



# lipoevolution

NATURAL • ADIPOSE • TISSUE





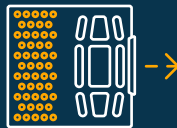
## CLOSED CIRCUIT

Withdrawal of adipose tissue in a syringe and direct insertion into the purification filter through an optional dedicated circuit.



## NEW STRUCTURE

Filter with stable connections and locked valves for an easier, more convenient, and safer procedure.



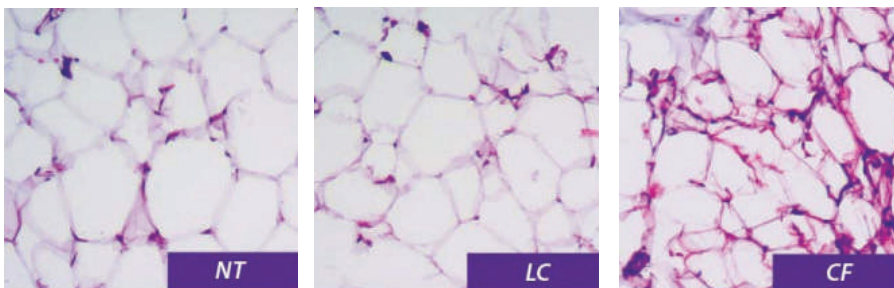
## PATENTED SYSTEM

Sliding fragmentation surface for gradual and homogeneous reduction of adipose tissue clusters.



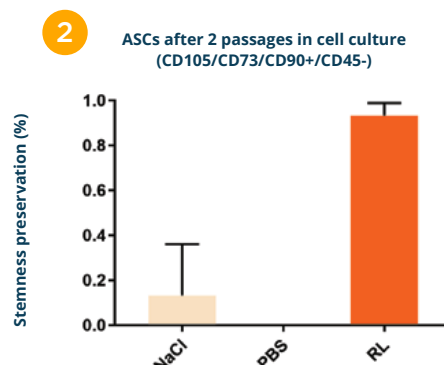
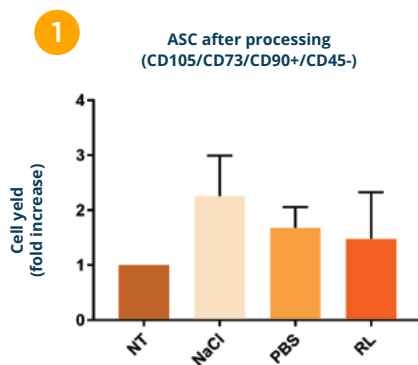
## DEDICATED BRUSH

Easier and more precise brushing of lipoaspirated tissue for a fast and reproducible procedure.



Histology of untreated adipose tissue (**NT**), after **Lipoevolution** treatment (**LC**), after centrifugation (**CF**).

H&E staining shows the maintenance of the integrity of tissue architecture.



ASCs were isolated and counted immediately after **Lipoevolution** processing (**1**) or after collagen culture (2 passages) (**2**). The data show the increase in cell yield (**1**) and stemness maintenance as a percentage (**2**) normalised to the control (untreated lipoaspirate).

NT = Untreated lipoaspirate; NaCl = Wash with saline solution; PBS = Wash with buffered solution; RL = Washing with ringer lactate.

**Lipoevolution** is a system with a semi-permeable membrane capable of **separating adipose tissue** from oily and haematic residues by continuous washing.

Dialysis of the tissue minimizes stress on the cells while maintaining the architecture of the extracellular matrix intact, removing pro-inflammatory oil and blood residues.

**THE END PRODUCT IS PURIFIED ADIPOSE TISSUE REDUCED TO CLUSTERS.**

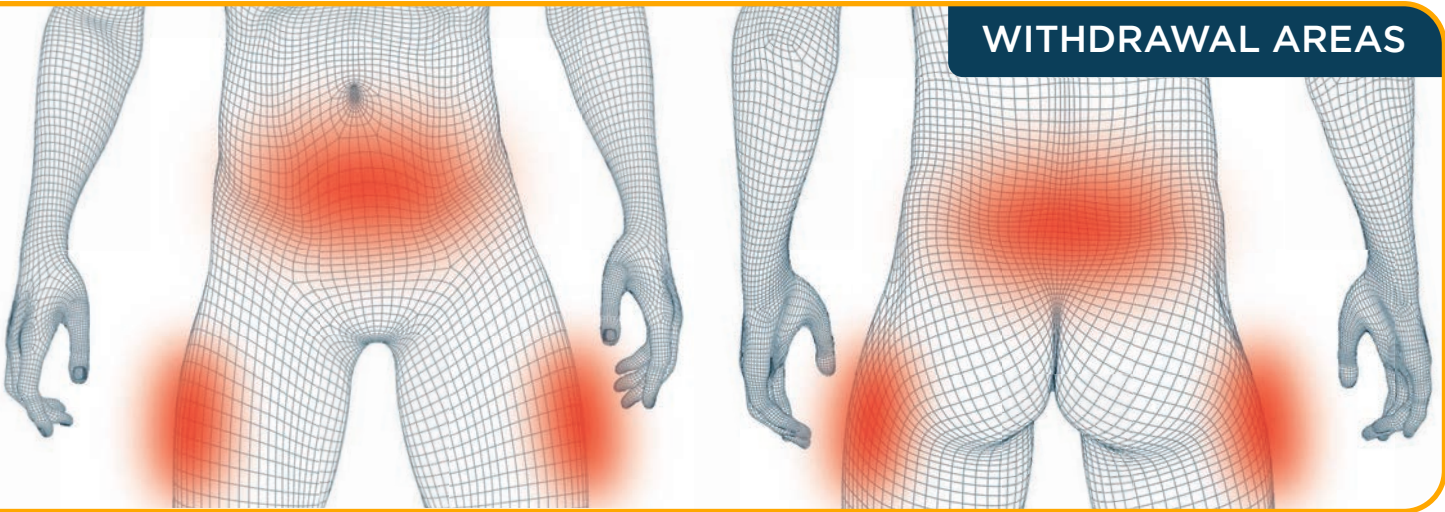
**Lipoevolution**  
enhances  
biological  
properties  
of the  
adipose tissue.



## CHARACTERISTICS

- ✓ **REDUCED MECHANICAL STRESS**  
so as not to alter the biochemical properties of the cells and the integrity of the extracellular matrix.
- ✓ **TOTAL PURIFICATION**  
from blood and oil residues that can potentially induce inflammation.
- ✓ **MINIMAL MANIPULATION**  
of the tissue thanks to a point-of-care technology that can be performed in a single surgical time.

## WITHDRAWAL AREAS



### PREPARATION

The procedure can be performed under local anaesthesia with light sedation if necessary. In the illustration above, possible areas for withdrawal are indicated. The abdominal area is suggested. To access the cannulae, a small incision must be made with the scalpel, after a local injection of lidocaine 2%.

### INFILTRATION

Prepare Klein solution as below. Infiltrate 150-200 mL of solution through the 16G cannula with the syringes provided in the kit. Dispense the fluid into the sampling area in a radial, non-transverse motion, i.e. insert the cannula into the subcutaneous panniculus along its entire length and infiltrate during retrograde motion. Repeat by choosing a new direction. Once finished, wait 10 minutes.

### ASPIRATION

Attach the 13G suction cannula to one of the self-locking syringes. Insert the cannula into the subcutaneous fat and retract the syringe plunger until the suction lock spring is triggered. Then perform back and forth movements along the direction of the cannula to fill the syringe with lipoaspirate.

To perform the procedure completely in a closed circuit, the kit is equipped with a line with a valve that can be connected between the cannula and syringe on one side and to the lipoaspirate inlet port on the other. In this way the valve allows to draw the lipoaspirate by loading it into the syringe and then inject it directly into the device.

### KLEIN SOLUTION PREPARATION

250 ml  
Saline

20 ml  
Lidocaine 2%

0,5 ml  
Adrenaline 1mg/ml



## PROCESSING

1

Place **Lipoevolution** on the operating table and drop the waste bag. Connect the syringe with the liposuction to the "IN" port and insert it into the device's filter bag. Then connect a minimum 500 ml wash bag hanging from a stand to the WASH port.

2

Let the irrigation flow and facilitate the washing of the tissue by repeatedly moving the dedicated brush in several directions with gentle pressure on the bag. Underneath the filter bag, the surface has small and regularly arranged hemispheres promote the fragmentation of the fat tissue into small and homogeneous clusters thanks to the brushing. Continue until the tissue has taken on the typical yellow colouring and the irrigation coming out in the waste tube is totally transparent.

3

Close the irrigation and remove excess wash solution with the help of the brush. Open the drawer to the right of the device. The surface under the filter bag is now completely smooth. Connect a 10 ml syringe to the 'OUT' port of the device and collect the purified adipose tissue with the help of the brush.

The product is then ready for use. You can use the needle in the kit, or other needles with a recommended diameter of 18 or 20G.

## INDICATIONS



ORTHOPEDICS



PAIN THERAPY



WOUND HEALING



RECONSTRUCTIVE  
PLASTIC SURGERY



COLONPROCTOLOGY



GYNECOLOGY



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Reference literature