

Liposuction for chronic lymphoedema

Interventional procedures guidance

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www.nice.org.uk/guidance/ipg723

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.

This guidance replaces IPG588.

1 Recommendations

- 1.1 Evidence on the efficacy and safety of liposuction for chronic lymphoedema is adequate. The evidence on safety shows that the potential risks include venous thromboembolism, fat embolism, and fluid overload. This procedure can be used provided that standard arrangements are in place for clinical governance, consent and audit. Find out what standard arrangements mean on the NICE interventional procedures guidance page.
- 1.2 For auditing the outcomes of this procedure, the main efficacy and safety outcomes identified in this guidance can be entered into NICE's interventional procedure outcomes audit tool (for use at local discretion).
- 1.3 Patient selection must be done by a multidisciplinary team with expertise in managing lymphoedema.
- 1.4 The procedure should only be done in specialist centres by clinicians with training and expertise in liposuction for lymphoedema following agreed perioperative protocols.

2 The condition, current treatments and procedure

The condition

- 2.1 Lymphoedema is the abnormal accumulation of subcutaneous fluid and sometimes fat in body tissues. It leads to chronic swelling that can cause disability, pain, and cosmetic issues. Any part of the body can be affected, but the condition is most common in the arms and legs. Lymphoedema can be complicated by recurrent infection (cellulitis), which further damages the lymphatic vessels and aggravates the condition. Primary lymphoedema results from a range of conditions that affect how the lymphatic system develops and functions. Secondary lymphoedema results from damage to the lymphatic system or removal of lymph nodes by surgery, radiation, infection, or injury. Liposuction may be particularly appropriate for select people with primary lymphoedema and for people with cancer-related lymphoedema.

Current treatments

- 2.2 The current conservative treatment for lymphoedema is decongestive lymphatic therapy. This involves compression bandaging, skin care and exercise. For some people, manual lymphatic drainage massage that stimulates lymph to move away from the affected limb may also be helpful. Once decongestive lymphatic therapy sessions are stopped, the person is fitted with a custom-made compression garment, which is worn every day for life. These techniques aim to reduce the pain and discomfort associated with lymphoedema. In severe and chronic cases, in people with lymphoedema that does not respond to conservative treatment, liposuction can be used. Procedures to restore lymphatic flow from the limb, such as lymphovenous anastomosis or lymph node transfer, are less commonly used and are usually reserved for earlier-stage lymphoedema.

The procedure

- 2.3 Liposuction for chronic lymphoedema is usually done under general anaesthesia, but using regional nerve blockade is also possible. A tourniquet is applied to the proximal limb. A few small incisions are made in the limb. Cannulas, connected to a vacuum pump, are inserted into the incisions and oedematous adipose tissue is removed by vacuum aspiration. Liposuction is done around and all the way along the limb up to the distal border of the tourniquet. The tourniquet is then removed; the proximal limb, which is unable to be controlled by tourniquet, is infused with tumescent solution; and the fat and fluid from this area are aspirated. Immediately after liposuction, a compression bandage is applied to the limb to control any bleeding and to prevent post-surgical oedema. Antibiotics and prophylaxis against venous thromboembolism are typically prescribed before and after the operation. After the procedure, a custom-made compression garment must be worn for life to maintain the volume reduction. This garment needs to be revised multiple times until the oedema volume has been reduced as much as possible and a steady state has been reached, but must be worn for life.

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 7 sources, which was discussed by the committee. The evidence included 1 systematic review and meta-analysis, 1 systematic review, and 5 before-and-after studies. It is presented in [the summary of key evidence section in the interventional procedures 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: sustained reduction in limb volume, improvement in quality of life including discomfort, limb symmetry and mobility, and reduced incidence of cellulitis.

- 3.3 The professional experts and the committee considered the key safety outcomes to be: pain, postoperative infection (including cellulitis), bleeding, venous thromboembolism and fat embolism, and fluid overload.
- 3.4 Ten commentaries from patients who have had this procedure were discussed by the committee.

Committee comments

- 3.5 The committee was informed that there are a variety of techniques used for this procedure and they are not the same as the techniques used for cosmetic liposuction.
- 3.6 This is not a curative procedure, and its effectiveness depends on the person wearing compression garments for life.
- 3.7 The committee was informed that liposuction for lymphoedema is typically only done once on a limb.
- 3.8 The committee was informed that this procedure should only be used when lymphoedema persists despite conventional conservative treatments.
- 3.9 The committee was informed that liposuction is also used to treat patients with chronic lipoedema. This guidance only covers the use of liposuction for the treatment of lymphoedema, which the committee noted may be easier to diagnose and has a more established treatment pathway than lipoedema.

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Endorsing organisation

This guidance has been endorsed by [Healthcare Improvement Scotland](#).

Accreditation

