

Emergency Department

# Serratus anterior nerve blocks for pain relief in rib fractures

**This leaflet explains about serratus anterior nerve blocks, including the benefits, risks and any alternatives and what you can expect when undergoing the procedure.**

**If you have any further questions, please speak to a doctor or nurse caring for you.**

## What are nerve blocks?

When bones (such as ribs) break (fracture), pain is often caused by the nerves surrounding the broken bones. Local nerve blocks use local anaesthetic to directly block the nerves supplying these bones which have been broken. The local anaesthetic blocks the signals (including pain) travelling along the nerves so you will not feel the pain from the rib fractures.

They are given like an injection through the skin, to the area where the nerve is. This is done using an ultrasound machine, so that we can see directly where the injection is going and to make sure other structures like blood vessels (arteries and veins) are not affected. The skin is made numb before we give the nerve block so it is not painful.

## Why should I have a serratus anterior nerve block?

Nerve blocks directly target the area which is causing pain and make it easier for you to move, take a deep breath and cough when you have rib fractures. They also reduce the number of medicines like morphine which you will need, which reduces the side effects of these medicines.

## What are the benefits of nerve blocks in rib fractures?

They give immediate and effective pain relief, meaning that you can breathe more easily, cough, take a deep breath and move more easily. This will help you sit up and move around earlier and lessens the chances of developing complications of rib fractures like pneumonias.

Nerve blocks mean you have less need for stronger pain killers such as codeine and morphine. These can make you feel sick, drowsy or lightheaded and may cause constipation. More rarely there is a risk of addiction if you take them for a long time.

## **What happens during the nerve block? Will I feel any pain?**

The skin around the injection site will be cleaned and a small injection of local anaesthetic will be used to numb your skin although it does sting a little as it goes into the tissues. The doctor will use an ultrasound machine to see the area to be numbed directly. Most people find that the injection is no more painful than having a cannula (drip) inserted into a vein. The area around the fractures will start to feel warm and tingly before feeling numb and the injection typically takes between 20 and 40 minutes to work. The doctor or nurse will check your pain, your ability to take a deep breath and cough about 30 minutes after the block. If the block does not work fully, you will be given additional pain relief.

## **What happens afterwards and how long will the nerve block last?**

The nerve block will last 8-12 hours. After this time, you may be offered a further block, an infusion of the local anaesthetic, intravenous or oral pain killers, depending on your pain score.

## **What are the risks, side effects and complications of serratus anterior nerve blocks?**

Serious problems are uncommon but risk cannot be removed completely. Modern drugs, equipment and training have made nerve blocks safe procedures and all doctors and nurses take much care to avoid the risks discussed in this section.

There is a rare risk (less than 1 in 1,000) 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 but, if it is large and you become short of breath, you may need a chest drain (a plastic tube) to help manage it.

There is a rare risk of puncturing a blood vessel. This is minimised by viewing where the needle is going under direct vision and by checks used when the local anaesthetic is injected. There is a very rare risk of having a fit or another life-threatening event. Your doctor and nurse will manage these promptly and they can tell you more about these very rare events.

Nerve damage is rare. There may be numbness or tingling in your chest. 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 rare risk of a reaction to the local anaesthetic and your doctor or nurse will ask you about any reactions prior to giving you the nerve block. You will be closely monitored for any signs of a reaction during and after the block and the doctor and nurse will manage any reaction promptly and appropriately as they are trained to do so.

## Are there any alternatives?

The alternatives are to use morphine via a drip or by mouth, alongside painkillers like paracetamol through a drip or by mouth. Depending on where the rib fractures are, we may be able to apply large plasters with local anaesthetic in them which can be absorbed through the skin.

## Asking for your consent

It is important that you feel involved in decisions about your care. You will be given this information leaflet to read and discuss before consenting to a serratus anterior block. You will be asked if you agree to have the serratus anterior nerve block and understand what it involves. You can withdraw your consent at any time, even if you have said 'yes' previously. If you would like more details about our consent process, please ask for a copy of our policy.

## Useful Sources of Information

We try very hard to keep the information in this leaflet accurate and up-to-date but we cannot guarantee this. We don't expect this general information to cover all the questions you might have or to deal with everything that might be important to you. You should discuss your choices and any worries you have with your medical team, using this leaflet as a guide.

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

<https://ra-uk.org/index.php/patient-info-video>

## Contact us

If you have any questions or concerns about serratus anterior blocks, please contact the ED consultant on 020 8725 4807 (Monday to Friday, 9am to 5pm). Out of hours, please contact 020 8725 1290.

If you have any immediate questions please ask the nurse or doctor looking after you.

**For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit [www.stgeorges.nhs.uk](http://www.stgeorges.nhs.uk)**

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## Additional services

### Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9.30am and 4.30pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough wings (near the lift foyer).

**Tel:** 020 8725 2453 **Email:** [pals@stgeorges.nhs.uk](mailto:pals@stgeorges.nhs.uk)

## **NHS Choices**

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

**Web:** [www.nhs.uk](http://www.nhs.uk)

## **NHS 111**

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

**Tel:** 111

## **AccessAble**

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website ([www.accessable.co.uk](http://www.accessable.co.uk)). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



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