

WAL CLINICAL EVIDENCE AND APPLICATION

Review the most relevant research to support the WAL as the best method for achieving sustainable results with liposuction.

All Studies Covering WAL
<p>2006 A. Z. Taufig - Water-Jet-Assisted Liposuction in Liposuction. https://link.springer.com/chapter/10.1007/3-540-28043-X_49 A study evaluating 280 treatments with the water-jet assisted liposuction over 4 years. The author states, that compared to conventional techniques, the surgery time can be reduced by over 40%.</p>
<p>2007 A. Araco et al. - Comparison of power water - Assisted and traditional liposuction: A prospective randomized trial of postoperative pain. https://link.springer.com/article/10.1007%2Fs00266-006-0186-5 A study demonstrating that water-jet assisted liposuction is an almost painless procedure that produces less tissue trauma than traditional liposuction.</p>
<p>2007 D. Man, H. Meyer - Water Jet-Assisted Lipoplasty. https://academic.oup.com/asi/article/27/3/342/217186 A study stating that with WAL, surgeon allowance to work with precision and patient safety and have increased considerably, even in extensive procedures.</p>
<p>2009 J. J. Stutz, D. Krahl - Water Jet-Assisted Liposuction for Patients with Lipoedema: Histologic and Immunohistologic Analysis of the Aspirates of 30 Lipoedema Patients. https://www.springermedizin.de/water-jet-assisted-liposuction-for-patients-with-lipoedema-histo/8244620 A study investigating the safety and long-term improvements of lipoedema patients that had been treated with the WAL technique.</p>
<p>2010 K. Ueberreiter et al. - BEAULI A New and Easy Method for Large-Volume Fat Grafts. https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0030-1267913 A study investigating autologous adipose tissue transfer harvested with the WAL technology with a follow up of up to 30 months. MRI could verify a take rate of 76±11% of the grafted fat.</p>
<p>2011 C. Herold et al. - Is there a Need for Intrapectoral Injection in Autologous Fat Transplantation to the Breast? An MRI Volumetric Study. https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0030-1269931 A study comparing the take rate of grafted fat in the periglandular (81%) versus intrapectoral muscle (65%) with the help of MRI volumetry.</p>
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<p>2014 M. Stabile et al. - Jet-assisted fat transfer to the female breast: preliminary experiences. https://www.springermedizin.de/jet-assisted-fat-transfer-to-the-female-breast-preliminary-exper/8178750 A study investigating WAL for immediate consecutive mammary fat injection, stating it is a procedure with a short hospitalization and low complication rate.</p>
<p>2014 A. Wolter et al. - Sexual reassignment surgery in female-to-male transsexuals: An algorithm for subcutaneous mastectomy. https://www.iprasurg.com/article/S1748-6815(14)00609-3/fulltext A study investigating WAL as one of the methods for mastectomies during female-to-male gender reassignment surgery.</p>
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A study aimed to describe the biological properties of adipose tissue and cells after the collection using WAL in order to preserve a high cell viability, increasing their chances of future use for different clinical application in the field of plastic and reconstructive surgery.

2016 **K. Siennicka et al. - Adipose-Derived Cells (Stromal Vascular Fraction) Transplanted for Orthopedical or Neurological Purposes: Are They Safe Enough?**

<https://www.hindawi.com/journals/sci/2016/5762916/>

A study discussing the use of SVF from tissue harvested with WAL for the treatment of orthopaedic and neurological diseases. The authors did not find any adverse events from the treatments

2016 **S. Yin - Is Centrifugation Necessary for Processing Lipoaspirate Harvested via Water-Jet Force Assisted technique before Grafting? Evidence of Lipoaspirate Concentration With Enhanced Fat Graft Survival.**

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The authors of this article report on their first experience with the use of the water-jet of WAL in facial contouring, fat harvesting, and hydrodissection of the facial skin flap in rhytidectomy in a case series of 25 patients.

2017 **D. P. Münch - Wasserstrahlassistierte Liposuktion zur Therapie des Lipödems. [German]**

<https://link.springer.com/article/10.1007/s12631-017-0083-6>

A study investigating the safety and efficiency of WAL for the treatment of lipedema in comparison to traditional tumescent liposuction.

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A study investigating long term results of autologous fat cell grafting into the female breast after WAL tissue harvest.

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<https://juniperpublishers.com/jojcs/JOJCS.MS.ID.555788.php>

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A study presenting a method of combined autologous fat and split skin grafting in patients with chronic non-healing wounds using adipose tissue harvested with the WAL.

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<https://link.springer.com/article/10.1007%2Fs00266-019-01341-5>

This study assesses the surgical outcome after bilateral subcutaneous mastectomy (BSM) and WAL as treatment for idiopathic gynecomastia.

2019 **S. Taha et al. - Adipose-derived stem/progenitor cells from lipoaspirates: A comparison between the Lipivage200-5 liposuction system and the Body-Jet liposuction system.**

[https://www.jprasurg.com/article/S1748-6815\(19\)30304-3/fulltext](https://www.jprasurg.com/article/S1748-6815(19)30304-3/fulltext)

A study comparing the adipose tissue-derived stem/stromal cells from tissue harvested with the Lipivage200-5 liposuction system and the WAL regarding stem cell characteristics.

2019 **D. Palencar - Adipose derived mesenchymal stem cells harvesting.**
http://www.elis.sk/index.php?page=shop.product_details&flypage=flypage.tpl&product_id=6351&category_id=146&option=com_virtuemart&vmcchk=1&Itemid=1
Comparison of characteristics of adipose tissue-derived stem/stromal cells from tissue harvested with manual liposuction vs. WAL.

2019 **K. B. Reinisch - Autologous lipotransfer for bone defects secondary to osteomyelitis: A report of a novel method and systematic review of the literature**
<https://onlinelibrary.wiley.com/doi/full/10.1111/iwj.13119>
Case report and literature review on the use of WAL harvested adipose tissue for the treatment of bone defects.

2019 **S. Kauhanen - Full breast reconstruction with fat and how to recycle the "dog-ear"**
<https://gs.amegroups.org/article/view/25868/pdf>
Description of a method for full breast reconstruction after mastectomy with adipose tissue harvested with WAL.

2020 **Witte - Water-jet-assisted liposuction for the treatment of lipedema: Standardized treatment protocol and results of 63 patients**
<https://www.sciencedirect.com/science/article/abs/pii/S1748681520301194>
Study on the treatment of patients with lipedema with WAL and a thorough description of the applied treatment protocol.

2021 **C. S. Ueberreiter - Long-term evaluation after autologous fat transplantation for breast augmentation**
<https://www.thieme-connect.com/products/ejournals/abstract/10.1055/a-1183-4338>
5- to 9-year MRI follow-up study on tissue volume retention in patients that had a breast augmentation according to the BEAULI protocol with autologous adipose tissue harvested with WAL

2021 **S. Nomoto - Removal of Aquafilling Using Body-jet.**
https://journals.lww.com/prsgo/fulltext/2021/06000/removal_of_aquafilling_using_body_jet_a.43.aspx
Video publication describing the use of the water-jet from the body-jet to effectively remove encapsulated copolyimide from the breasts of patients experiencing complications after breast augmentation with "Aquafilling".

2021 **M. Spiekmann - Autologous lipofilling improves clinical outcome in patients with symptomatic dermal scars through induction of a pro-regenerative immune response.**
<https://academic.oup.com/asj/article/42/4/NP244/6322562>
Study describing the clinical and histological improvement of symptomatic dermal scars after lipofilling with adipose tissue harvested with WAL.

2022 **A. A. Ghazaleh - Combining reconstructive and ablative surgical treatment of chronic breast cancer-related lymphedema (BCRL)**
<https://link.springer.com/article/10.1007/s10549-022-06778-y>
Study describing a one-stage combination of vascularized lymph node transfer (VLNT) with WAL for the treatment of chronic breast cancer-related lymphedema.

2022 T. P. Seppälä - Chronic Pressure Ulcer Treatment Using a Combination of Stromal Vascular Fraction and Split-Thickness Skin Grafting

https://journals.lww.com/dermatologicsurgery/citation/2022/06000/chronic_pressure_ulcer_treatment_using_a.23.aspx

Case report describing the treatment of a chronic pressure ulcer using regenerative cells from adipose tissue harvested with WAL in combination with a split-thickness skin graft.

2023 P. Homsy - Total Breast Reconstruction with Lipofilling after Traditional Mastectomy without the Use of Tissue Expanders

https://journals.lww.com/plasreconsurg/fulltext/2023/09000/total_breast_reconstruction_with_lipofilling_after.2.aspx

Analyses of hospital records of patients that have undergone total breast reconstruction with autologous lipofilling with adipose tissue harvested with WAL after mastectomy, including MRI.

WAL for Lipedema Treatment

2009 J. J. Stutz, D. Krahl - Water Jet-Assisted Liposuction for Patients with Lipoedema: Histologic and Immunohistologic Analysis of the Aspirates of 30 Lipoedema Patients.

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A study investigating the safety and efficiency of WAL for the treatment of lipedema in comparison to traditional tumescent liposuction.

2018 SMITH - Surgical Management of Lipedema

https://link.springer.com/chapter/10.1007%2F978-3-319-52423-8_57

Book Chapter in "Lymphedema" covering the possibilities for surgical interventions in the treatment of lipedema, addressing WAL as a possibility.

2020 Witte - Water-jet-assisted liposuction for the treatment of lipedema: Standardized treatment protocol and results of 63 patients

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A review summarizing the current knowledge on autologous fat grafting, emphasizing harvesting techniques, and processing methods as well as current trends and approaches.

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<https://link.springer.com/article/10.1007%2Fs00266-019-01341-5>

This study assesses the surgical outcome after bilateral subcutaneous mastectomy (BSM) and WAL as treatment for idiopathic gynecomastia.

2019 **S. Taha et al. - Adipose-derived stem/progenitor cells from lipoaspirates: A comparison between the Lipivage200-5 liposuction system and the Body-Jet liposuction system.**

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2019 **K. B. Reinisch - Autologous lipotransfer for bone defects secondary to osteomyelitis: A report of a novel method and systematic review of the literature**

<https://onlinelibrary.wiley.com/doi/full/10.1111/iwj.13119>

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2019 **S. Kauhanen - Full breast reconstruction with fat and how to recycle the "dog-ear"**

<https://gs.amegroups.org/article/view/25868/pdf>

Description of a method for full breast reconstruction after mastectomy with adipose tissue harvested with WAL.

2021 **S. Nomoto - Removal of Aquafilling Using Body-jet.**

https://journals.lww.com/prsgo/fulltext/2021/06000/removal_of_aquafilling_using_body_jet_a.43.aspx

Video publication describing the use of the water-jet form the body-jet to effectively remove encapsulated copolyimide from the breasts of patients experiencing complications after breast augmentation with "Aquafilling".

2021 **M. Spiekmann - Autologous lipofilling improves clinical outcome in patients with symptomatic dermal scars through induction of a pro-regenerative immune response**

<https://academic.oup.com/asj/article/42/4/NP244/6322562>

Study describing the clinical and histological improvement of symptomatic dermal scars after lipofilling with adipose tissue harvested with WAL.

2022 **A. A. Ghazaleh - Combining reconstructive and ablative surgical treatment of chronic breast cancer-related lymphedema (BCRL)**

<https://link.springer.com/article/10.1007/s10549-022-06778-y>

Study describing a one-stage combination of vascularized lymph node transfer (VLNT) with WAL for the treatment of chronic breast cancer-related lymphedema.

2022 T. P. Seppälä - Chronic Pressure Ulcer Treatment Using a Combination of Stromal Vascular Fraction and Split-Thickness Skin Grafting

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Case report describing the treatment of a chronic pressure ulcer using regenerative cells from adipose tissue harvested with WAL in combination with a split-thickness skin graft.

2023 P. Homsy - Total Breast Reconstruction with Lipofilling after Traditional Mastectomy without the Use of Tissue Expanders

https://journals.lww.com/plasreconsurg/fulltext/2023/09000/total_breast_reconstruction_with_lipofilling_after.2.aspx

Analyses of hospital records of patients that have undergone total breast reconstruction with autologous lipofilling with adipose tissue harvested with WAL after mastectomy, including MRI.