Laser Lipolysis
Minimally invasive laser therapy for the reduction of adipose cells and body contouring

- Precise fiber guidance
- Excellent hemostasis
- Noticeable fat reduction and tissue firming
- Cutting, coagulating, vaporizing
- Very versatile
biolitec® lasers in esthetic surgery

Laser lipolysis
“Fat reduction”

With the LEONARDO® Dual 45 diode laser system, biolitec Vista GmbH presents its latest innovation in the field of laser technology for minimally invasive contour shaping: a laser procedure performed in an outpatient clinic under local anesthesia in which, via tiny incisions in the skin, fatty tissue is targeted and gently liquefied and the overlying skin is tightened.

The benefits compared to conventional liposuction are:
__ Improved skin tightening due to the laser stimulating the collagen under the skin
__ Can also be performed in very small areas where the standard techniques are associated with esthetic risks
__ Low blood loss due to the simultaneous laser coagulation of the small blood vessels under the skin
__ Quicker healing and less downtime

biolitec® Vista GmbH is part of the biolitec® Group, one of the world’s leading specialists in the field of medical laser technology and fiber optics. Since 1999, the biolitec® brand has developed new methods and procedures in numerous branches of medicine for the benefit of both patients and doctors. The biolitec® laser systems, which are used around the world, are developed and manufactured exclusively in Germany at the company’s premises in Bonn and are characterized by high quality and safety standards. They are synonymous with easy handling and outstanding therapeutic results.
Mode of action

With laser lipolysis carried out with the LEONARDO® Dual 45, fat cells are liquefied using a very precise laser beam. The energy of the diode laser is converted into heat and this gently dissolves the fat tissue. The capillaries supplying blood and the surrounding connective tissue are also heated during the process. This heating results in immediate hemostasis and, via the regeneration of collagen fibers, leads to a visible tightening of the subcutaneous connective tissue and skin.

The described effect on the tissue is achieved by means of an indication-specific combination of wavelengths – for instance, a wavelength of 1470 nm produces the optimum conditions for efficient vaporization of the fat tissue and for tightening the overlying connective tissue. Coagulation of the blood vessels, on the other hand, is achieved by using a complementary wavelength of 980 nm.

Laser beam absorption in hemoglobin and water

Absorption of light in the different dermal layers

Source (Fig.2-4): Salomatina et al.: „Optical properties of normal and cancerous human skin...”, J Biomed Opt. 2006 Nov-Dec;11(6):064026
Outpatient treatment

Laser lipolysis with the LEONARDO® Dual 45 can be performed in an outpatient clinic. The procedure involves a tumescent local anesthetic (TLA) being injected in advance at the operating field. Only tiny incisions in the skin are required for the intervention itself to enable the optical fibers to enter the tissue to be treated. The fat cells are targeted and liquefied there by a controlled and precise emission of laser energy. The position of the optical fibers is controlled at all times by the pilot beam shining through the skin. The liquefied fat is – depending on the size of the area to be treated – disintegrated naturally or extracted manually by means of suction. After treatment, the incisions in the skin are not sutured but are simply covered with a thin strip of adhesive bandage.

Outstanding treatment results
Laser lipolysis using the LEONARDO® Dual 45 achieves outstanding cosmetic results. The thermal effect of the laser causes the skin to gradually adapt smoothly to its new substructure. As an adult’s fat cells at the treatment site do not reform, the results are permanent – in terms of both the reduction of the fat tissue and the optimization of body shape.

Low risk and only minor side effects
As a general anesthetic is not needed, the procedure is even safer. The obliteration of the small blood vessels caused by the laser promotes post-operative healing. This means that pain, bruising and swelling are all much less in evidence compared with conventional liposuction. They will normally have completely faded within the first week.

Applications for fat reduction and tissue firming

- Upper eyelid ("blepharochalasis")
- Lower eyelid ("lacrimal sacs")
- Cheeks ("chubby cheeks")
- Chin ("double chin")
- Neck ("turkey neck")
- Upper arm ("arm flab", "batwings")
- Breast ("breast lift")
- Abdomen ("belly fat")
- Back ("flank fat")
- Hip ("love handles")
- Bottom ("cellulite")
- Thigh (inside and outside, "saddlebags")
- Lipoedema
- Knee ("sagging knee fat")
Expansion of the treatment spectrum

Whether in the operating room of a large hospital, in an outpatient surgery center or in private practice, the use of the LEONARDO® Dual 45 significantly expands treatment options for the doctor.

For instance, laser contour shaping with the LEONARDO® Dual 45 is especially suitable for smaller and more sensitive areas of fat that standard liposuction has hitherto been only able to treat to a limited degree. These include treatment for cheek fat, double chins, the upper abdomen, upper arms and the knee area.

It is also ideally suited for treating benign adipose tumors, also called lipomas, and skin dimples, also called cellulite.

Benefits

- Less post-operative swelling of the tissue
- Very little bleeding during the operation
- Clear view of the operation site
- Minimal side effects from the operation
- Outpatient treatment with local anesthetic possible
- Short rehabilitation time
- Optimum protection of the surrounding tissue
- Long-lasting tissue firming
- Few complications and only minor side effects
- Almost no risk of infection
- Practically no scarring
- No post-operative bleeding or edema formation (as a rule)
Easy handling

The LEONARDO® Dual 45 diode laser system is characterized by its compact and user-friendly design.

2D Power ControlTM
The intuitive 2D Power ControlTM system of the LEONARDO® Dual 45 enables the user to combine different wavelengths and power settings with just a single touch of the screen.

New fiber plug
The new fiber plug can be connected with the laser by simply plugging it in. For even greater patient safety, the fiber plug is equipped with an electronic signature. This prevents the use of unsuitable or expired fibers and the dangers associated with the latter.

Benefits

Versatile and universal
- Broad spectrum of minimally invasive therapeutic laser applications

User-friendly
- Intuitive use via touch screen, quick setup
- Choice between pre-set modes and individual settings
- Choice between green and red pilot beam

Cost-effective
- Two wavelengths in a compact and space-saving diode laser system
- Due to the compact design and mobility, the LEONARDO® Dual 45 is flexible in terms of use – both in the operating room and in private practice
- Low maintenance costs due to reliable laser diodes
**LEONARDO®**

**Technical Details**

**LEONARDO® DUAL 45**

**REF**
SL980 + 1470 nm 45 W

**Wavelength**
980 nm and 1470 nm

**Power max.**
45 Watt (1470 nm / 15 Watt + 980 nm / 30 Watt) separately adjustable

**Fiber diameter**
≥ 360 μm

**Aiming beam**
532 nm and 635 nm, green 1 mW, red 4 mW, user controlled intensity

**Treatment mode**
CW, Pulse Mode, Derma Mode

**Pulse duration /-break**
0.01 – CW / 0.01 – 60 sec

**Power supply**
110 – 240 VAC, 50 / 60 Hz, 450 VA

**Dimensions (H × W × D)**
approx. 28 cm × 37 cm × 9 cm

**Weight**
approx. 8.5 kg

All laser sets include 3 safety goggles, foot switch, interlock connector, power cord and manual in a carrying case.

**Fibers (“single use”) and resterilizable hand pieces**

Uncoated fiber ends with ca. 200, 400, 600 and 1000 μm diameter

- "Cylindrical Tip"
- "Globular Tip"
- "Sharp Tip"

Hand pieces with interchangeable optics for external use

Solid beam diameter ("spot sized") with ca. 0.6, 1.0 and 1.5 mm
Contact us
to learn more about a whole new world of minimally invasive laser therapies

Esthetic surgery and Ophthalmology are offered by biolitec Vista GmbH.
For all other therapies, please contact biolitec biomedical technology GmbH.