bone. There is also a small risk of bleeding due to damage to a blood vessel.

The alternative to having a Brachial Plexus Block

If you do not want to have a nerve block, you can have a general anaesthetic on its own. This means you will be unconscious during the operation. In addition, your anaesthetist will give strong pain killers to keep you comfortable when you wake up.

For further information, please contact

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