Publications on liposuction and lipofilling

1. **Safe and controlled removal of unwanted fat – Reduction of surgery time by 40%**
   Taufig, A. Z.: Water-Jet Assisted Liposuction. In: Liposuction – Principles and Practice. Springer 2006; 326 - 330.

2. **Less pain and side effects – faster recovery**
   Araco, A., Gravante, M.D., Araco, F., Delogu, D., Cervelli, V.: Comparison of Power Water-Assisted and Traditional Liposuction: A Prospective Randomized Trial of Postoperative Pain. Aesth. Plast. Surg. 31: 259 – 265; 2007.

3. **Precise body contouring – less pain – less absorption of tumescent solution – Local anesthesia**
   Man, D.; Meyer, H.: Water Jet-AssistedLipoplasty. Aesthetic Surgery Journal; May/June 2007, 342 – 346.

4. **Lipoedema – atraumatic liposuction – high fat cell viability**
   Stutz, J.J. D. Krahl: Water-Jet Assisted Liposuction for Patients with Lipoedema: Histologic and Immunohistologic Analysis of the Aspirates of 30 Lipoedema Patients. AestheticPlastic Surgery (2009)33: 153 - 162.

5. **Breast augmentation – permanent volume maintenance of up to 87 % - MRI controlled**
   BEAULI ™ – eine neue Methode zur einfachen und zuverlässigen Fettzell-Transplantation. HandchirMikrochir Plast Chir 2010; 42: 379 – 385

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   G.H. Sasaki: Water-Assisted Liposuction for Body Contouring and Lipoharvesting - Safety and Efficacy in 41 Consecutive Patients.

8. **Fat transfer for volume filling after removal of silicone implants**
   Klaus Ueberreiter, Ursula Tanzella und Felix Cromme: Autologe Fettgewebstransplantation als Salvage-Verfahren nach Kapselkontraktur von Brustimplantaten. Aus: von Heimburg – Lemperle: Ästhetische Chirurgie 26. Ergänzungslieferung, September 2011

9. **Breast augmentation using the BEAULITM method**
   D. P. Münch: Brustaugmentation mit autologem Fett – Erfahrungen aus 96 Operationen mit der BEAULITM – Methode. HandchirMikrochir Plast Chir 2013; 45: 80 – 92.

10. **Gynecomastia treatments using WAL**
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11. **Breast augmentation with fat harvested by WAL with or without stem cell enrichment**
    H. Peltoniemi , A. Salmi, S. Miettinen et al.: Stem cell enrichment does not warrant a higher graft survival in lipofilling of the breast: A prospective comparative study. Journal of Plastic, Reconstructive & Aesthetic Surgery (2013) 66, 1494 - 1503.

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14. **Using WAL for reconstructive and esthetic breast augmentation**
    M. Stabile, K. Ueberreiter, H. E. Schaller, D.L.Hoppe: Jet assisted fat transfer to the female breast: preliminary experiences. European Journal of Plastic Surgery March 2014

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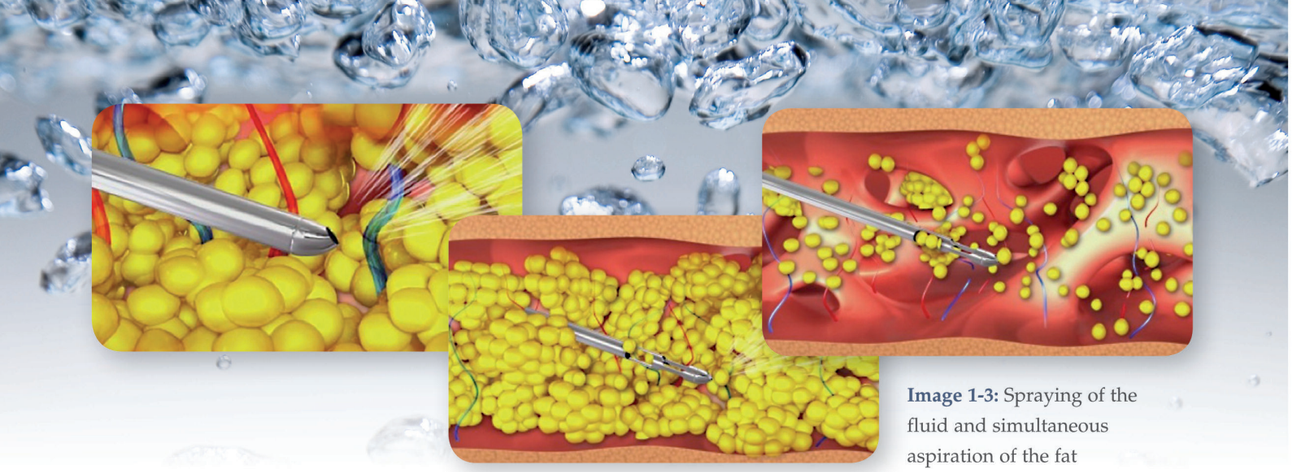


Image 1-3: Spraying of the fluid and simultaneous aspiration of the fat

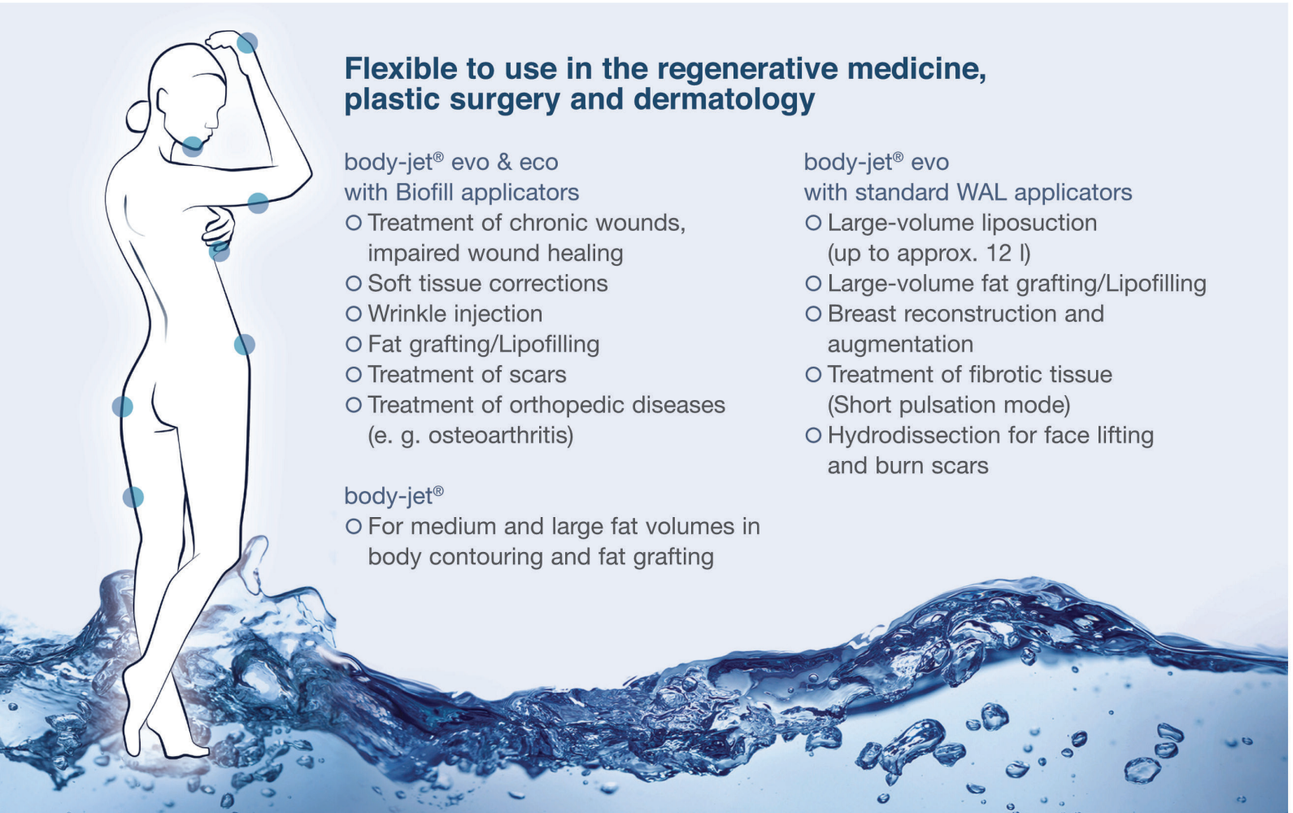
What is WAL?

Using the gentle force of water-jet, the adipose tissue is detached from its surrounding resulting in better preserved fat cells and surrounding tissue. This procedure neither requires the tumescence technique nor a further treatment of the harvested tissue, for example, centrifuging. The harvested tissue can be directly re-injected into the desired body areas.

1. Fast, gentle and effective

The Water-jet Assisted Liposuction and autologous fat transfer (WAL) is the fastest, most gentle and effective procedure in the world. The WAL is not a classical tumescence technique requiring long exposure and waiting times. Although a conventional tumescent solution is used for WAL, this procedure is still not a tumescence technique („tumescere" = Latin for swell) like all other liposuction methods. The purpose of tumescence is to inflate and to destroy the fat tissue by pressure and long exposure of the tumescent solution. This is not necessary in Water-jet Assisted Liposuctions.

As a rule, the WAL method requires very little exposure time during pre-infiltration for initial local analgesia and vasoconstriction.



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- Fat grafting/Lipofilling
- Treatment of scars
- Treatment of orthopedic diseases (e. g. osteoarthritis)

body-jet®
- For medium and large fat volumes in body contouring and fat grafting

body-jet® evo
with standard WAL applicators
- Large-volume liposuction (up to approx. 12 l)
- Large-volume fat grafting/Lipofilling
- Breast reconstruction and augmentation
- Treatment of fibrotic tissue (Short pulsation mode)
- Hydrodissection for face lifting and burn scars

At the same time, the supplied fluid is used as a transport medium for the detached fat cells resulting in significant time savings compared to conventional methods.

The WAL procedure is unique because it is the only method that allows a further administration of analgesics and vasoconstructive agents during surgery using the water-jet. This means that surgeries lasting several hours can be performed without interruptions. The WAL procedure is the method of choice for lipedema treatment and for long-lasting large-volume liposuctions.

The easy pressure setting allows the surgeon to treat soft as well as firmer, fibrotic tissue structures in an optimal manner. The WAL principle is based on the effective, tissue-sparing, three-dimensional water-jet that is used to detach the fat tissue in a fast and atraumatic procedure. For this reason, the WAL virtually causes no or very little hematomas. Unlike the conventional tumescence technique, the WAL allows the surgeon exceptional control during the surgery without pre-inflation of body areas for the ultimate in body-contouring.

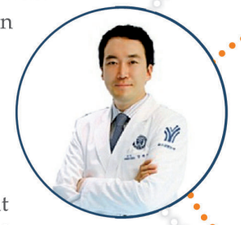
What you see is what you get!

2. Predictable and reproducible

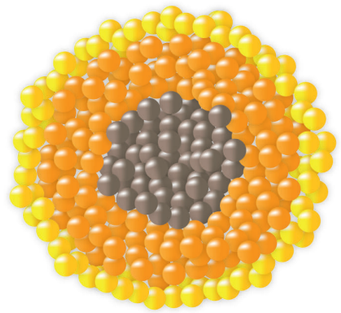
The tissue-sparing water-jet technology ensures the best vitality of harvested fat tissue that is available in the market today. The use of the sterile LipoCollector® system is a cost-effective and efficient way to harvest concentrated and highly viable fat tissue ready for immediate re-injection. As it has been demonstrated, the best results in autologous fat transfer are achieved with the WAL method. The vitality of the harvested fat cells is about 90 %. In a breast augmentation with autologous fat harvested by means of WAL, the amount of the grafted fat permanently remaining in the tissue is up to 87 % (see publications on page 4).

Direct re-injection of the harvested tissue without processing

Besides the high vitality of the fat cells, the optimum size of the clusters harvested with the WAL method are smaller than Ø 1 mm (see picture and 1.) which likely is the reason for high survival rates and excellent lipofilling results. Thus, the oxygen supply of the adipocytes by the surrounding target tissue is guaranteed at all times. The harvested fat tissue has an optimum viscosity and can be easily re-injected without being damaged by shear forces.



Three-zone model of the grafted fat cell formations



Surviving zone
Adipocytes survive.

Regenerating zone
Adipocytes die, but stem cells survive.
Dead adipocytes are replaced with new ones.

Necrotic zone
Both adipocytes and stem cells die.

Adipocyte
Adipocyte
Adipocyte

3. Atraumatic

The WAL method is characterized by fewer side effects and faster recovery of the patients. Studies have demonstrated that the WAL procedure entails significantly fewer side effects, such as hematomas, pain and swelling than other methods. In comparison to conventional procedures, substantially smaller amounts of residual liquid and drugs remain in the patient's body (see publications on page 4).

Source:
Kotaro Yoshimura M.D. et al: The Fate of Adipocytes after Nonvascularized Fat Grafting: Evidence of Early Death and Replacement of Adipocytes. Plastic and Reconstructive Surgery. May 2012; 1081-1092.