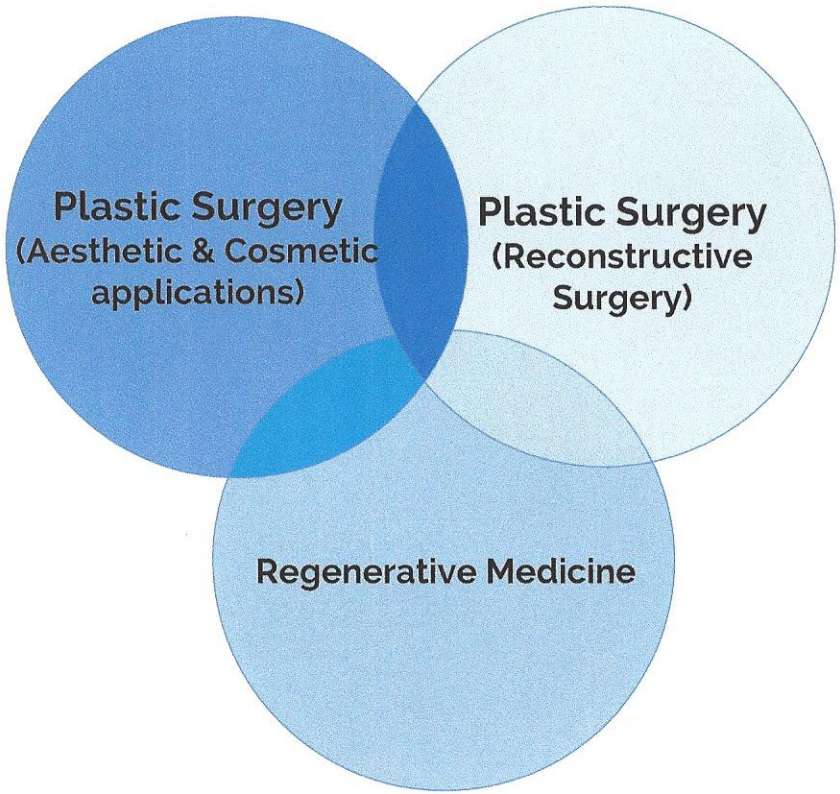
Water-Assisted Fat Harvesting

General field of applications



- ✓ Water-jet technology can be used for a wide range of applications and medical fields

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Water-Assisted Fat Harvesting

General Field of Applications

Lipofilling

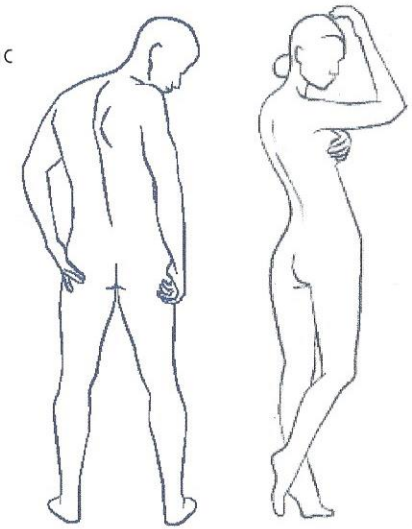
- Hand and face filling
- Soft tissue corrections
- Treatment of radiation and burn scars
- Treatment of chronic wounds
- Breast augmentation
- Composite breast augmentation
- Reconstruction, e.g. breast
- Treatment of funnel chest
- Buttock augmentation

Liposuction

- Body contouring
  - Abdomen
  - Buttock
  - Thighs
  - Calves
  - Upper arms
  - Face
  - Chin
- Lipedema treatment

Hydrodissection

- Facelift
- Gynecomastia
- Sweat gland remc
- Scar treatment



Regenerative medicine using fat or adipose derived regenerative cells:

- Degenerative joint diseases, ...

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Water-Assisted Fat Harvesting
The Method

- ✓ Water-jet spray gently separates different tissue and cell structures
- ✓ Pressure of the fine, fan-shaped water-jet can be adapted to the different connective tissue structures
- ✓ Surrounding subcutaneous fatty tissue, nerves, blood and lymphatic vessels remain undamaged

Water-Assisted Fat Harvesting

Gentle separation of fat cells with water-jet (Hydrodissection)

Hydrodissection = water-jet assisted tissue dissection

- Soft tissue is separated using the adjustable force of the water-jet spray

Benefits

- High tissue selectivity
- Minimal tissue trauma
- Shortest possible recovery time
- Blood, nerves, lymph vessels and fibrin-rich structures are preserved

Water Assisted far Harvesting

Advantages

Water-Jet is different!

- ✓No tumescence technique used!
  Water-jet uses hydrodissection (spray)
- ✓No change of cannulas for spray/aspiration!
  A '2-cannulas-in-1 technology' makes this possible
- ✓No post processing of harvested fat!
  Fat is ready for injection after harvesting

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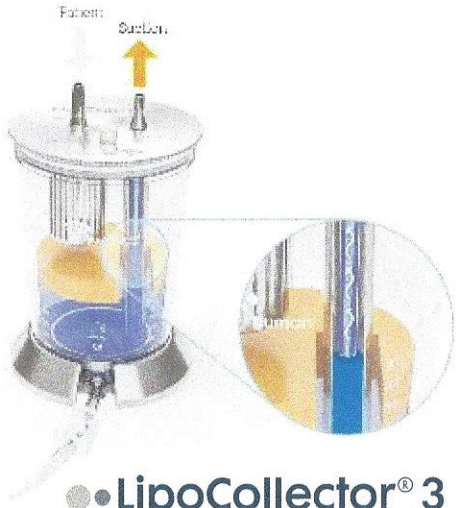
WAL Method Fat Collecting

Keep it simple – no centrifugation of harvested fat

- Automatic fat collection and fluid separation
- Optimal residual water content (~15%)
- Automatic removal of the fluid by the body-jet® vacuum.
- Collected fat is ready for immediate re-injection



LipoCollector® 3

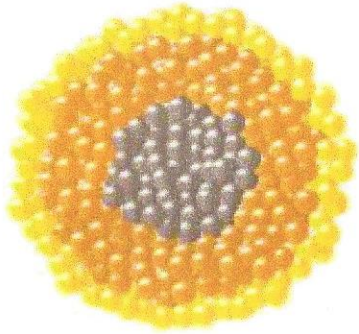
FillerCollector®

Water-Assisted Fat Harvesting

Water-Assisted Fat Harvesting

Micronized Fat – best cluster size

Three-zone model of the grafted fat cell formations



Surviving zone Adipocytes survive.	**Adipocyte**	< 600µm
Regenerating zone Adipocytes die, but stem cells survive. Dead adipocytes are replaced with new ones.	**Adipocyte**	Up to 1.200µm
Necrotic zone Both adipocytes and stem cells die.	**Adipocyte**	> 1.200µm

(* 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.)

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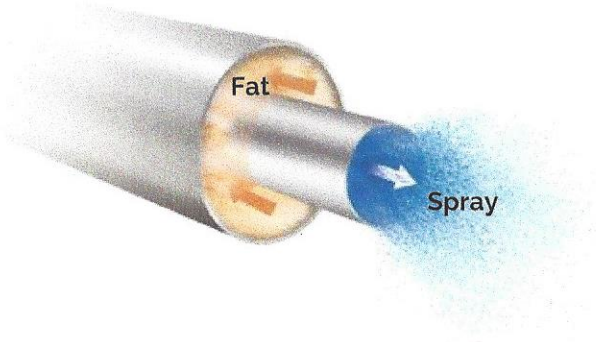
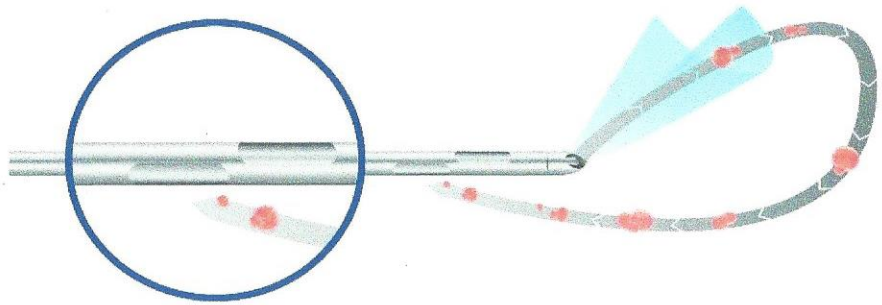
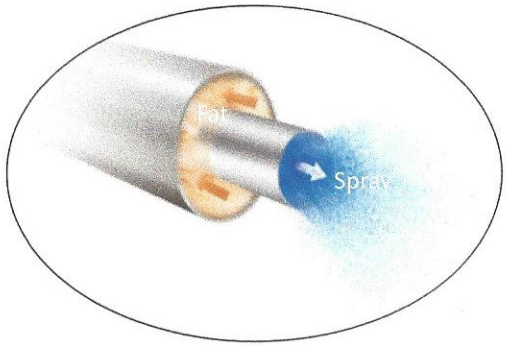
Water-Assisted Fat Harvesting

The Method – Micronized Fat

Two cannulas in one
One irrigates water – One aspirates fat





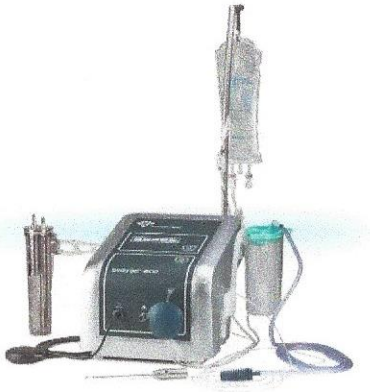


Micronizing
With two cannulas in one

Micronized Fat

Unique Technology

For fat harvesting & collecting in
Regenerative Medicine



Harvesting

Collecting

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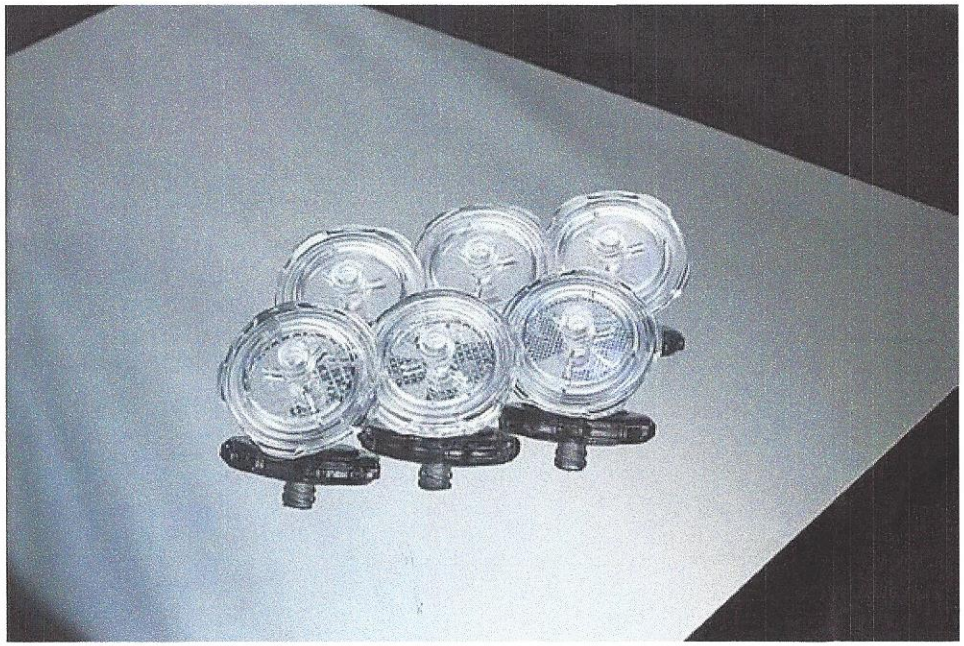
Water-Assisted Fat Harvesting

The Method – Micronized Fat

- **Micronizer (optional)**
  - Cluster size down to 300-400 µm (small cluster are more effective
  - Just 2 steps necessary with WAL fat (1.2 mm and 300-400 µm)
  - Micronized fat can be injected through very fine needles



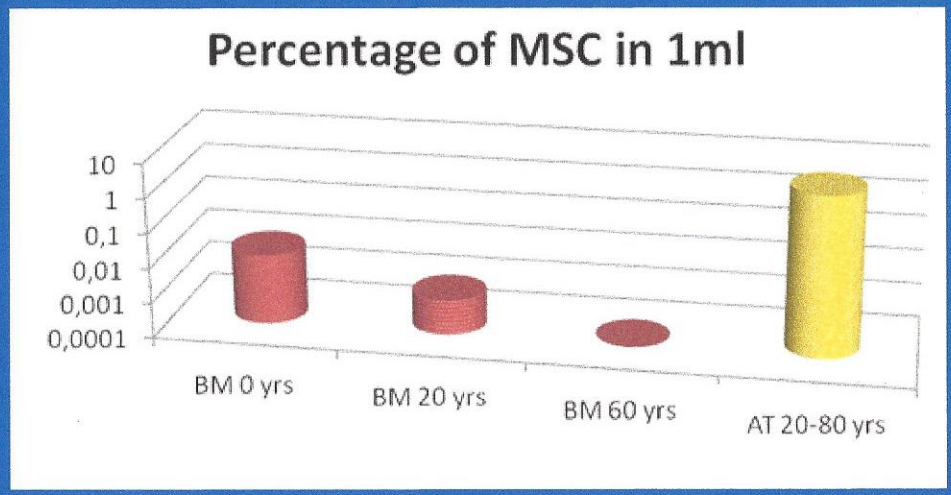
Regenerative Medicine

Isolation of Regenerative Cells

Why using fat?

1ml of bone marrow (BM) contains
- 0.01% MSC In newborn bone
- 0.001% MSC in a 20 year old adult
- 0.0001% MSC in a 60 year old adult

1ml of adipose tissue (AT) contains
1-5% MSC
in 20-80 years old adults



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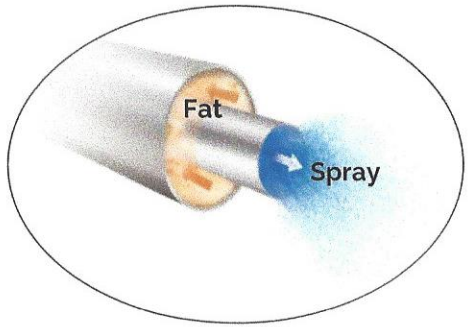
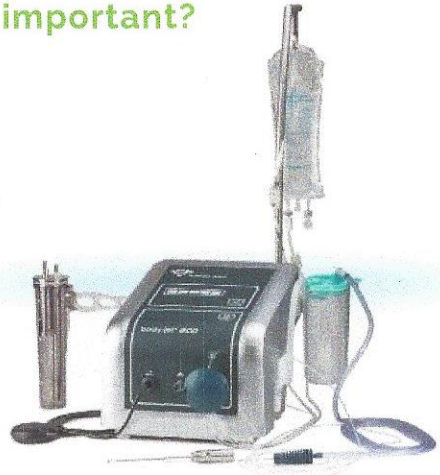
(Aust et al.: Yield of human adipose adult stem cells from liposuction aspirates. Cytotherapy. 2004;6(1):7-14)
(Strioga et al. Same or not the same? Comparison of adipose tissue-derived versus bonde marrow-derived mesenchymal stem and stromal cells. Stem Cells and Development 2012.)

Regenerative Medicine

- **Designed to harvest MICRONIZED FAT in a closed circuit for in-office regenerative medicine**
  - Easy fat harvesting
  - Small and handy
  - Helps to overcome mental hurdles with 'liposuction'
  - Disposable product line available



- **Effective – why is micronized fat so important?**
  - Highest available viability and
  - Highest regenerative cell yield
  - Harvested fat is ready to inject through very fine needles



Regenerative Medicine

Wound Healing

- Autologous fat injections can heal chronic wounds and ulcer and will save many patients from amputations.
    - Diabetic feet
    - Pressure sores
    - Peripheral vascular disease
    - Chronic scars
    - Post surgical wounds Post traumatic wounds

https://reliasacademy.com/rls/store/browse/productDetailSingleSku.jsp?productId-c464717

Aesthetic / Body Contouring

- Fat Grafting
- Basic needs:
  - Fast
  - Gentle
  - Long lasting results
  - Reusable product line

Body Contouring - Rejuvenation

Face Lift / Lipofilling in face and hands

- Hydrodissection makes face-lifting effective. Micronized fat with WAL ensures an easy lipofilling.
  - Face Lift
  - Lipofilling in face and hands

Before / After

Before / After

Source: Dr. Caruth (USA)

Water-Assisted Fat Harvesting

Largest Clinical Evidence

human med statements	Title Publication	Content publication
Surgery times reduced by more than 40% with WAL	Taufig, A. Z.: Water-Jet Assisted Liposuction. In: Liposuction – Principles and Practice. Springer 2006; 326-330.	- 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	- 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.	- 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 Lipedema: Histologic and Immunohistologic Analysis of the Aspirates of 30 Lipedema Patients. Aesthetic Plastic Surgery (2009)33: 153-162.	- 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.	- The volume control by means of MRI could verify a permanent take rate of 76 ± 11 % of the grafted fat.

Water-Assisted Fat Harvesting

Products

Liposuction devices / tools

Fat collection

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The evo makes a difference

Save time and money

- **Touch Screen:** user-friendly interface
- **Three spray modes:**
  Save time when preparing the surgery field
  Easier to work in fibrous tissue
- **BioFill equipment compatible:**
  Reduce costs when working with low fat volumes
- **LipoCollection Mode** – Automatic cell preventing set up
- **Vacuum electronically controlled** – not to adjust manually anymore
- **Wide help function** – helps the staff to understand the machine

Consumables for All Needs

Fat Harvesting

Fat Collection

Re-injection

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Satisfied Patients

- No need of general anesthesia

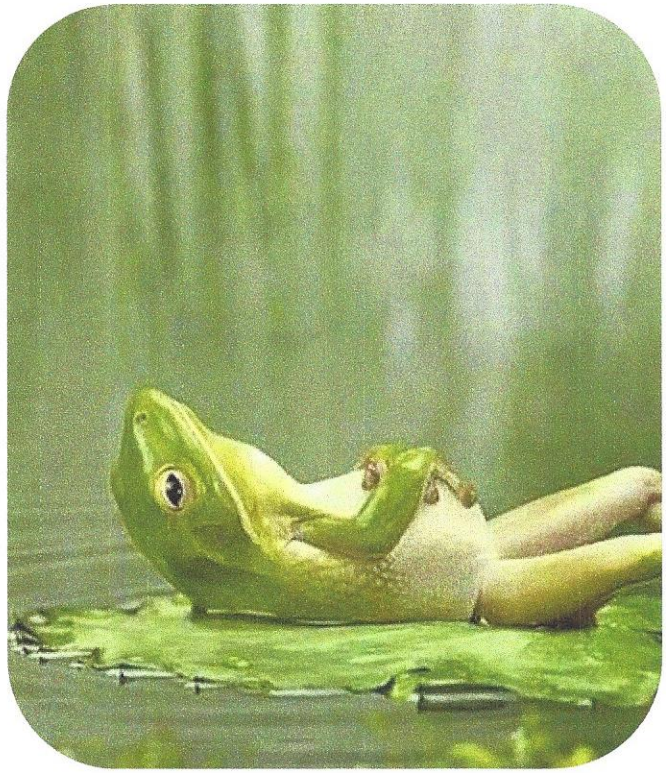
lower risk

- Lowest pain rate for the patient during procedure and after surgery

higher satisfaction

- Very short recovery time

higher comfort



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