



Body Shaping Glossary

Abdominoplasty (also called a tummy tuck) is a procedure in which fat and skin are removed from the middle and lower abdomen and the abdominal muscles (rectus abdominis) are tightened, giving the individual a firmer abdomen. This procedure is often done on women whose abdominal muscles and skin have been stretched and lost elasticity due to multiple pregnancies. It is also done for purely cosmetic reasons to counteract the effects of aging. Occasionally, abdominoplasty is a medical necessity for individuals who have lost huge amounts of weight; In these individuals, the skin at peak weight became stretched to the point at which it will never be elastic enough to fit the new, smaller contour of the body after weight loss and needs to be removed surgically.

Flankoplasty and thigh lift or **thighoplasty** are similar procedures to remove excess fat and skin from sides of the abdomen and the thighs.

Body contouring is the removal of excess fat and/or skin from the body to achieve a more natural or cosmetically desirable shape. Most body contouring procedures are elective surgery done for cosmetic reasons. Body contouring includes a number of different procedures, some surgical and some less or non-invasive.

Cavitation is a phenomenon induced by ultrasound. The vibration of positive and negative alternation of sound waves produces a strong pressure on fat cell membranes: The ultrasound field produces bubbles in the liquid, which gradually grow, and implode at certain size. The energy in the form of heat (minor effect) and pressure wave (major effect) is released. As the membranes of fat cells do not have the structural capacity to withstand the vibrations, the effect of cavitation easily breaks them, while sparing the vascular, nervous and muscular tissue.

Cellulite is a topographic skin change that occurs in most post-pubertal females whether they are thin or overweight. It presents as a modification of skin topography evident by skin dimpling and nodularity that occurs mainly in women on the pelvic region, lower limbs, and abdomen, and is caused by the herniation of subcutaneous fat within fibrous connective tissue, leading to a padded or orange peel-like appearance. Cellulite can occur in women of all ages and tends to become more visible with age as over time the skin loses its thickness and thereby enhances the visibility of the unsightly cellulite bumps.

Cryolipolysis is the non-invasive cooling of adipose tissue to induce lipolysis - the breaking down of fat cells

Endermologie is a non-invasive technique for reducing the appearance of cellulite. It uses and suction to redistribute the skin and remove dimpling. Those opting for endermologie usually need about 14 to 28 sessions of about 45 minutes each to see results and must also have monthly treatments afterwards to maintain the smooth skin look.

Fat metabolism – Fat released from fat cells after treatments, injury etc. , primarily composed of triglycerides, is dispersed into the interstitial fluid among the cells and then cleared via the lymphatic system and transported through the vascular system to the liver. The liver makes no distinction between fat coming from the procedure and fat originating from consumed food. Both are processed via the body's natural mechanisms. The triglycerides are metabolized by the lipase enzyme into glycerol and free fatty acids. Glycerol is phosphorylated and transported through the vascular system. The 3-free fatty acids are bound to each albumin molecule and transported to the liver. Fat metabolites are processed in the liver in the same manner as fat originating from digested fat. The cell debris is eliminated by phagocytosis.



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Liposuction, or lipoplasty, is a body-contouring technique that is used either alone on small patches of fat or in conjunction with one of the other surgeries mentioned above to help shape and smooth the body. There are several different ways to perform liposuction, including suction-assisted liposuction (SAL), ultrasound-assisted lipoplasty (UAL), fluid injection lipoplasty, and tumescent liposuction. Each technique has advantages and disadvantages. The choice of technique depends on the doctor's preference, the location from which the fat is to be removed, the age and health of the individual, and the individual's cosmetic expectations. Liposuction is designed to be a tool to shape the body and is not a weight loss procedure. It removes fat but does not remove cellulite (reticular dermis).

Fibroblast – A cell that synthesizes the extracellular matrix and collagen, the structural framework for animal tissues, and plays a critical role in wound healing. Collagen is essential for healthy, firm skin.

Fibroblast stimulation – Different methods of stimulating the fibroblast to create collagen for a younger, healthier looking skin.

Focused Ultrasound - Sound waves at the very high frequency of over 20 kHz (vibrations per second). Ultrasound has many medical applications, including fetal monitoring, imaging of internal organs, and, at an extremely high frequency, the cleaning of dental and surgical instruments. sound waves at the very high frequency of over 20 kHz (vibrations per second). Focused ultrasound concentrates most of the energy in the focal area, where the intensity is significantly higher than in the surrounding tissue

Infrared (IR) light is electromagnetic radiation with longer wavelengths than those of visible light, extending from the nominal red edge of the visible spectrum at 0.74 micrometres (μm) to 300 μm . This range includes most of the thermal radiation emitted by objects near room temperature. Infrared light is emitted or absorbed by molecules when they change their rotational-vibrational movements.

IR heating effect - IR light heats the tissue down to the deep dermis. The IR is absorbed in water and blood, and may help stimulating the collagen shrinkage and re-modeling by the heat. The blood vessels are heated only slightly (not to a damage point), just to serve as radiators and conduct the heat around for tightening. IR causes: Skin tightening and increased circulation.

Lipolysis is the breakdown of fat stored in fat cells.

Liposuction also known as lipoplasty or suction-assisted lipectomy, is cosmetic surgery performed to remove unwanted deposits of fat from under the skin.

Pulsed mode – Energy that is delivered in bursts with pauses in between each burst, which allow for heat dissipation avoiding the high temperature rise associated with continuous energy delivery.

Radio frequency (RF) is a rate of oscillation in the range of about 3 kHz to 300 GHz, which corresponds to the frequency of radio waves, and the alternating currents which carry radio signals. RF usually refers to electrical rather than mechanical oscillations, although mechanical RF systems do exist

Radio frequency heating effect – The Bipolar RF heats tissue down to the subcutis and causes heating of fat clusters, reduction of edema and collagenesis promotion.



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Ultrasound is sound waves at the very high frequency of over 20 kHz (vibrations per second). Ultrasound has many medical applications, diagnostic and therapeutic.

Vacuum effect - 90% of vessels are compressed at normal atmospheric pressure, applying negative pressure causing vessel dilation and blood flow increase. Vacuum also enables targeted penetration of RF and fibroblast stimulation.

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