

Liposuction and Lymphedema?

Various surgical procedures for the treatment of lymphedema have been practiced for over a century and advancements in medical technologies have led to increased discussion of the role surgical treatment as an alternative or additional treatment option for a select group of patients affected by lymphedema. Recent research indicates that the surgical approach to treat lymphedema has beneficial effects for some patients; however, there is a broad consensus that non-surgical management of lymphedema remains the first line of standard care and that surgical procedures do not eliminate the need of complete decongestive therapy (CDT) pre- as well as post-operatively (1, 2), and should act as an adjunct to conservative treatment protocols.



Any surgical approach to treat lymphedema should be reserved for those cases when conservative treatments have clearly been unsuccessful or when the achieved success of conservative measures can no longer be maintained (4). Other cases where surgery may be a consideration are situations when limb weight contributes to considerable functional impairment and cosmetic deformity, and the occurrence of frequent lymphedema-associated inflammatory attacks.

An important component to determine whether any surgical procedure for lymphedema is indicated is to weigh the potential benefit of the specific surgical procedure against the risks associated with it. Other considerations should include the individual medical needs and goals of the patient, and the medical expertise of the surgical team (5).

In general, surgical approaches can be classified as excisional techniques, reconstructive techniques, and tissue transfer procedures.

This article covers the feasibility of liposuction for the treatment of lymphedema. Other terms to describe this surgical technique include Suction Assisted Lipectomy (SAL), Circumferential Suction Assisted Lipectomy (CSAL), Suction Assisted Protein Lipectomy (SAPL) and Lympho-Liposuction.

Liposuction is an excisional procedure during which fatty tissue under the skin is removed by a vacuum tube, which is inserted repeatedly via several incisions made to the areas affected by lymphedema. During the process of the removal of fatty tissue and other solids in this invasive procedure, lymph and blood vessels embedded in the fatty tissue are damaged as well.

Liposuction procedures in the treatment of lymphedema are significantly different from standard cosmetic liposuction, which is not suitable in the treatment of lymphedema. The permanent deposits of solids and fat in lymphedema are firmer and more difficult to remove than “regular” fatty deposits; therefore, different surgical techniques and instrumentation are required if this technique is used in lymphedema patients.

Liposuction for lymphedema should not be attempted by surgeons not trained in this procedure but should only be performed by surgeons experienced in lymphedema with the support of a certified lymphedema therapist.

Liposuction is presently the most common surgical excisional procedure for the treatment of lymphedema. It should be limited to cases of non-pitting lymphedema, where the excess limb volume is comprised of permanent deposits of adipose tissue and other excess solids, which is often the case in late stage lymphedema. Some clinicians however report that pitting edema around 4-5 millimeters in upper extremity lymphedema, and 6-8 millimeters of pitting in lower extremity lymphedema can be accepted for liposuction if further reduction by means of conservative measures is not possible (7).



Literature indicates that large amounts of excess volume can be removed successfully in a limited number of patients when performed correctly, and the incidence of cellulitis can be reduced of up to 75% (8).

The risks of liposuction include bleeding, infection and abnormal sensation in the skin.

Liposuction removes excess deposits of solids and fatty tissue, but does not address the pathophysiological processes that lead to the accumulation of fluids in lymphedema. Therefore, lymphedema can still recur following liposuction, and patients who underwent this procedure are required to continue lifelong wearing of progressively smaller custom-fitted compression garments, which should be fitted by a certified lymphedema therapist. Successful treatment

outcome depends largely on a close cooperation between the surgeon and a lymphedema therapist with specific experience with this procedure pre- and post-operatively. Consequently, patients not able, or not willing to wear post-operative compression bandages and garments and not prepared to work and cooperate with a certified lymphedema therapist following the procedure, are poor candidates for this kind of surgery.

It must be stressed that all surgical procedures are invasive, costly, involve significant risks, and the long-term results are not yet known. Conservative management of lymphedema with complete decongestive therapy is noninvasive, with minimal to no side effects for patients, shows excellent long-term results, and should always be the treatment of choice. CDT is considered the gold standard treatment for lymphedema and with properly applied treatment techniques and patient compliance is able to successfully manage lymphedema in the majority of patients (3).

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