

Cryolipolysis for Non-invasive Body Contouring: Safety and Efficacy



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Introduction

The rise of body sculpting procedures has highlighted the increasing demand from everyday patients seeking effective technology for fat reduction concerns.

A number of non-surgical modalities have been introduced for the non-invasive reduction of adipose tissues, including cryolipolysis, radiofrequency, low-level laser, and high-intensity focused ultrasound (HIFU).

All non-surgical procedures for body contouring either induce fat cell necrosis or apoptosis of the targeted adipocytes to remove unwanted adipose tissues. Whereas apoptosis is a form of cell death that is generally caused by normal, healthy processes in the body, necrosis is cell death that is caused by external factors or disease, such as trauma or infection. Apoptosis, which can also occur as a defense mechanism during healing processes, is almost always normal and beneficial to an organism, while necrosis is always abnormal and harmful.

Cryolipolysis and Apoptosis (Brand Names include: Clatuu Alpha, Coolsculpting, Cooltech)

The principle behind cryolipolysis rests on the premise that adipose cells are more susceptible to cooling than other types of skin cells. The application of cold temperatures triggers apoptosis of adipose tissues. Apoptosis induces adipose cell death without disturbing the membrane of adipose tissues. As a result, this triggers an inflammatory response and leads to slow digestion of adipocytes by surrounding macrophages. The lymphatic system gradually removes the debris of those for the duration of one to three months. At this time, the patient starts to notice the treatment result from treatment.

Cryolipolysis was originally approved by the US Food and Drug Administration in 2010. This came about by accident in 1970 following a scientific study that found children who sucked on frozen popsicles experienced fat shrinkage in their cheeks, forming dimples. Doctors and researchers capitalized on this discovery and

created a machine that reduced fat by freezing it. The cooling method was modified using a device that suctioned up body fat tissue and exposed it to a very low temperature to freeze the fat cells without affecting connecting tissue including the skin (protected by a gel pad).

CLATUU Alpha

CLATUU Alpha (CLASSYS, South Korea) is one of the leading cryolipolysis medical devices and is now commonly used to treat fat in the double chin, flanks, thighs, abdomen, bra fat and back areas and underneath the buttocks with seven applicators and well-controlled cooling technology combined with effective and controlled suction. Recently, Clatuu Alpha introduced innovative types of applicators which apply on double chin and thighs areas. Those applicators are surprisingly well designed to fit with body's anatomical features on intended target areas to achieve optimal results. Clatuu Alpha encompasses dual applicators, which allow us to treat two areas at once along utilizing the world's first patented 360° cooling applicators the most technologically advanced cryolipolysis technology available today for effective fat reduction treatment.

Safety of CLATUU Alpha

Clatuu Alpha has been studied in both vivo and vitro clinical trials in many clinical studies and proves to be safe for all skin types, with no reported pigmentary changes, and is safe for repeated application. Millions of treatments have performed worldwide with no major health risk factors related to the treatment have been reported and there was no reduction in liver function or lipid levels, indicating that Clatuu Alpha treatment is safe. Improved technology allows stable cooling temperature so that it can provide enhanced treatment results in a shorter period of time compared with other conventional methods. On average, 20-30% of permanent fat cell death in treated areas are noted according to vitro and vivo experiment.

Although Clatuu Alpha effectively reduces subcutaneous fat layers, lifestyle and other factors may also play a significant role to achieve optimum results. A person who continues with a poor diet and maintains a sedentary lifestyle while undergoing Clatuu Alpha can expect less fat reduction. Therefore, it is paramount that the patient is encouraged to maintain a healthy lifestyle post-treatment in order to look and feel their best.

Fat freezing results: before & after images (Photos by Body Catalyst)



Area treated: Inner Thighs

Number of treatments: 2 sessions



Area treated: Love Handles

Number of treatments: 1 session



Area treated: Love Handles

Number of treatments: 2 sessions



Area treated: Love Handles

Number of treatments: 1 session



Area treated: Lower Abdomen & Love Handles

Number of treatments: 2 sessions



Area treated: Upper & Lower Abdomen

Number of treatments: 2 sessions