

Liposuction techniques

All the used techniques have a **basic principle in common** – it involves suctioning out disturbed adipose tissue using a special **liposuction cannula**. The cannula is inserted into the subcutaneous tissue and removes excess adipose tissue using negative pressure. However, the result of liposuction is mainly determined by the knowledge, experience and care of the operator.

Dry technique

It is the original method of **liposuction without liquid infiltration of adipose tissue**. The absence of the vasoconstrictor effect and the need to use higher negative pressure values resulted in excessive blood loss and greater mechanical tissue damage. In addition, the difficult penetration of the cannula through the tissues caused greater resulting unevenness. Therefore, this method is considered obsolete today and is already practically abandoned.

Wet techniques

These methods use a **solution injected into the subcutaneous fat** in order to fill and stretch this space and disrupt the fat lobes. The injected **liquid contains an adrenaline additive**, which reduces bleeding by its effect. An **anesthetic** may also be in the liquid. Individual techniques differ primarily in the amount of solution used.



Liposuction

Wet technique (simple wet technique)

The amount of fluid injected is less than the expected amount of fat suctioned. This is usually 200-300 ml of solution per suction area.

Super-wet technique

The amount of fluid injected is approximately the same as the intended amount of fat to be suctioned. This method is similar to the tumescent technique, but the amount of injected liquid is generally smaller, the local anesthetic is not contained in the solution or only in a small amount.

Tumescent technique

Adipose tissue is infiltrated with large volumes of solution. There is usually 2-3 × more fluid than the volume of fat being suctioned. The name is derived from the English word *tumescence* meaning swelling. This term characterizes the condition of the subcutaneous tissue at the end of the solution injection process, when the subcutaneous tissue is packed with the solution so that it is completely rigid. In addition, with the tumescent technique, the solution simultaneously contains a relatively large dose of local anesthetic, usually lidocaine, so that the operation does not require general anesthesia.

- **The modified tumescent technique** is tumescent liposuction in combination with general anesthesia. As follows from the basic characteristics of tumescent liposuction, this is an example of misleading terminology, because the effect of the local anesthetic is one of the basic characteristics of the tumescent technique.

Vibration liposuction - PAL

PAL (*power-assisted liposuction*) method uses a device with a liposuction cannula that oscillates with rapid micro-movements back and forth, thereby enabling suction with less effort for the surgeon. The method is often attributed to an easier and therefore gentler penetration of adipose tissue with a higher fiber content – e.g. buttocks, back, male chest, tissue after previous liposuction. The actual execution is no different from other liposuction methods.

Ultrasonic liposuction

Unlike conventional liposuction, where we act on adipose tissue only with mechanical force, ultrasonic liposuction uses the effect of ultrasound energy. The actual division into other types is similar to conventional liposuction.

1. **UAL (ultrasonic-assisted liposuction)** – ultrasonic energy is transmitted to the subcutaneous tissue, where it causes the breakdown of fat cells. The emulsified fat is then sucked off under a lower level of negative pressure.
2. **E-UAL (external ultrasonic-assisted liposuction)** – fat cells are disrupted by ultrasound from the outside through the skin surface.

The advantage of ultrasonic liposuction is a better ability to penetrate tissue with a higher fiber content, such as adipose tissue after previous liposuction, adipose tissue of male breasts, etc., and somewhat less blood loss is also reported.

On the other hand, however, ultrasonic liposuction is fraught with the risk of thermal damage (burns) to the skin, if the tip of the cannula gets too close to the lower layer of the dermis. The equipment required for ultrasonic liposuction is many times more expensive than the price of conventional liposuctors, which of course is usually reflected in the price of this procedure.

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