

NICE interventional procedures consultation document, October 2021

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Interventional procedures consultation document

Liposuction for chronic lipoedema

In chronic lipoedema, the bottom, legs, and sometimes the arms become enlarged because of abnormal build-up of fat cells. This leads to pain, bruising, and limited mobility. Under either general or local anaesthesia, the abnormal fat is removed using suction through punctures in the skin (liposuction). Afterwards, a compression garment must be worn most of the time for several months after surgery. The procedure may need to be repeated. The aim is to reduce swelling and pain.

NICE is looking at liposuction for chronic lipoedema.

NICE's interventional procedures advisory committee met to consider the evidence and the opinions of professional experts, who are consultants with knowledge of the procedure.

This document contains the [draft guidance for consultation](#). Your views are welcome, particularly:

- comments on the draft recommendations
- information about factual inaccuracies
- additional relevant evidence, with references if possible.

NICE is committed to promoting equality of opportunity, eliminating unlawful discrimination and fostering good relations between people with particular protected characteristics and others.

This is not NICE's final guidance on this procedure. The draft guidance may change after this consultation.

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After consultation ends, the committee will:

- meet again to consider the consultation comments, review the evidence and make appropriate changes to the draft guidance
- prepare a second draft, which will go through a [resolution process](#) before the final guidance is agreed.

Please note that we reserve the right to summarise and edit comments received during consultation or not to publish them at all if, in the reasonable opinion of NICE, there are a lot of comments or if publishing the comments would be unlawful or otherwise inappropriate.

Closing date for comments: 2 November 2021

Target date for publication of guidance: March 2022

1 Draft recommendations

- 1.1 Evidence on the safety of liposuction for chronic lipoedema is inadequate but does show there may be major safety concerns including fluid imbalance, fat embolism, deep vein thrombosis, and toxicity from local anaesthetic agents. Evidence on the efficacy is also inadequate and was only from retrospective case series with limited follow up and high dropout rates. Therefore, this procedure should only be used in the context of research. Find out [what only in research means on the NICE interventional procedures guidance page](#).
- 1.2 Further research should report:
- Patient selection, including age, effects of hormonal changes (such as puberty and menopause) and the severity and site of disease.
 - Details of the number and duration of procedures, the liposuction technique used (including the type of anaesthesia and fluid balance during the procedure), and any procedure-related complications.
 - Long-term outcomes.
 - Patient-reported outcomes including quality of life.
- 1.3 Patient selection should be done by a multidisciplinary team, including clinicians with expertise in managing lipoedema.
- 1.4 The procedure should only be done in specialist centres by surgeons experienced in this procedure.

2 The condition, current treatments and procedure

The condition

- 2.1 Lipoedema is characterised by an abnormal, usually symmetrical, accumulation of fat in the legs, hips, buttocks, and occasionally arms. It is a different condition from obesity and from lymphoedema, which is secondary to obstruction to the lymphatic system. The aetiology of lipoedema is unknown, but hormonal changes, weight gain and genetics are each thought to be involved. Lipoedema is considerably more prevalent in women and very rarely affects men. Symptoms include swollen, heavy legs that are painful to touch and bruise easily. Ankles and feet do not usually have fat accumulation. The size and shape of legs, and the resultant mobility issues and pain, can have a profound effect on quality of life.

Current treatments

- 2.2 Treatment typically involves healthy lifestyle changes, conservative therapy and, in chronic cases, surgery. The fat associated with lipoedema may be resistant to diet modification and exercise. Conservative therapy, including compression and manual lymphatic drainage (a specialist type of light massage that is mainly used to reduce swelling caused by fluid) can reduce discomfort, improve mobility, and reduce oedema formation by promoting lymphatic return. The main surgical treatment for lipoedema is liposuction. Some people have bariatric surgery to reduce weight from areas of the body not affected by lipoedema, or to prevent further weight gain in those who are obese.

The procedure

- 2.3 The aim of liposuction for lipoedema is to reduce limb bulk, reduce pain, and to improve mobility and functioning. Liposuction for chronic lipoedema can be done under general or local anaesthesia. Several small incisions are made in the limb. Modern liposuction usually involves infiltrating the limb with large volumes of fluid (tumescence) to allow the cannula to glide through the tissue with minimal damage to blood vessels and lymphatics. Tumescent liposuction needs an infiltration pump to deliver the tumescent fluid. Cannulas, connected to a vacuum pump, are then inserted into the incisions and oedematous adipose tissue is removed by vacuum aspiration. Using vibrating cannulas (power-assisted liposuction) or water-jet-assisted liposuction can help remove fat more easily. Water-jet-assisted liposuction needs less initial infiltration because fluid is simultaneously infiltrated and aspirated during liposuction. Liposuction is done around and all the way along the limb. In tumescent liposuction, both fat and tumescent fluid are suctioned out together.
- 2.4 The procedure can take 1 to 4 hours depending on the size of the treatment area. Immediately after liposuction, a compression bandage is applied to the limb to control any bleeding and to prevent postoperative oedema. Antibiotics are typically prescribed as prophylaxis after the operation. When the wounds are healed after the procedure, a custom-made compression garment is worn. This garment is typically revised and refitted multiple times during the first year until the oedema volume has been reduced as much as possible.

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 9 sources, which was discussed by the committee. The evidence included 8 before-and-after studies. It is presented in [the summary of key evidence section in the interventional procedures overview](#). The committee also considered safety data from a coroner's regulation 28 letter. 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: patient-reported outcomes including quality of life, and reduction in the volume of lipoedema.
- 3.3 The professional experts and the committee considered the key safety outcomes to be: pain, bleeding, infection, fat embolism, deep vein thrombosis, fluid imbalance and toxicity from local anaesthetic.
- 3.4 There were 29 commentaries from patients who have had this procedure that were discussed by the committee.

Committee comments

- 3.5 The committee was delighted to receive detailed patient commentary and input from patient organisations. The patient commentary was mostly positive about the procedure and highlighted the serious nature of lipoedema. The committee recognised that there were currently limited treatment options for this condition and that there was a need to define the most safe and effective treatment for it. This underpinned the recommendation for further research.

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- 3.6 The committee noted that this condition is distinct from obesity.
- 3.7 The committee noted that liposuction is not a curative procedure and multiple procedures may be needed.
- 3.8 The committee was informed that several different liposuction techniques are used and that they may have different safety and efficacy profiles.
- 3.9 The committee encourages the creation of a registry for all patients having liposuction for chronic lipoedema to facilitate research.

Tom Clutton-Brock

Chair, interventional procedures advisory committee

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