NICE National Institute for Health and Care Excellence

NICE guidance

Percutaneous image-guided cryoablation of peripheral neuroma for chronic pain

HealthTech guidance

Published: 4 January 2023

www.nice.org.uk/guidance/htg652

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

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This guidance replaces IPG747.

1 Recommendations

1.1 Evidence on the safety and efficacy of percutaneous image-guided cryoablation of peripheral neuroma for chronic pain is inadequate in quality and quantity. Therefore, this procedure should only be used in the context of research. Find out only in research means on the NICE guidance page.

1.2 For Morton's neuroma, further research should preferably be in the form of randomised controlled trials and should report details of patient selection and the procedure, quality of life and pain reduction in the short and long term. For stump and other traumatic neuromas, further research could be in the form of case series.

2 The condition, current treatments and procedure

The condition

2.1 Neuromas are thickenings of tissue around a nerve, which can happen after injuries to the nerve, such as a cut, a crushing injury, nerve compression or an excessive stretch. They are often associated with amputations. Peripheral neuromas affect nerves outside the brain and spinal cord that can carry pain signals between the brain and the rest of the body. This can cause chronic pain.

2.2 A common type of neuroma is Morton's neuroma, which affects a nerve that lies between 2 metatarsal bones of the foot. It causes pain in the ball of the foot and sometimes the toes.

Current treatments

2.3 Initial treatment for chronic pain caused by a peripheral neuroma may involve physical therapy, medication, or local anaesthetic and corticosteroid injections. NICE's guideline on neuropathic pain in adults describes pharmacological management in non-specialist settings. Surgical options include decompression and nerve removal.

2.4 For Morton's neuroma, conservative management includes measures such as soft pads or insoles to take pressure off the painful area of the foot, wearing shoes with plenty of room in the toes, weight loss and pain medication. If these measures do not work, non-surgical treatments include radiofrequency ablation and injection of corticosteroid or alcohol. If symptoms persist, the affected nerve can be surgically removed.

The procedure

2.5 Image-guided cryoablation of a peripheral neuroma for chronic pain is a percutaneous treatment, which is usually done as an outpatient or day-case procedure under local anaesthesia. Using image guidance (MRI, CT or ultrasound), a needle-like probe is inserted through the skin and near to the neuroma. Inside the probe, gas flows from a high- to low-pressure chamber, creating an extremely cold temperature at the tip. The extreme cold causes reversible destruction of the nerve axon, which disrupts the pain signals. Unlike surgical or heat-mediated ablation, cryoablation does not disrupt the acellular epineurium or perineurium, which may allow eventual nerve regeneration. The time to total regeneration is related to the rate of axonal regrowth and the distance of the lesion from the end organ, so duration of symptomatic relief varies. The procedure can be repeated if necessary.

2.6 The main aim of the procedure is to relieve pain but it can also reduce swelling associated with the neuroma.

3 Committee considerations

The evidence

3.1 NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 6 sources, which was discussed by the committee. The evidence included 6 case series. It is presented in the summary of key evidence section in the overview. Other relevant literature is in the appendix of the overview.

3.2 The professional experts and the committee considered the key efficacy outcomes to be: improved quality of life, improved mobility and reduction in pain.

3.3 The professional experts and the committee considered the key safety outcomes to be: pain, worsening of symptoms, infection, damage to adjacent structures and need for further interventions.

3.4 Patient commentary was sought but none was received.

Committee comments

3.5 Most procedures are done under local or regional anaesthesia as day cases.

Update information

Minor changes since publication

January 2026: Interventional procedures guidance 747 has been migrated to HealthTech guidance 652. The recommendations and accompanying content remain unchanged.

ISBN: 978-1-4731-8560-9

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.