

# Treatment of Lipedema by Liposuction

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## **How can lipedema be treated?**

Conservative therapy consisting of lymphatic drainage and compression stockings ist often recommended. This so-called complex physical therapy (CPT) is only effective against the edema. Some patients show a short-term improvement when treated in this way, but just as long as it is applied. Also by dieting, healthy food or physical activity a limited improvement can be achieved.

The only way of a permanent reduction of lipedema is by liposuction.

The removal of the increased fat tissue of lipedema has become possible by employing advanced liposuction techniques which utilize vibrating microcannulas under tumescent local anesthesia. Liposuction has been established about 30 years ago. By improving the technique over the last 15 years we can now offer a proven, very low-risk method of liposuction. This method however is not suitable to deal with general obesity or being overweight.

## **How is liposuction (the “wet technique”) performed ?**

Liposuction using vibrating microcannulas under tumescent local anesthesia is generally regarded as the most gentle method for tissue.

The fat cells are permanently extracted with a special, vibrating only 4mm thin, hollow needle. Blood vessels, lymph vessels and nerves are not injured. Additionally the body shape is modeled.

Although liposuction was invented in Italy and then further developed in France, it was the crucial breakthrough which came with an idea of the US-American dermatologist Jeffrey Klein, who described the method of tumescent liposuction first in 1987. He performed the procedure no longer under general anesthesia, but in a special local anesthesia.

## **What is tumescent local anesthesia?**

The term tumescence derives from the Latin word "tumescere" (= swelling) .

Dr. Klein established a mixture of saline, local anesthetics , bicarbonate, and very dilute adrenaline, hence minimizing the risk of bleeding and softening of adipose tissue ("wet method of extraction"). After numbing of the skin, the tumescent solution is injected with a needle into the fat pad. This process is virtually pain free, but is perceived as a pressure within the tissue. Depending on the size of the body to be treated volumes of up to 6 liters of fluid can be injected. After 60 to 90 minutes a "softening" and complete numbness of the tissue is achieved.

This form of anesthesia is the basis for successful liposuction since 1987. Worldwide, tens of thousands of these surgeries have been performed. A US-American survey (1995) on the risks of the method has shown that tumescent local anesthesia is a save and reliable method. The risks will be discussed in the following. In addition to the above mentioned points tumescent local anesthesia offers another big advantage. An awake patient during surgery can easily

change the position and can even stand up, which is very helpful for the surgeon to assess the influence of gravity.

### **Which patients are suitable for liposuction?**

Heart and circulatory healthy patients with good skin elasticity. There is no age limit. However, the results are better, the younger the patient is. If extensive body areas to be treated, it might be necessary to take several steps. For more information, you should consult your treating physician. You should also inform the doctor on other diseases and wound healing problems. Disorders of blood coagulation prohibit the operation.

### **The surgery by liposuction**

The term liposuction derives from the Greek word "lipos" (=fat) and the Latin word "surgere" (= to suck).

The cannulas used for surgery have the following characteristics :

To avoid injuries the head of the microcannulas are closed and blunt. In addition, the needle will vibrate (vibration method), which reduces discomfort and tissue damage. The surgeon can gradually model the desired thickness of the remaining fat. The complete fat layer will never be removed.

After the onset of anesthesia 3-6 mini incisions of about 4 millimeters in length are made in order to insert the cannulas. This allows the problem area to be treated from different directions in a fan-like manner. Unlike before, all layers of the problem area can be treated.

The extracted liquid is a mixture of fat, tumescent fluid and minimum of blood admixtures. Because the tumescent fluid is partially dissolved in the tissue, it can not be removed completely by the operation. The remainder discharges from the mini-wounds several hours after surgery. The thickness of the remaining fat layer can be checked anytime. After having reached the desired shape the wounds are closed by placing special stripes. Sutures are not necessary.

### **Which body areas can be the treated ?**

In principle, almost any body region can be treated. Lipedema only occurs on the legs and arms. Both regions are well suited for liposuction.

### **Does Liposuction reduce the complaints of lipedema (such as pain) ?**

According to previous studies, liposuction improves complaints significantly. Above all, the pain diminishes a few days after surgery. A reduction of swelling and bruising was demonstrated in a recent study as well.

### **How does the skin react ?**

In the "dry technique" of liposuction, irregularities of the skin surface were more common. Through the exclusive extraction of deep fat layers it could also lead to surplus of the remaining fat in the upright position.

Both are undesirable consequences and very rare for the "wet method" .

In addition to the change of the body shape there is another important effect on the skin :

By the blunt needle many small tunnels from different directions in all layers of fatty tissue are created. The connective tissue, which is important for skin structure, will not be affected.

The final result of the skin condition and shape is achieved after about 12-18 months. Although liposuction usually leads to a clearly improved shape, it is not realistic to expect the perfect body or general tissue quality of young age.

### **Can lipedema recur after liposuction ?**

The removal of fat cells is permanent. But it is impossible to remove all the fat affected by lipedema. So remaining lipedema cells can cause an increase of adipose tissue again. However, this happens to our experience very slowly and never comes up to the preoperative situation. It takes in some cases more than 10 years, in most cases even longer. So we suppose a lifelong benefit from liposuction.

### **What are the risks of liposuction?**

Each operation is associated with risks. The described improved method reduced the risks significantly. Although the complication rate now is 4:1000 or lower, there will always be a residual risk.

### **What complications can occur?**

#### **Pain**

Due to local anesthesia the surgery itself is nearly painless. It lasts about 6-8 hours. After surgery you may experience pain. For the first night it is therefore recommended to take a painkiller : paracetamol (Tylenol) . The next day, most patients need no pain medication. The symptoms are described as sore muscles and improves day by day.

#### **Swelling**

The treated area can swell in the coming days. These swellings resolve without consequence. Water retention in the lower leg and ankle may occur after treatment. These recede completely. This should be supported by compression stockings and lymphatic drainage.

#### **Bleeding**

The blood loss is very low. Until now, blood transfusion has never been required in our clinic.

#### **Bruising**

Bruises are common, but are harmless and disappear after a maximum of 3-4 weeks.

#### **Infection and wound healing**

As in any other surgical procedures wound infections and impaired wound healing may occur, but are extremely rare. Prophylactic antibiotic therapy (Ciprofloxacin 250 2x1 daily for 3 days) is recommended.

#### **Unwanted scarring, hardening of tissue, cyst formation, irregularities in the skin texture**

These complications would impair the cosmetic result. With previous methods of liposuction they occurred more frequently than with today's technique. However rare, they can not be excluded completely.

#### **Pigmentation of the skin**

Brown spots can occur if the treated area is exposed to sunlight or tanning beds too early. Patient should therefore wait at least 4 weeks or until bruises healed completely.

#### **Nerve or vascular injury**

Very rare, because there are no important nerves and vessels in the treated fat layer. Numbness or discomfort of the skin may occur as a result of irritation of cutaneous nerves.

These regenerate and sensation of the skin comes back normal. Sometimes it can take several months.

**Fat embolism, thrombosis and pulmonary embolism, allergy**

There is no greater risk for these life-threatening complications than in other comparable interventions as well. We will decide individually, if thrombosis prophylaxis is necessary.

You should not feel insecure by the list of possible complications. This is illustrated by following example (even though taking a pill is certainly not comparable to surgery): you have certainly taken an aspirin without worrying about possible side effects.

Have you ever read the package insert? Every day thousands of aspirin tablets are taken without adverse events. Do you remember the last consent form for surgery in the hospital? Absolute certainty doesn't exist.