



The Gentle Power of Water for the Treatment of Lipedema

SAFE

Minimized risks during the procedure

FAST

No waiting time after infiltration

GENTLE

Reduced impact on the surrounding tissue

LOW PAIN

Minimally invasive procedure



An information brochure from Human Med AG for lipedema patients about water-jet assisted liposuction (WAL)

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Dear patients

FOREWORD

Pain, shame, uncertainty – you have probably experienced all of this continuously over the past years. Because lipedema is not just a very painful condition – it often also takes quite a long time for this abnormal build-up of fat to be diagnosed. This means that many of you will already have been suffering for a long time.

Fortunately, modern medicine offers therapy options that can help you to regain a better quality of life. Conservative measures such as lymphatic drainage and compression can provide some relief if applied regularly. Direct and permanent treatment of lipedema, however, requires removing the diseased tissue.

With our patented water-jet assisted (WAL) technology, we have set new standards in the field of medically induced liposuction.

The WAL procedure with the body-jet® devices makes it possible to carry out safe, effective, and gentle liposuction by using the gentle power of water.

You are probably wondering how exactly WAL works and how this special, more gentle liposuction is carried out? We put together this brochure to provide answers to these and other questions. The following pages offer a comprehensive insight into the lipedema condition and its therapy options. You can also scan the QR code on the back to access an explanatory video that shows how the medical procedure with WAL liposuction works. We hope that this brochure provides you with helpful information on the medical options for lipedema. As so often, well-founded information is the best basis for making a decision on a treatment option.

Sincerely

Dr. Stephan Aldinger
CEO of Human Med AG



THE CONDITION “LIPEDEMA”

Lipedema is an abnormal build-up of fat with unknown causes. It affects the legs and also the arms symmetrically. Feet and hand are not affected. The buttocks and legs appear disproportionate compared to the upper body. The hip circumference is at least 1.4 times greater than the waist circumference. Symptoms can worsen significantly during the lengthy, chronic progress of the condition.

Lipedema is found almost exclusively in women, often in phases of hormonal shifts, such as during puberty, after pregnancy, or during perimenopause. Genetic factors are also believed to be a cause.

The fat tissue created by lipedema is resistant to diets and cannot be reduced with exercise or targeted nutrition. In contrast to lymphedema, a thumb leaves no indent when it is pressed into an affected area.

One crucial aspect here is that there is no conservative treatment for lipedema with permanent effect, while liposuction can achieve lasting success with much improved quality of life.

Diagnosis

Lipedema is diagnosed with the following:

- Medical history
- Inspection (visual)
- Palpation (touch)

Symptoms

- For no apparent reason, pain develops in the leg area in the form of a vague feeling of swelling, with pain on contact/pressure. Fluid retention can make these symptoms worse over the course of the day.
- The intensity of the pain is not related to the quantity of fat tissue, but to the amount of fluid retained. This means that even “thin” lipedema can cause severe pain.
- There is a pronounced tendency to develop hematomas, also referred to as bruises or contusions.



Early-stage lipedema often cannot be distinguished from common cellulite.

STAGES OF LIPEDEMA

Depending on the severity, there are 3 stages of lipedema:

STAGE I

The skin surface is smooth; the subcutaneous fat appears evenly dense and homogeneous.

STAGE II

The skin surface is wavy; the subcutaneous fat feels lumpy.

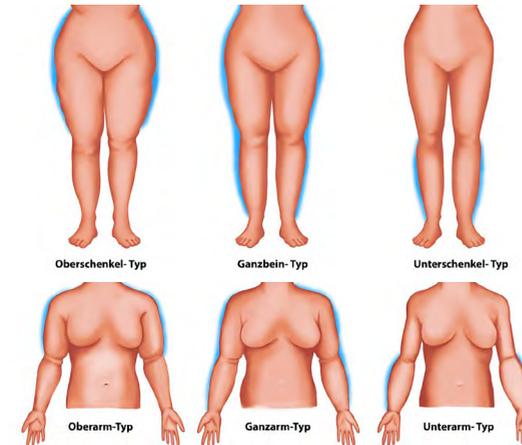
STAGE III

The skin surface has a cobblestone-like texture; the subcutaneous fat tissue has large lumps; there is a severe increase in circumference with overhanging tissue sections.



With kind permission from LipödemGesellschaft e.V.

LIPEDEMA TYPES BY LOCATION



Areas of the body particularly affected by lipedema

With kind permission from LipödemGesellschaft e.V.

ACCOMPANYING SYMPTOMS

These are manifold: Lipedema can substantially impair the patient's quality of life primarily due to the psychological strain, also caused by misdiagnoses, the lack of acceptance in society, failed diets, eating disorders, tiredness, significantly restricted mobility, and more.

Secondary orthopedic conditions also have to be taken very seriously: Lipedema can cause knock knees that put undue stress on the joints, which can lead to

osteoarthritis. Back problems are common due to the enlarged buttocks and an unnatural curvature of the spine. This can become so bad that the patient is unfit for work. Another painful complication of lipedema is that the skin on the inside of the legs chafes and develops a rash.

The regular, often long-term use of painkillers to relieve these symptoms in turn has a variety of different negative effects.

Lipedema Self-Check

This self-check was developed in cooperation with experienced lipedema doctors and patients. It can in no way replace a specialist consultation and is only an initial indicator of whether you might have lipedema.

The first symptoms often occur during phases of hormonal shift, most commonly during puberty. Lipedema can also develop during pregnancy or perimenopause.

1. Are you developing significant differences in the proportions between your upper and lower body?
2. Do these disproportionately affect your legs (and maybe also your arms), while your hands/feet remain unaffected?
3. Did these physical changes occur during puberty, while taking a hormone drug (e.g. birth control pill), after a pregnancy, or during perimenopause?
4. Did the symptoms develop spontaneously and without any apparent reason?
5. Have you ever noticed that the circumference of your legs/arms reacts to weight loss only very little or not at all?
6. Do you get bruises without any apparent reason?
7. Do you experience tenderness and a feeling of tightness on your legs and maybe on your arms?
8. Have you noticed a kind of cellulite ("orange peel skin") on your legs/arms or does the skin feel rough, lumpy, and hard?
9. Is the fat distribution on the extremities symmetrical, i.e. the same on both legs?
10. Do you have any female relatives who have lipedema or are experiencing similar symptoms?

If you identify a combination of the following symptoms on yourself, there is a certain risk that you may have lipedema. In this case, please obtain an initial diagnosis from your primary physician, who will then refer you to a specialist if necessary, e.g. a phlebologist, lymphologist, dermatologist, vascular surgeon, or experienced plastic surgeon, for a comprehensive diagnosis:

Therapy

CONSERVATIVE THERAPY

In many cases, alleviation of pain symptoms and reduction of the retained water can be achieved with complete decongestive therapy (CDT). This consists of manual lymphatic drainage (MLD), compression therapy, exercise therapy, and skin care.

The decongestive phase with daily MLD can take 3 to 4 weeks, depending on the severity of the condition, and is usually conducted at a specialist lymphology clinic. Its primary objective is pain relief. One important component of the conservative therapy is compression using flat-knit compression stockings.

CDT can result in a reduction of the retained water and therefore also in reduced pain levels. Unless it is applied for the rest of the patient's life, however, the edema will reoccur.



SURGICAL THERAPY

The diseased fat tissue of a lipedema can be removed permanently with surgery – a fat removal procedure called liposuction. It is one of the most frequently conducted plastic surgeries worldwide and has

proven particularly successful for lipedema patients. There are different methods. This brochure focuses on the surgical procedure that uses gentle, efficient water-jet assisted liposuction.

WATER-JET ASSISTED LIPOSUCTION (WAL)

In conventional liposuction procedures, the subcutaneous fat tissue is infiltrated with a large amount of tumescence solution. This blurs the body contours, “inflating” the body.

In contrast to this, WAL only requires a small amount of local anesthetic to be infiltrated into the body. Tumescence pre-infiltration with the associated waiting time is not required for the WAL procedure.

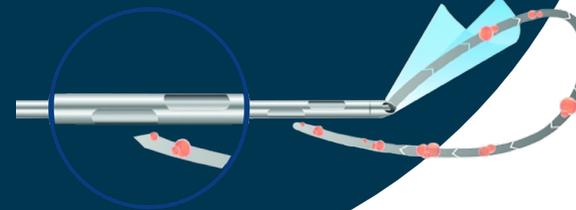
The gentle, selective power of a water-jet for liposuction: In contrast to conventional liposuction methods, WAL simultaneously releases and extracts the fat tissue with a fine, fan-shaped water-jet, with low force and little side effects.

This method is therefore particularly gentle and involves little pain.

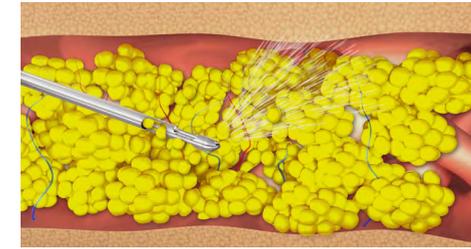
Contusions and injury to the sensitive nerves directly underneath the skin are relatively rare when the water-jet is used. Like tree roots washed clean, the strands of connective tissue under the skin, which are important for keeping the skin tight, remain mostly intact.

As the fat cells are irrigated and extracted at the same time, the treating physician has direct control during the entire procedure, both over the body contours and the introduced and removed fluid.

In contrast to the conventional tumescence method, the negative influence of any irrigation fluid remaining in the body on the patient's organism is significantly reduced.

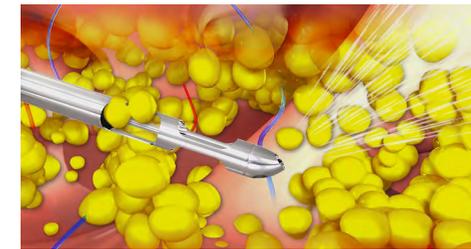


The principle of WAL: The fan-shaped water-jet emitted at the front end of the cannula releases the fat tissue while the aspiration openings behind the cannula directly remove the flushed-out fat cells.



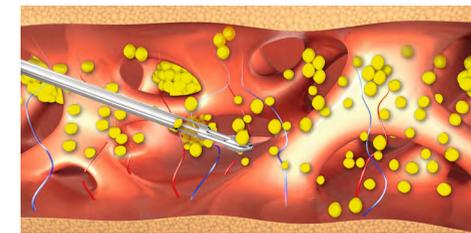
STEP 1

Infiltration with the water-jet requires no subsequent waiting time.



STEP 2

The irrigation/aspiration process typical of WAL starts directly afterwards.



STEP 3

The result: A significant reduction in the number of fat cells



Benefits

OF THE WAL PROCEDURE AT A GLANCE

- The procedure is gentle on the surrounding tissue.
- There is less pain after the surgery due to reduced blood loss, fewer hematomas, and less swelling.
- General anesthesia is not absolutely required. Less local anesthetic is required because the dosing is more targeted.

The final result: a gentler procedure and a shorter convalescence period for patients

- The treatment can be carried out with greater safety and minimized risks because tumescence pre-infiltration can be completely omitted.
- Without tumescence pre-infiltration, the procedure leaves the body contours almost unchanged. This reduces the need for subsequent corrections.
- The duration of the surgery is reduced because there is no waiting time between infiltration and start of surgery.
- Simultaneous irrigation and aspiration make it easier for the surgeon to guide the cannula.

The final result: an effective treatment method for satisfied patients



WAL demonstration at a patients' event

More information on the WAL procedure and the technology can be found at www.humanmed.com or on YouTube: <https://youtu.be/ERSnNEXsj08>



Supporting member of the LipödemGesellschaft e.V.

Study Results

IN AN ASSESSMENT OF THE WAL PROCEDURE ON 1,000 PATIENTS (BETWEEN 2012 AND 2018) WITH RESPECT TO POST-OPERATIVE CIRCULATORY REACTIONS, DR. WITTE AND DR. HECK FROM MÜHLHEIM AN DER RUHR CAME TO THE FOLLOWING CONCLUSION:

- For the aspiration of volumes between 800 and 13,500 ml per session, minor to medium circulatory reactions were identified on average.

This result is of particular significance with regard to the previously often propagated 4,000-ml limit set for "high-volume liposuction". At the clinic, these surgeries were carried out as inpatient procedures with a one-night stay and assessed as safe based on the results of the study. More than 90% of the patients would have the surgery again in the same situation.

ANOTHER STUDY BY DR. MÜNCH EXAMINED THE SAFETY AND EFFICIENCY OF THE WAL PROCEDURE FOR TREATING LIPEDEMA. 141 PATIENTS WERE TREATED WITH THE WAL METHOD. THE RESULTS:

A significant reduction of the fat layer and improved proportions were achieved in all cases.

- During the check-up, a significant improvement of all examined problem parameters (such as pain, feeling of tightness, and impaired walking) was found, namely from 6.1 to 3.1 on a scale of 0 to 10.
- For over a third of patients, conservative therapy was no longer required, reduced, or experienced as more effective.

1. Case Report

My misshapen proportions had been an issue for me since puberty. I was wearing size S for tops and trouser size XL. Intense exercise and countless diets led to no improvement, the proportions became even more unbalanced, and I developed tenderness in the affected areas. In 2017, I read a newspaper article about the condition. I learned as much as I could about it and made appointments with specialists – a vascular surgeon, a lymphologist, and a dermatologist. Finally, I received a diagnosis: “still” lipedema stage 1 on my legs and already developing on my arms. The fear of the condition progressing and being helpless in the face of it soon made me decide on liposuction, especially as the conservative therapy with flat-knit compression and regular manual lymphatic drainage had not improved my symptoms at all. I was lucky that my health insurance finally paid for four planned liposuctions – after some back and forth, a physical exam by the insurance's medical service, and providing proof that I could not do any more exercise or eat any healthier.

Together with my preferred physician in my hometown, I created a “battle plan”: I was to have the procedure on arms and legs under general anesthesia with water-jet assisted liposuction every three months. I got through the surgeries surprisingly well, was able to already waddle along the hallway again the next day, and was back at work after a week. Within 18 months, I had not only lost around 25 liters of fat, but also all my pain and other issues. My body finally fits me: I can do any kind of sport again and do not need the compression therapy and lymphatic drainage. Since the surgeries, I have lost another ten kilos, built up muscle, and have finally achieved my goal – feeling good in my own body.

(N. Feldle, 29 years)



AN EVALUATION BY DR. ARACO OF A COMPARISON BETWEEN THE WAL METHOD AND CONVENTIONAL LIPOSUCTION (NOT LIMITED TO LIPEDEMA) REVEALED SIGNIFICANT ADVANTAGES WHEN IT COMES TO PATIENTS BEING PAIN-FREE AFTER THE PROCEDURE.



Fig.: Less pain and fewer hematomas than with conventional liposuction procedures: The diagram shows the percentage of pain-free patients, from 3 hours until 14 days after surgery.

2. Case Report

When I was 13, my torso started to develop differently from the rest of my body. My hips and legs became really chunky. It became more pronounced with pregnancy and became extreme during perimenopause. Countless diets and doctor's visits brought no success. With a change in diet, I lost 30 kg in 2012. It was not until 2014 that I was diagnosed with lipedema – something I had never heard of before. That same day, I submitted a request to my health insurance to pay for the cost of treatment. After 18 months of fighting without success I took them to court and won! The health insurance had to pay for all necessary surgeries. It turned out to be very difficult to find a good doctor who was experienced with this surgery. It took a lot of time to compare the skills of the surgeons who carry out these procedures. After all, I was still 130 kg at the time of my first surgery and even as a layperson, I knew that this kind of weight meant a higher risk. I was often told that I had to lose 30 kg before the surgery was possible. Then I found a doctor who did not require me to lose any more weight, and the anesthetist was also fine with it. What a relief to have a doctor – after five decades – who did not put any pressure on me, who knew that this diseased fat cannot be eradicated with exercise or diet, but only with surgery. The WAL method was then used for my surgery. The surgeon explained to me that this is a less invasive surgical method that is gentle and suitable in particular for patients with very pronounced symptoms. A total of 28.6 liters of diseased fat and more than two kilograms of tissue were removed from my legs in five surgeries. I have been pain-free since the first surgery, and since the second surgery I can walk without the cane that I had been using for seven years. Almost all of my life had happened within my own home for so many years. Everything has changed completely since the surgeries! I am moving around all day and I am hardly ever at home. At the age of 67, I have literally gotten a new lease on life! In November 2017, I founded the North-Swabian self-help group LilyPut for people who suffer from lipedema and lymphedema. We are a very active group and see it as our goal to support each other with information that makes our lives with this condition more bearable. In summary, I can say that the decision to have the surgeries was the best I have ever made, because as the pain went away, I got my quality of life and vitality back! I am so happy and grateful!

(M. Biesenbach, 67 years)

My new life with lipedema



IMPRINT

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For questions about the WAL procedure, please contact lipoedem@humanmed.com.

Please do not hesitate to contact us.

Legal disclaimer

This brochure focuses on of the surgical methods available on the market: The water-jet assisted liposuction (WAL) procedure from Human Med AG. The content shown here is provided solely for information purposes. The text does not claim to be complete nor can a well-balanced presentation of the information be guaranteed, The text is in no way a substitute for specialist advice from a physician or pharmacist and must not be used as a basis for self-diagnosis or for starting, changing, or ending treatment of a medical condition. Always consult a trusted physician about any health questions or symptoms!

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LEADING IN WATER-JET TECHNOLOGY



Building on a long success story in the fields of general surgery, urology, and neurosurgery, Human Med AG started working in the areas of plastic surgery, reconstructive surgery, and regenerative medicine in 2004.

As the innovator of the medical water-jet technology, Human Med AG are leading in their field and are the world's largest manufacturer of WAL-based medical devices for liposuction.

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