



Healthcare
Improvement
Scotland

SHTG
Advice on health
technologies

Plain Language Summary

Intravenous (IV) lidocaine, spinal injections and radiofrequency ablation (RFA) for treating chronic non-cancer pain in adults | February 2026

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Our advice to NHSScotland

This advice covers specialist treatments (IV lidocaine, spinal injections and RFA) for adults with chronic pain that is not caused by cancer and has not improved after treatment in primary care.

Specialist treatments should be one part of a team-based approach to managing chronic pain. These treatments should not be given alone but should help patients access other types of support and treatments to address the root causes of their pain. Before starting any specialist treatment, the patient and a chronic pain expert must have a detailed discussion as part of an informed consent process. This discussion should cover:

- the possible benefits and harms of the treatment(s)
- how long pain relief might last (it will be temporary and varies between patients)
- how the treatment fits into a wider care plan tailored to the individual patient
- the uncertainty around the effectiveness and safety of repeating the treatment in the long term.

The following specialist treatments should be available for consideration as part of chronic pain services within NHSScotland:

- facet joint injections (local anaesthetic with or without steroids) for adults with chronic pain originating in the facet joints
- epidural injections (local anaesthetic with or without steroids) for adults with chronic neck pain
- sacroiliac joint injections (local anaesthetic plus steroids) for adults with chronic low back pain originating in the sacroiliac joints
- continuous RFA for nerves supplying the knee in adults with chronic knee pain
- continuous or cooled RFA for adults with chronic sacroiliac joint pain
- IV lidocaine infusions for people with chronic nerve pain when spinal injections or RFA are not suitable.

Every patient who receives one of these treatments should have a timely review with a chronic pain expert to check for beneficial or harmful effects and to plan the next steps in their care.

Chronic pain services should routinely collect data on outcomes that matter to patients. At a minimum, this should include pain relief, function improvements and quality of life.

What did SHTG Council consider when developing our advice?

1. The Council recognised that people experience chronic pain differently. These differences depend on factors like age, sex, culture, genetics and personality.
2. The Council recognised that pain relief is one of several important outcomes for people with chronic pain. They noted that pain scores and physical function are the outcomes most

frequently reported in the research. The Council stressed the need for more research on outcomes that matter to patients, such as quality of life and sleep.

3. The Council considered the strength of the evidence on specialist treatments for chronic pain. The Council's view was that the evidence was strong enough to support specialist treatments for some groups of patients with chronic pain (as outlined in the recommendations above). They highlighted the importance of the patient experiences shared by patients and patient groups.
4. The Council noted that some studies on chronic pain were published over 25 years ago, though this only applied to one or two studies in each review.
5. The Council discussed the need for a team-based approach to managing chronic pain, with care tailored to individual patients' needs. They recognised that pain relief from specialist treatments is temporary. These treatments should not be given alone but should help patients access other types of support and treatments to address the root causes of their pain.
6. The Council noted that some of the treatments they recommended, such as IV lidocaine, are sometimes used in ways that are not covered by their official license. This is called 'off-label' use. They were reassured that doctors always consider whether a treatment is licensed and make careful, informed decisions about what is safe and appropriate for each patient. People prescribing IV lidocaine need to follow guidelines from the organisation they work for and the relevant national bodies.
7. Clinical experts confirmed that our evidence review was thorough and reliable. They pointed out that published research has limits when planning chronic pain services and stressed the importance of clinical experience.
8. The Council discussed possible harms from specialist treatments. Published research reported only minor harms but one clinical expert knew of instances of severe harms to patients after spinal injections. They also described emotional harm for patients who could not get repeat treatments or whose pain returned between treatments.
9. Clinical experts raised concerns about the financial cost and impact on resources of offering specialist treatments. The Council noted the lack of research on value for money. They discussed the possibility of increasing RFA procedures (that are performed in operating theatres) leading to less operating theatre time for patients cared for by other specialties.
10. The Council valued input from patients and patient groups who described how chronic pain affects daily life. They highlighted the link between chronic pain and higher suicide rates.
11. Patients told the Council that specialist treatments, especially IV lidocaine, improved their lives to a degree they described as life changing. These treatments helped them get out of bed, take their children to school and resume working.

12. The patient groups raised concerns about being excluded from decisions about chronic pain services in Scotland. They felt this showed a lack of patient focus. The Council discussed this with patients and clinical experts at the meeting and all agreed that inclusion and collaboration are essential.
13. The Council recognised that offering repeat IV infusions, injections or RFA would increase pressure on services and likely lead to longer waiting lists. To reduce this risk, they stressed the need to review each patient's treatment to check its effectiveness and guide future care decisions.
14. The Council noted the recent publication of the first part of the updated Scottish guideline on managing chronic pain in primary care. The guideline is available at <https://www.sign.ac.uk/guidelines/management-of-chronic-pain/>.

What is chronic pain?

Chronic pain lasts for more than 3 months, keeps coming back or lasts longer than normal injury healing times. It is often caused by inflammation or damage to muscles, bones or nerves (for example, arthritis or long-term back pain). Sometimes it is a symptom of conditions like fibromyalgia. In other cases there is no clear cause.

What are IV lidocaine, spinal injections and RFA?

What is IV lidocaine?

Lidocaine is a medicine (anaesthetic) that numbs pain. Doctors can inject it near the painful area or give it through a drip into your arm (IV infusion). IV lidocaine can calm irritated nerves, reduce swelling and change pain signals sent to the brain. Doctors sometimes use it for widespread chronic nerve pain.

What are spinal injections?

Spinal injections are treatments where doctors inject medicine into or near your spine to help manage chronic pain. Doctors use imaging, such as x-rays, to guide the needle and make sure it is in the right place. Before the medicine injection, they use a small amount of dye to check the needle's position. The medicines most often used are local anaesthetics to numb pain and steroids to reduce swelling.

Facet joint injections

Facet joints are small joints on the back of your spine, between each bone (vertebra). Each vertebra has two facet joints. When these joints are affected by conditions like arthritis, they can cause pain that spreads to your shoulders, arms, buttocks or legs. Facet joint injections put medicine into or around these joints to help reduce the pain.

Epidural injections

Epidural injections deliver medicine into the space around your spinal cord. Doctors often use them to treat pain that starts in the spine and travels down your arms or legs.

Sacroiliac joint injections

The sacroiliac joints connect the bottom of your spine to your pelvic bones. There are two of these joints, one on each side of the spine. Pain from these joints can cause discomfort in your lower back, buttocks or legs. Sacroiliac joint injections place medicine into or around these joints to help ease the pain.

What is RFA?

RFA is a treatment that uses heat to stop nerves from sending pain signals to the brain. The nerves are not permanently damaged. They usually heal over time, but while they heal you may feel less pain.

Doctors can use RFA on nerves near the spine or on nerves that supply joints, such as the knee.

During the RFA procedure, the doctor uses imaging (such as X-ray or ultrasound) to guide a thin needle to the nerves causing pain. The tip of the needle sends out radio waves that create heat. This heat gently damages the nerve so it cannot send pain signals.

RFA is often offered to people with chronic pain that has not improved with other treatments or to those who had short-term pain relief after spinal injections.

What did we do?

We looked at research about IV lidocaine infusions, spinal injections and RFA for chronic non-cancer pain. We looked at:

- how well they work
- how safe they are
- whether they offer good value for money
- patient experiences.

A patient organisation shared comments from people living with chronic pain.

What did we find out?

What did we find out about IV lidocaine?

Research looking at 27 studies (328 people) shows that IV lidocaine can reduce pain for people with widespread chronic nerve pain, but relief usually only lasts a few hours or days.

The most common side effects with IV lidocaine are light headedness, tiredness or nausea. Side effects are usually mild and only reported by a few people.

What did we find out about spinal injections?

Facet joint injections

Research looking at 21 studies (over 2,300 people) shows that facet joint injections can reduce pain for up to 12 months in people with chronic back pain originating in their facet joints. Adding steroids to anaesthetic injections did not make a difference to pain relief.

Results from eight trials (587 people) found that facet joint injections reduced pain by about 31% and slightly improved movement and daily activities for 6–12 months in people with arthritis of the facet joints.

Common side effects of facet joint injections include temporary back pain or discomfort after the injection.

Epidural injections

Research looking at four trials (370 people) shows that epidural injections can help reduce pain in people with chronic neck pain.

A review looking at 52 studies (6,354 people) on epidural injections for different types of chronic back pain reported mixed results – some people had pain relief, others did not.

Side effects with epidural injections were uncommon (less than 10%) and usually mild, like soreness at the injection site. No serious side effects were reported in the research.

Sacroiliac joint injections

Research looking at 14 studies (983 people) shows that sacroiliac joint injections with anaesthetic and steroids can reduce pain and improve movement for up to 6 months.

We found no information on the side effects of sacroiliac joint injections.

What did we find out about RFA?

RFA for nerves supplying limb joints

Shoulder pain

Some studies suggest that RFA may reduce pain and improve shoulder movement for people with chronic shoulder pain but it is unclear how much benefit it provides. Research looking at 29 studies (nearly 1,200 people) found less shoulder pain 3–6 months after RFA but did not report how big the improvement was. Another review of eight studies (428 people) found no clear difference in pain relief between RFA and other treatments or placebo after 1–3 months.

Hip pain

There is not enough published research to decide whether RFA works for chronic hip pain.

Knee pain

Three reviews (around 900 people) found that RFA targeting nerves around the knee can reduce pain and improve movement for 1–6 months after treatment. The amount of improvement varies between studies.

Side effects

Side effects with RFA were only reported in knee pain studies. They were uncommon and not serious. Examples include minor bleeding under the skin, temporary numbness or short-term discomfort.

RFA for nerves around the spine

Neck pain

In research looking at eight studies (around 300 people), 46%–70% of people had complete pain relief 6 months after RFA. After a year, 20%–51% still had complete pain relief.

Sacroiliac joint pain

Research looking at 19 trials (over 1,500 people) suggests that RFA may offer pain relief for up to 3 months in patients with chronic low back pain. Research looking at 21 studies (nearly 2,000 people) shows that RFA can reduce pain for up to 6 months in patients with sacroiliac joint pain. Cooled RFA, which uses lower temperatures, may reduce pain and improve movement for up to 2 years for people with sacroiliac joint pain.

Side effects

Serious side effects have not been reported for RFA targeting nerves around the spine. Some people may feel temporary discomfort, such as a burning sensation, or short-term pain after the procedure.

Value for money

Three studies looked at whether RFA is good value for money for treating low back pain but none were based on NHS healthcare. Results were mixed and uncertain and likely do not apply in Scotland.

What did we find out about patient experiences?

Living with chronic pain affects every part of a person's life – daily activities, work, relationships, quality of life, mental health, well-being and social participation.

Interviews and surveys with people living with chronic pain revealed:

- many people feel healthcare staff, carers, family and friends do not understand chronic pain
- long waits and delays in treatment
- difficulties accessing specialist care
- poor communication between chronic pain services and patients.

Research shows people with chronic pain are twice as likely to become suicidal or attempt suicide compared to those without pain. Among people with chronic pain, 29% thought about suicide and 11% attempted it.

Patients said specialist treatments for chronic pain can be life changing, helping them live normally and reduce strong painkillers. Some patients reported IV lidocaine worked for up to 8 weeks. Access to specialist treatments varies across Scotland and delays in accessing services are common.

One study reviewed comments from an online forum about RFA. Out of 405 comments, 187 said RFA helped reduce pain and 130 said it did not make a big difference. Among those who shared how long pain relief lasted, it ranged from 4 days to 3 years. Fifteen people said the pain relief did not last as long as expected.

What happens next?

The Scottish Pain Medics National Network will consider our recommendations in conjunction with the Scottish Government's chronic pain management task force to inform the provision of specialist interventions for adult patients with chronic non-malignant pain across Scotland.

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This plain language summary has been produced based on an SHTG Recommendation: review of selected specialist interventions (intravenous lidocaine, spinal injections, radiofrequency ablation) for treating chronic non-malignant pain in adults