

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 performed 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.

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

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. Cellulite is caused by the herniation of subcutaneous fat within fibrous connective tissue. It occurs mainly in women on the abdomen, hips, thighs, buttocks and arms, 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 the skin loses its thickness over time.

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 vacuum suction to redistribute the skin and remove dimpling. Multiple treatments are required to see results and monthly treatments are needed to maintain smooth skin.

Fat metabolism. After treatments, the fat released from fat cells (primarily composed of triglycerides) is dispersed into the interstitial fluid among the cells, cleared via the lymphatic system and then 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.

Focused ultrasound refers to 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. Focused ultrasound concentrates most of the energy in the focal area, where the intensity is significantly higher than in the surrounding tissue.

Lipolysis is the breakdown of fat stored in fat cells.

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).

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

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