

Human Med Statements	Title Publication	Content of Publication
Surgery times reduced by more than 40% with WAL	Taufig, A. Z.: Water-Jet Assisted Liposuction. Liposuction – Principles and Practice. Springer 2006; 326-330.	<ul style="list-style-type: none"> - Surgery time reduced - Safe and controlled fat removal - Drug-related side effects are not to be expected
Less postoperative pain	Arako et al: Comparison of Power Water – Assisted and Traditional Liposuction: A Prospective Randomized Trial of Postoperative Pain Aesth. Plast. Surg. 31:259_265, 2007	<ul style="list-style-type: none"> - Almost painless procedure as compared with tumescent liposuction
Precision body shaping Local anesthesia 70% less tumescent solution Less swelling Short recovery-time for the patient	Man, D.; Meyer, H.: Water Jet-Assisted Lipoplasty. Aesthetic Surgery Journal; May/June 2007, 342 – 346.	<ul style="list-style-type: none"> - Considerably less intraoperative swelling allows the surgeon to realize the target result with greater precision - 70% less tumescent solution: Compared with the quantity of tumescent solution used in conventional lipoplasty (100%) - General anesthesia or sedation that suppresses consciousness is no longer necessary - Patients recover quickly and return to normal daily activities rapidly
Long-term improvement for Lipedema patients	Stutz, J.J.: Water-Jet Assisted Liposuction for Patients with Lipoedema: Histologic and Immunohistologic Analysis of the Aspirates of 30 Lipoedema Patients. Aesthetic Plastic Surgery (2009)33: 153-162.	<ul style="list-style-type: none"> - Long-term improvement if the operative technique focuses on lymph vessel preservation - After water-assisted liposuction with the body-jet®, the lipocytes in the aspirate are predominantly intact (>70%)
Breast augmentation – permanent take rate up to 87%	Ueberreiter K et al. BEAULI™ – A New and Easy Method for Large Volume Fat Grafts. Handchir Mikrochir Plast Chir 2010; 42: 379 – 385.	<ul style="list-style-type: none"> - The volume control by means of MRI could verify a permanent take rate of 76 ± 11 % of the grafted fat

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<p>No fat processing</p> <p>Excellent fat cell viability for fat transplantation</p> <p>Lower risk for the patient</p>	<p>G.H. Sasaki: Water-Assisted Liposuction for Body Contouring and Lipoharvesting - Safety and Efficacy in 41 Consecutive Patients. Aesthetic Surgery Journal 2011; 31: 76.</p>	<ul style="list-style-type: none"> - Fat harvesting was accomplished by collecting and separating the aspirated adipose tissue in a sterile container” LipoCollector), without need for washing or centrifugation - Fat cell viability 90% - Uptake of Lidocaine lower than with tumescence technique (p. 86)
<p>Fat grafting after silicone implant removal due to capsular contracture</p>	<p>K.Ueberreiter. U.Tanzella, F. Cromme et al.: One stage rescue procedure after capsular contracture of breast implants with autologous fat grafts collected by water assisted liposuction (BEAULI Method). GMS Interdisciplinary Plastic and Reconstructive Surgery DGPW 2013, Vol. 2, ISSN 2193-8091</p>	<ul style="list-style-type: none"> - The procedure included implant removal and lipofilling of the subcutaneous and intramuscular space in a single procedure
<p>Total breast reconstruction in cancer patients</p>	<p>D. Hoppe, K. Ueberreiter, Y. Surlemont, H. Peltoniemi, M. Stabile, S. Kauhanen: Breast reconstruction de novo by water-jet assisted autologous fat grafting – a retrospective study. GMS German Medical Science 2013, Vol. 11, ISSN 1612-3174</p>	<ul style="list-style-type: none"> - A complete breast reconstruction with large volume fat grafting is alternatively possible to standard techniques
<p>WAL breast augmentation & reconstruction operative technique</p>	<p>T. K. Malan: Breast Augmentation and Reconstruction with Fat Transfer. Cosmetic Surgery - Art and Techniques; Shiffman, Melvin A., Di Giuseppe, Alberto (Eds.), 2013, pp 595-603</p>	<ul style="list-style-type: none"> - Explanation of operative technique

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<p>Comparison: Fat grafting (WAL technique) with and without stem cell enrichment</p>	<p>H. Peltoniemi 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, 1494e1503.</p>	<ul style="list-style-type: none"> - H. Peltoniemi concludes that breast augmentation by lipofilling using WAL alone is <ul style="list-style-type: none"> o “faster” o “less expensive” (cost of consumables for Celution was over 3000 Euros for each patient) o “has a lower risk of contamination” o “offers at least the same take rate” as stem cell enriched fat grafting
<p>WAL: sterile closed system</p> <p>Less tumescent fluid</p> <p>Gentle harvesting: low suction force</p> <p>WAL technique gentle to the tissue: avoiding mechanical trauma or thermal damage</p> <p>Less swelling and bloating</p> <p>No fat processing</p>	<p>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</p>	<ul style="list-style-type: none"> - Sterile closed system - Low suction force - Avoiding overly mechanical trauma or thermal damage - Nearly 70 % less tumescent fluid than other - Swelling and bloating are minimized - Neither centrifugation nor additional washing are required
<p>WAL is a very gentle method to collect most viable adipose tissue to separate adipose mesenchymal stem cells</p>	<p>J. Meyer et al. Isolation and Differentiation Potential of Human Mesenchymal Stem Cells From Adipose Tissue Harvested by Water Jet-Assisted Liposuction. Aesthetic Surgery 2015, 1-10</p>	<ul style="list-style-type: none"> - WAL of adipose tissue is well suited for autologous fat grafting because it retains tissue viability - Furthermore it is a valid source for the subsequent isolation of adMSC with multipotent differentiation potential

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<p>The WAL method harvests a most viable high-quality fat for fat transfer</p>	<p>I. N. Vial, J.P. Rubin. Commentary on: Isolation and Differentiation Potential of Human Mesenchymal Stem Cells From Adipose Tissue Harvested by Water Jet-Assisted Liposuction. Aesthetic Surgery Journal 2015, Vol 35 (8) 1040-1041</p>	<ul style="list-style-type: none"> - Meyer et al present strong evidence in a well-conducted study that WAL harvested fat has favorable characteristics for fat grafting
<p>The WAL method harvests a most viable high quality fat for fat transfer</p>	<p>S. Yin et al. Does Water-Jet Force make a Difference in Fat Grafting? In Vitro and In Vivo Evidence of Improved Lipoaspirate Viability and Fat Graft Survival. Plastic and Reconstructive Surgery (2015)</p>	<ul style="list-style-type: none"> - The fate of grafted lipoaspirate was affected by water-jet force - With the assistance of water-jet force during the harvesting procedure, the authors could obtain more viable lipoaspirate and achieve better fat survival
<p>WAL is a very gentle method to collect most viable adipose tissue to separate adipose mesenchymal stem cells</p>	<p>C. Bony et al. Adipose Mesenchymal Stem Cells Isolated after Manual or Water-jet Assisted Liposuction Display Similar Properties. Frontiers in Immunology, Volume 6, Article 655, 2016</p>	<ul style="list-style-type: none"> - The objective of the study was to compare and qualify for clinical use the Adipose Mesenchymal Stem Cells (MSCs) obtained from fat isolated with the manual or the WAL procedure - The data indicated that the fat liposuction procedure does not impact the characteristics or therapeutic function of Adipose MSCs
<p>WAL is a very gentle method to collect most viable adipose tissue to separate adipose mesenchymal stem cells</p>	<p>V. Pupura et al. The Collection of Adipose Derived Stem Cells using Water-Jet Assisted Lipoplasty for their Use in Plastic and Reconstructive Surgery: A Preliminary Study. Frontiers in Cell and Development Biology, Volume 4, Article 136, 2016</p>	<ul style="list-style-type: none"> - The study was aimed to describe the biological properties of adipose tissue and cells. The collection of adipose tissue was performed using the water-jet assisted liposuction 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
<p>WAL in facelift - a safe and useful technique</p>	<p>K. O. Kaye et al. The liquid facelift: First hands-on experience with facial water jet-assisted liposuction as an additive technique for rhytidectomy – a case series of 25 patients. Journal of Plastic, Reconstructive & Aesthetic Surgery (2017)</p>	<ul style="list-style-type: none"> - Extending the range of indications for water jet-assisted liposuction (WAL), the authors of this article report on their first experience with its use in facial contouring, fat harvesting, and hydrodissection of the facial skin flap in rhytidectomy and show that WAL facilitates the three-dimensional facial sculpting, simplifies the surgical elevation of the skin flap, and enhances the fat-taking rate and the predictability of the esthetic outcome