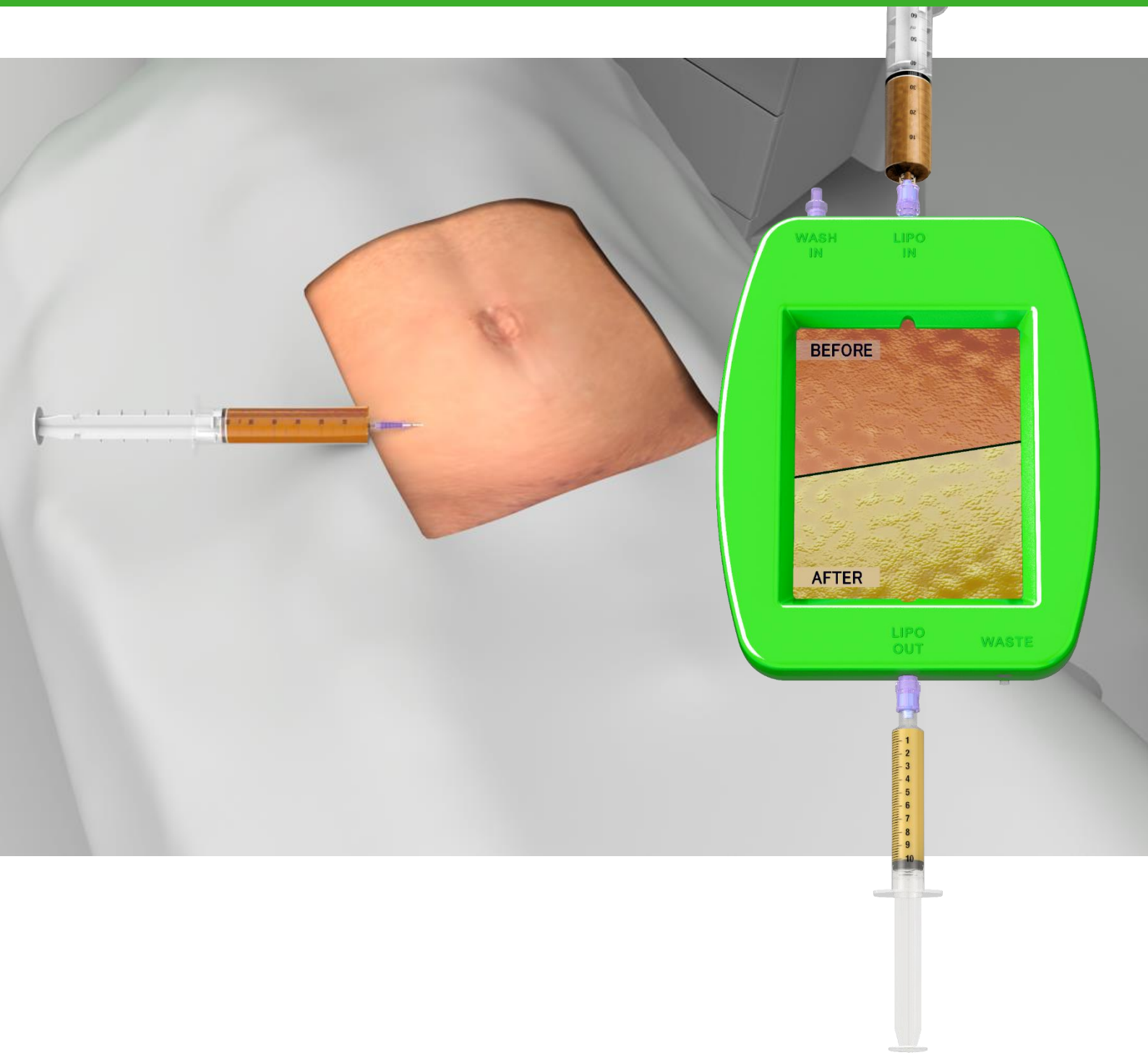
LIPO-STEM

Mesenchymal stem cells collection kit from adipose tissue



Surgical technique

bps medica

Index

Our company

BPB MEDICA™ is an Italian manufacturing company specialized in the design, production and marketing of high qualitative healthcare products for medical use and medical-surgery devices.

BPB MEDICA™ was founded in 1999 by the Bellini family, boasting thirty year's experience in the biomedical sector. The founder, Carlo Bellini Sr., started the business in 1968 and has passed down to his heirs ethics, integrity and spirit of sacrifice. Today BPB MEDICA™ has leveraged its **50 years experience** to develop new innovative product lines, growing the company on international level.

BPB MEDICA's™ philosophy is to grow alongside the needs of patients, doctors and hospital staff in general. Backed by the experience acquired by the company's specialized technical personnel and thanks to newly-adopted technologies, BPB MEDICA™ has quickly managed to make a name for itself on the domestic and international markets.

50 YEARS
EXPERIENCE

70
COUNTRIES SERVED

OUR PRODUCT LINES:

- SPINE SURGERY
- ORTHO-BIOLOGICS
- ASSISTED REPRODUCTION TECHNOLOGY
- INTENSIVE CARE
- BIOPSY

Our company

Cutting department

Molding department

BPB MEDICA™ operates with state-of-the-art production machinery and equipment and **the entire production process is carried out in-house** (from design to final packaging).
As a manufacturing company, beside the traditional business model (BPB MEDICA→DISTRBUTOR), BPB MEDICA™ can also offer **OEM and private label services**.

Clean Room

Thanks to the **internal R&D Department** BPB MEDICA™ conducts constant research in the reference pathologies with an aim to ever better qualifying and improving its production standards and aiding the development of new products.

BPB MEDICA™ provides painstaking service to its clientele and its primary aim is product quality. The **internal Regulatory and Quality Departments** conducts rigorous tests, from the raw materials to the equipment and the finished product. This allowed the company to obtain **CE, ISO 13485** and the establishment registration by **FDA**.

OUR SERVICES:

- **ENTIRE IN-HOUSE PRODUCTION**
- **RESEARCH & DEVELOPMENT**
- **OEM & PRIVATE LABEL SERVICES**
- **MARKETING SUPPORT**
- **INTERNAL REGULATORY AND QUALITY DEPARTMENTS**
- **FOUR WEEKS DELIVERY**

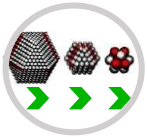
Lipo-Stem

LIPO-STEM is an innovative, closed-circuit, disposable device for collecting, microfragmenting and purifying lipoaspirate, intended for autologous implants without the use of enzymes or centrifuge.

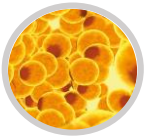
Thanks to a sophisticated system of filtering and washing chambers, LIPO-STEM preserves the entire vascular stromal niche architecture of the lipoaspirate and improves the cells' capacity to respond to regenerative stimuli.

The processing of adipose tissue takes place with minimum handling in one single surgical session, in the operating theatre.

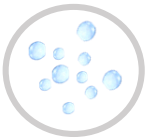
FEATURES:



MICROFRAGMENTATION
progressive reduction of adipose clusters by means of a sophisticated filtering system



TISSUE PURIFICATION
blood- and oil-content complete removal from adipose tissue



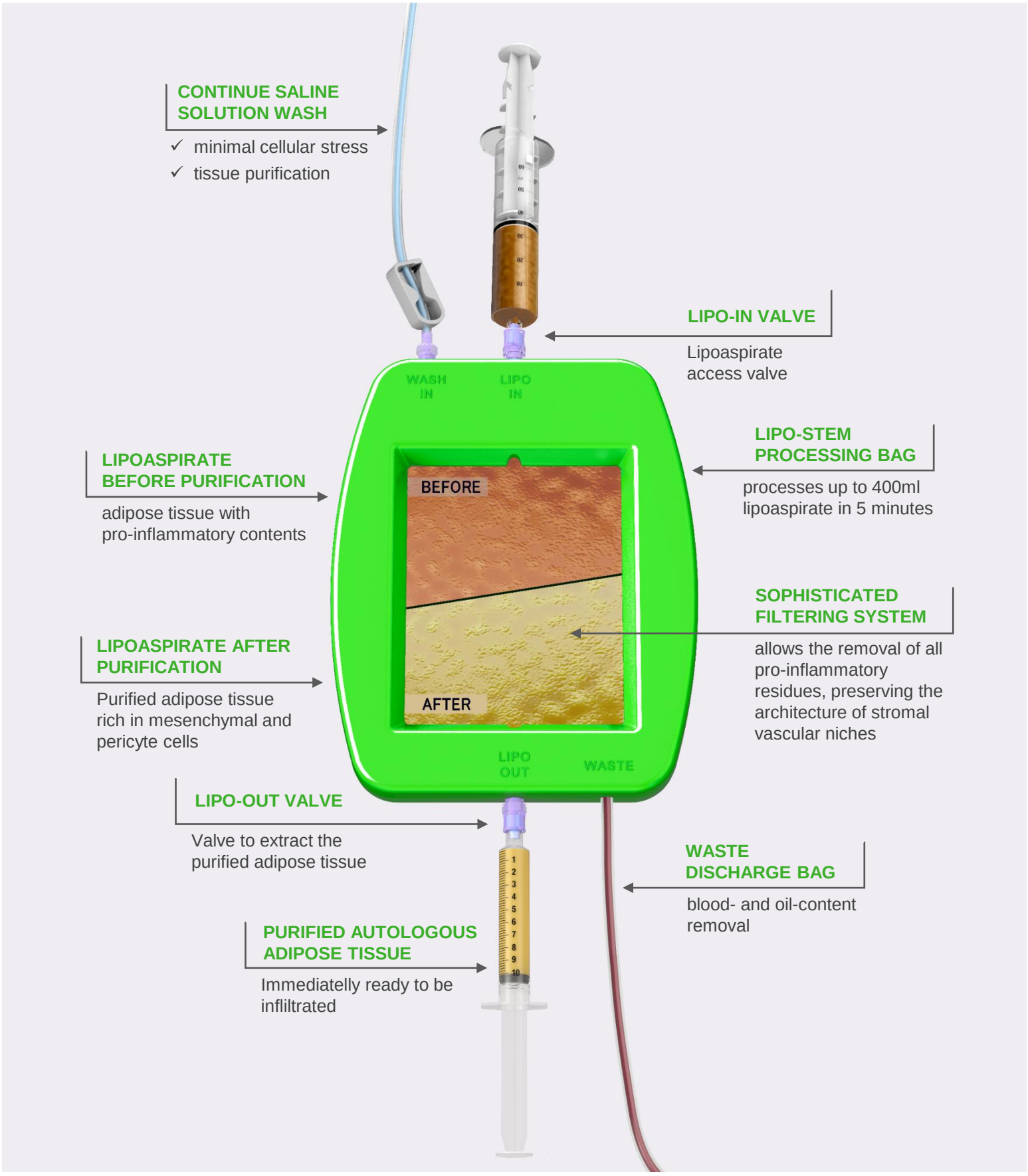
MINIMAL CELLULAR STRESS
immersion in saline solution to minimise cell trauma during fragmentation

HIGH-QUALITY CELLS
maintenance of the architecture of stromal vascular niches, rich in mesenchymal and pericyte cells.

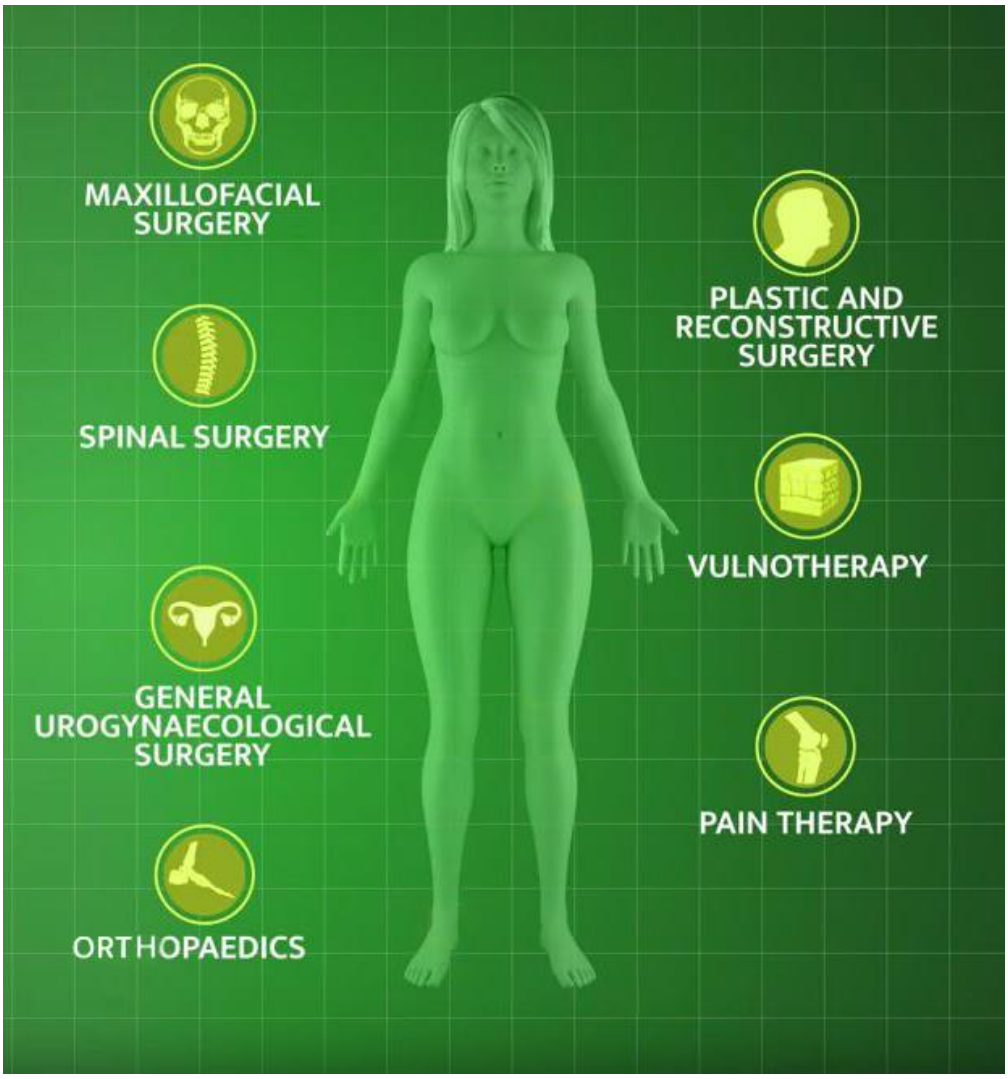
The gradual reduction of adipose clusters results in a vital natural scaffold that can be vascularized, which, thanks to widespread cellular dissemination, facilitates the physiological regenerative process tissues.

The resulting product is an autologous adipose fluid tissue transplant that can be easily infiltrated into the site to be treated using small-diameter needles.

How does it work?



FIELDS OF APPLICATION



FIELDS OF APPLICATION

LIPO-STEM can be used in the following indications:

- ORTHOPAEDICS
- MAXILLOFACIAL SURGERY
- SPINAL SURGERY
- PAIN THERAPY
- VULNOTHERAPY
- PLASTIC AND RECONSTRUCTIVE SURGERY
- GENERAL/UROGYNAECOLOGICAL SURGERY

Pre-operative plan

IDENTIFICATION OF THE ASPIRATION SITE

Adipose tissue can be aspirated via a small liposuction from the subcutaneous fat.

In the lumbar and abdominal area, it is advised to perform two symmetrical accesses; whilst for the periumbilical, just one access is advised.

Depending on the patient, it may be possible to select other alternative aspiration sites, such as the trochanteric adipose tissue, to be carried out via the bilateral or lumbar route.

OR AND PATIENT SETTING

- Position the patient on the surgical bed according to the selected aspiration site and proceed with the local anesthesia, accompanied by mild sedation.

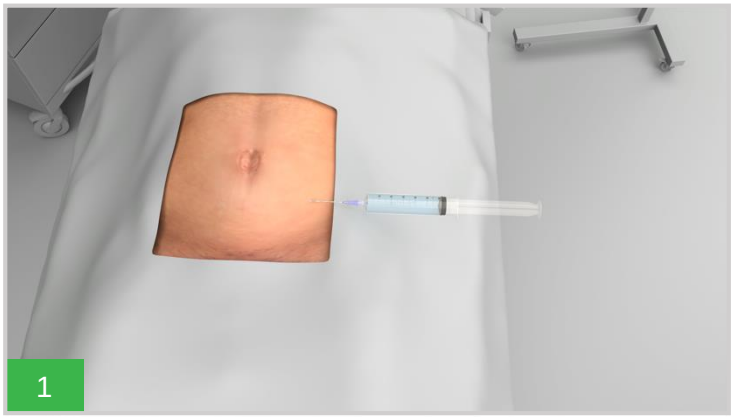
- Prepare the Klein solution: causes a temporary vasoconstriction to reduce bleeding and allows to create the tumescence necessary for the liposuction.
  Fill a sterile bowl with:
  - 20 ml of 2% lidocaine
  - 0.5 ml of 1mg/ml adrenaline
  - 250 ml of saline solution

- Infiltrate about 150-200 ml of Klein solution; to obtain a lipoaspirate of more than 60ml, infiltrate a larger volume of Klein solution maintaining the ratio of 3:1 (infiltrate: lipoaspirate).

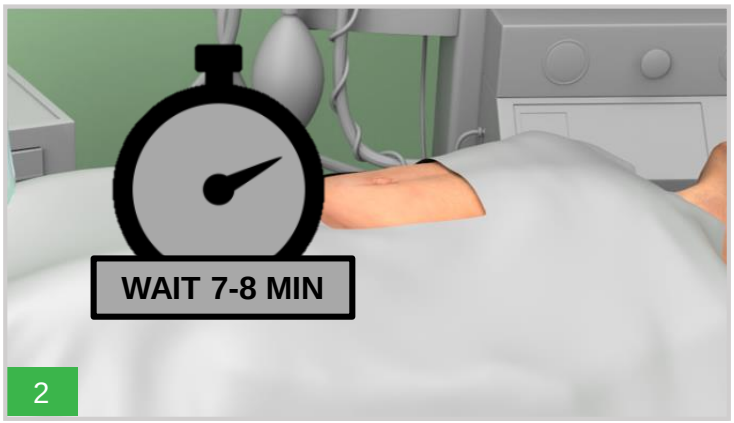
If the planned amount of lipoaspirate exceeds 60ml it is necessary to proceed with a bilateral approach.

Surgical technique

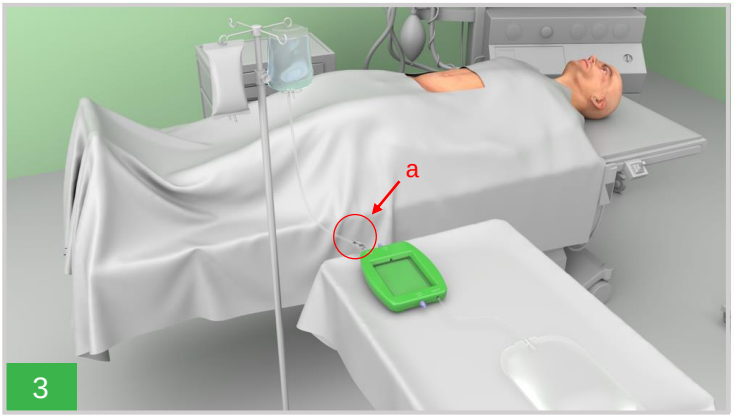
Keeping the naval as a point of reference, make a small incision in the abdominal area to facilitate the insertion of the cannulas.



- Fill 60ml syringe (with a 16G infiltration cannula) with Klein solution and insert it into the abdomen through the incision *(fig.1)*. It is also advisable to place one hand on the abdomen to exert mild pressure.
- Infiltrate the solution, moving a slow and continuous circular motion, being careful not to make transverse movements.

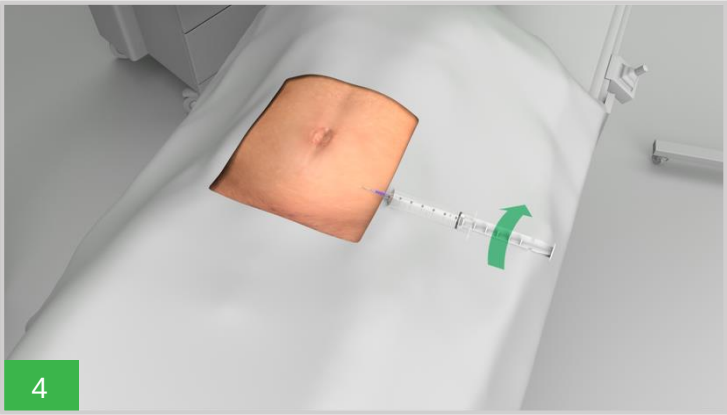


- Wait at least 7-8 minutes from the infiltration before proceeding with the aspiration of the adipose tissue *(fig.2)*.

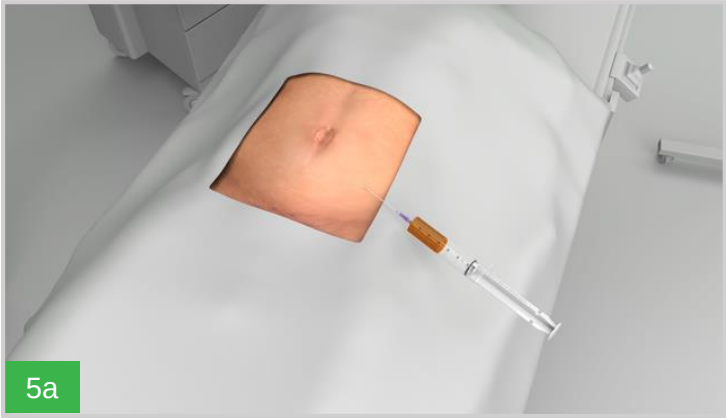


- Hang 2 litres of saline solution to a stand and connect the bag to the device's WASH IN valve *(fig.3)*.
- Open the clamp to fill the LIPO-STEM device with the saline solution, taking care to let all the air out *(fig3-a)*.

Surgical technique



- Connect the lipoaspiration cannula (13G) to a 60ml VacLok syringe.
- Enter through the incision, maintaining pressure on the abdomen with your hand.
- With the cannula inserted in the subcutis, pull the VacLok plunger and rotate it to block the aspiration syringe thus creating a negative internal pressure *(fig.4)*.



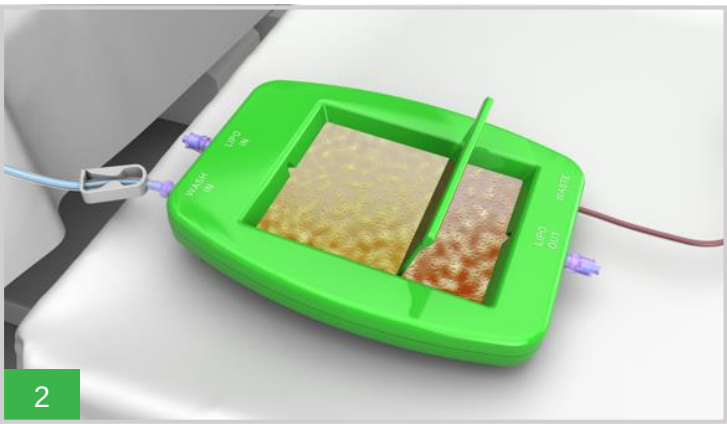
- Proceed to lipoaspiration carrying out constant motions in the same direction of the cannula while avoiding transverse movements *(fig.5-a)*.
- Extract adipose tissue from areas previously infiltrated using fan-shaped movements *(fig.5-b)*.
- Once the planned amount of lipoaspirate has been obtained, remove the cannula from the patient and, if necessary, proceed with the application of the sutures.

If the planned amount of lipoaspirate exceeds 60ml it is necessary to proceed with a bilateral approach.

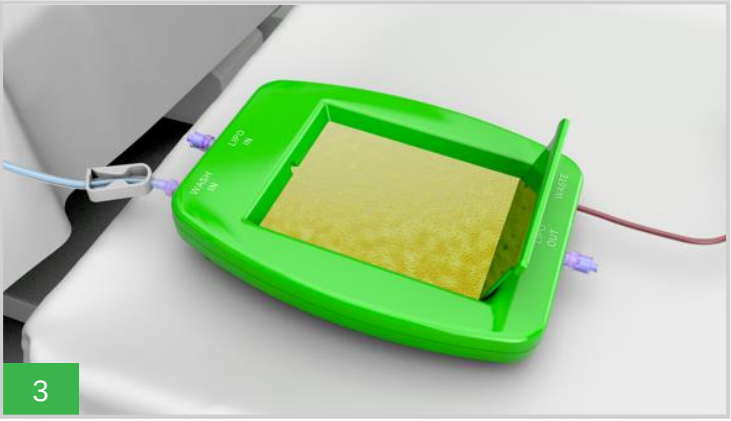
The presence of a plastic surgeon is advised for subjects who are very slim, have scars or previous operations to the abdomen.

Processing

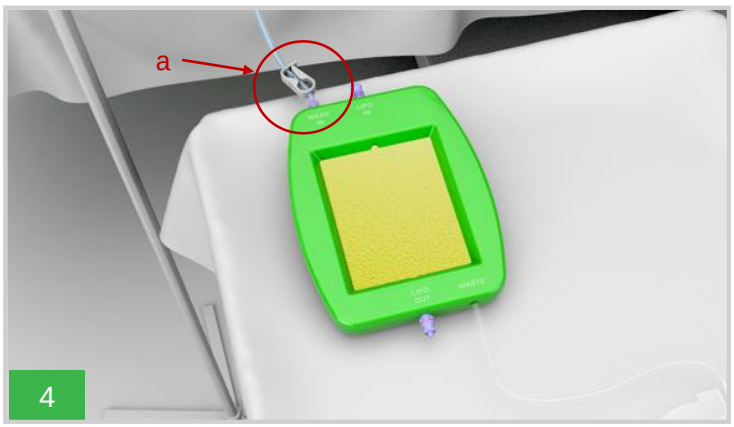
- Introduce the lipoaspirate from the device's ''LIPO IN'' valve previously filled with the saline solution *(fig.1)*.



- Gently move the provided spatula on the filter to microfragment the adipose tissue and facilitate the complete washing of the tissue, eliminating all oily and bloody proinflammatory residues *(fig.2)*.



- Continue until tissue becomes pale yellow *(fig.3)*.



4

- Close the clamp connected to ‘‘WASH IN’’ *(fig.4-a)* to stop the saline solution flow and remove with the help of the spatula any excess solution.


5

- Connect the 10 ml syringe to the device’s ‘‘LIPO OUT’’ valve and withdraw the obtained adipose tissue *(fig.5)*.
- The resulting product is an autologous adipose fluid tissue transplant that can be easily infiltrated into the site to be treated using small-diameter needles.

- At the end of the operation, it is recommended to apply compressive dressings to the patient to limit bruising. A compression garment kept in the middle for a week will limit this phenomenon.

Contact us for further information:

BIOPSYBELL S.R.L.
Via Aldo Manuzio 24
41037 Mirandola – MO
T. +39 0535 27850
F. +39 0535 33526
C.F./P.IVA 02615000367

BPB medica

www.biopsybell.it

Rev.01 del 27-03-2020