

Surgical treatment of lipedema

Surgery of lipedema: liposuction

The aim of liposuction of lipedema is to remove as much lipedema fat as possible, while sparing the lymphatic and blood vessels.

Preferably using: Power Assisted (PAL), or Water Assisted (WAL) Liposuction.

PAL: Preparation of the fat with tumescence anaesthesia in super wet technique to release the adipocytes from connective tissue. Liposuction performed afterwards with oscillating cannulas.

WAL uses a two-tunnel cannula that installs saline solution to release the adipocytes from connective tissue, and at the same time suctions the affected adipose cells.

Both types produce less trauma, and are more precise than classic manual liposuction.

Surgical treatment of lipedema

Surgery has always to be combined with kompression treatment

- Intensive manual lymphatic drainage and pulsator treatment both before and after each liposuction
- Exercise (jogging, cycling, swimming) for activation of lymphatic vessels
- Compression garment for approx. 4-6 months after each procedure
- At least 2 months between two operations

Surgical treatment of lipedema

- **Preoperativ always a consultation with a vascular surgeon.**
- To verify the diagnosis
- To differentiate between lipedema and lipolymphedema.
- To diagnose and , when needed, to treat venous varicosis of any type.

Surgical treatment of lipedema

PAL and WAL are performed under manual control. Therefore both techniques are very delicate. The aim is, beside to remove as much of lipedema fatty tissue as possible, to spare blood vessels, connective tissue and especially lymphatic vessels.

PAL can be performed under local anaesthesia, preferably combined with analgo-sedation. General anaesthesia should be used in patients with severe lipedema pain, or patients who are very nervous/anxious about being awake during operation.

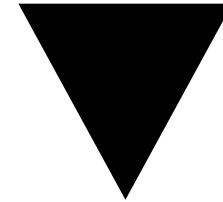
WAL can only be performed under general anesthesia.

Surgical treatment of lipedema

Power Assisted Liposuction (PAL)

Right thigh after infiltration of 3 liter of saline solution with adrenaline, Xylcaine and Hydrogen carbonate

Iatrogenous edema and blanching effect, subcutaneous hematoma



Surgical treatment of lipedema



Surgical treatment of lipedema

Liposuction with PAL

Canula oscillates with a frequency 5000/min

Less strength to move the canula through the fatty tissue

More precise work

Movement always parallel with lymphatic vessels to avoid damage.



Surgical treatment of lipedema

Pinchest pre-op. 7,5 cm

After removing of 3,5 liter fat:

Loose skin

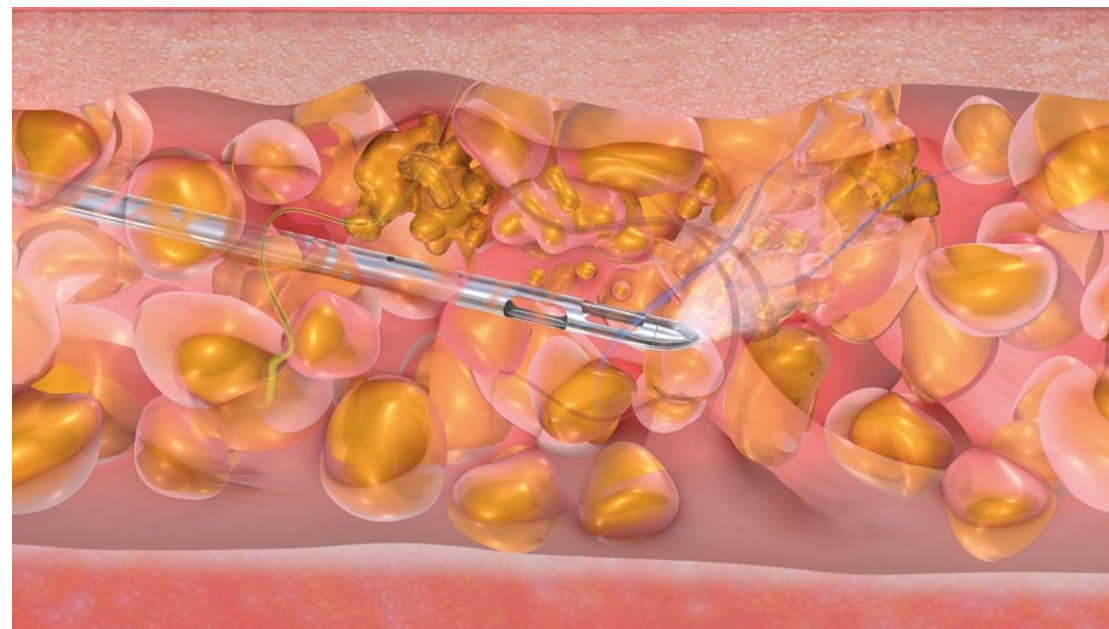
Pinchtest 2,0 cm



Surgical treatment of lipedema

Water Assisted Liposuction (WAL)

Spray of saline solution destroys lumps of fatty tissue, and immediately afterwards the fat gets removed by liposuction



Surgical treatment of lipedema

The majority of patients have type 4 lipedema, which affects both buttocks, hips, thighs, knees and lower legs plus the whole arms.

Not possible to remove all sick fatty tissue with just one operation.

Clinical set-up: two to three operations (front/back of legs and buttocks, arms).

Day surgery set-up: 5 operations (lower legs, front/back thighs, buttocks, arms)

This is my personal set-up for operations performed under local anaesthesia with analgesia

Surgical treatment of lipedema

Removal of several liters of fat per operation. Generally several operations necessary.

The greater the amount of removed fat, the bigger the scar surface, and the bigger the chance of complications.



Surgical Treatment of lipedema

At the end of operation compression garment to cover the operated limb.

Compression to ...

- Avoid edema
- Avoid bleeding
- Help the skin to shrink
-

Goal with the operation

Improvement of quality of life

Reduction/elimination of edema and pain

Weight reduction and better mobility

Reduction of misalignment in the legs, less risk of joint arthrosis/less need for joint prostheses

To get patients back into working life (many are already disabled at a young age, a social problem)

Limitations with surgery

Liposuction for lipedema is still no causal therapy. The remaining lipedema fatty tissue can lead to recurrence. About 5-10% risk of symptomatic recurrence after about 8-10 years with an indication for new surgery.

Liposuction is no weight loss surgery. It must always be combined with diet change, increased physical activity, and often (but less regularly than before surgery) manual connective tissue therapy MCTT even after surgery

High chance of indication for lifting operations due to lack of skin retraction (tights, buttocks, arms)

Possible complications of surgical treatment

Infektion: wound infection, skin infektion (eresipelas)

Seroma: gets permanent when untreated

Deep hematoma: extrem blodloss possible because of big subcutaneous deadspace

«Bruising» is not a real complication, nearly every patient has more or less subcutaneous hematoma after liposuction. No effect on outcome.

Damage of blod vessels (bleeding), nervs (pain; reduced muskular strength), lymphatic vessels (permanent lymphedema)

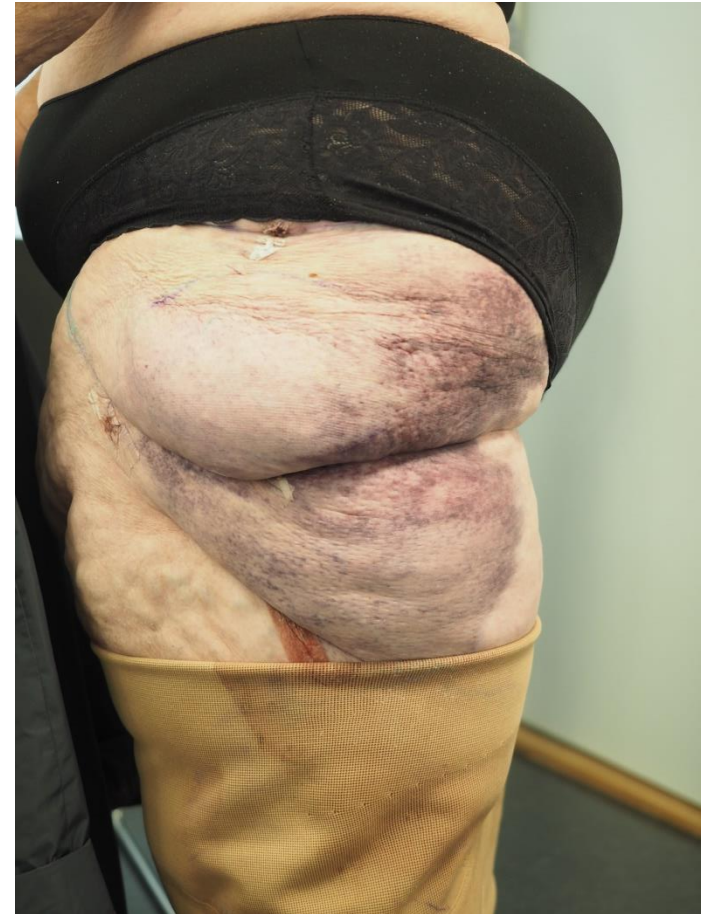
Damage of skin, fatty and connective tissue with **necrosis** and deep, longlasting wounds

Complications



<= Bruising

Hematoma =>



Complications

Seroma 8 days after surgery.

Day 8: Aspiration of 120 cc liquid

Day 11: Aspiration of 100 cc liquid

Day 13: Aspiration of 80 cc liquid

Day 16: Aspiration of 50 cc liquid

Day 19: Aspiration of 25 cc liquid

After each aspiration extra pressure on the area, outside kompression garnment



Complications

Development of lymphedema in both feet/ankles 12 month after liposuction for lipedema of the whole leg

Complications you never want to see...

(Operation performed in St. Elsewhere, over the mountains, far, far away...)

Day of surgery
Looks pretty normal



Day 3 after surgery
**This is hypoxia in the skin,
NOT an infection!!**



Day 7 after surgery
Skin looks better
except ...



Day 14 after surgery
Demarcation of skin
nekrosis



Complications; worst case scenario

Day 21 after surgery, scar revision, removing of necrosis. Shows a full skin and subcutaneous defect down to the muscle fascia. Followed by 8 weeks with VAC treatment, skin transplantations, ...

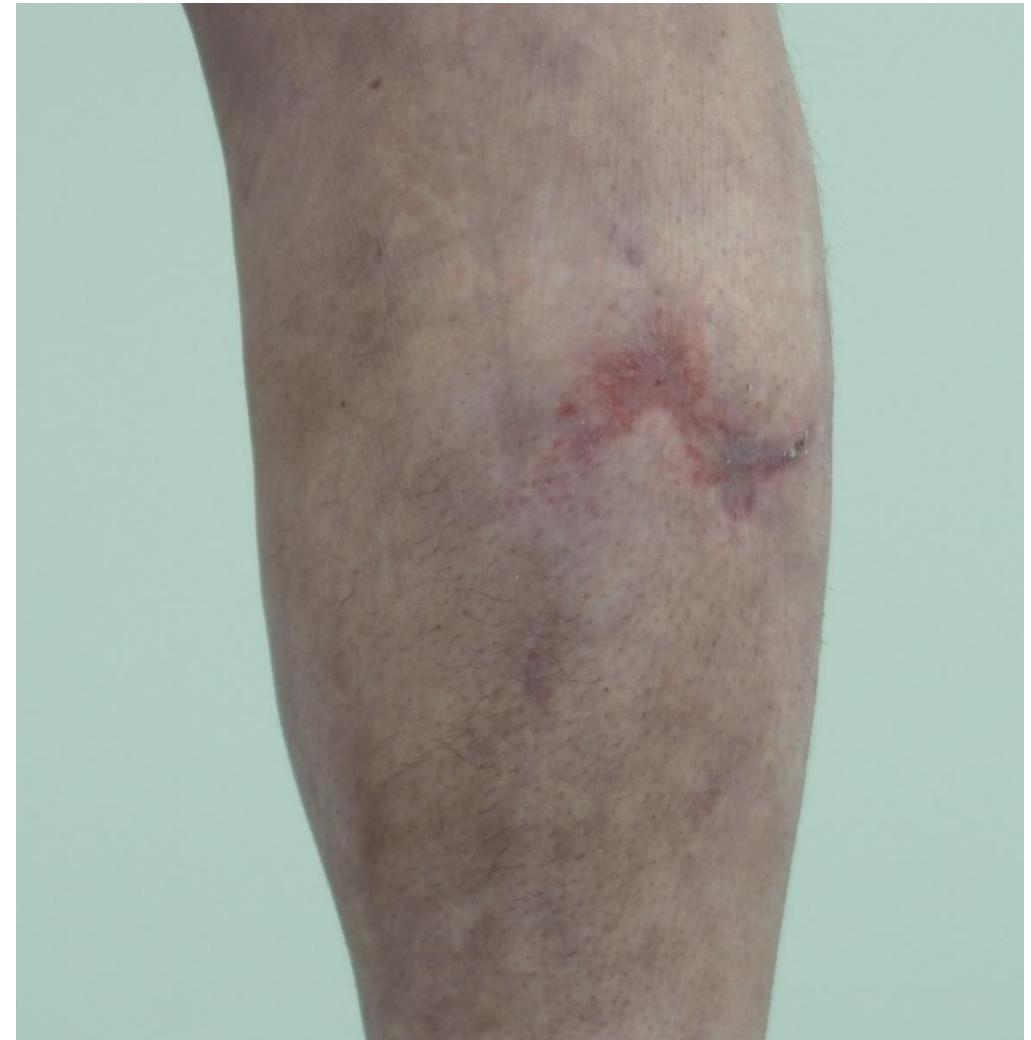


Complications; result

In total 20 weeks with rehabilitation.

Nearly 6 month with surgical and non-surgical treatment for closure of this wound.

Result still visible, but ok.



Conclusions after 6 years of lipedema surgery

Liposuction for lipedema gives patients a significant improvement in their quality of life, regardless the stage, type, or intensity of pain before surgery

The earlier you treat the patients, the better are the results, both functional and esthetic

It is not so easy as it seems, so learn your lessons before starting operations

There is still not much scientific data about lipedema, and we all must do more scientific research: we need to understand lipedema better, and we must always improve our treatment options.



Thank you for your interest, and greetings from Bergen