Webinar CPD submission

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Learning objectives

* To learn what is Cryo Technology
* Learn how Cryo technology has been used in aesthetics treatments
* To distinguish between the different cold application modalities on the market
* To see a cryo Sculpting treatment being demonstrated
* To understand the bodies biological effects to targeted cryo stimulation
* To explain what causes Cryo-lipolosis (fat cell death)
* To comprehend how cryo can help with inflammatory skin conditions
* To be shown results that can be expected after treatment

Body sculpting and aesthetic treatments with cryo technology

Synopsis

* To learn what is Cryo Technology

So, what is cryotherapy and what do we mean by cryo technology? The history of using cold stress goes way back to the 1970’s where it was discovered that rapidly cooling the body causes an anti-inflammatory response which would increase the loosening of joints, and muscles and help reduce pain and aid recovery.

When the body is rapidly cooled to below 4oC, the body has a reaction called thermal shock!

This is when the constriction of vessels and muscles slows the blood flow and forces the immune and hormonal systems to respond. Immediately the blood vessels dilate to around four times their usual size. This floods the area with blood, which is rich in oxygen, hormones, nutrients, and activated enzymes. This causes muscles to be more supple and pain to be reduced significantly.

Over the decades continued research and new types of technology into cold stressing the body we have found that there are many, more health benefits. We have found how cold stress can be used to kill fat cells, burn calories, reduce inflammatory skin condition and increase collagen production as well as many other benefits.

It is an exciting field of research, with new technology becoming available that can optimise and apply these temperatures in a safe and repeatable way.

* Learn how Cryo technology has been used in aesthetics treatments

Due to the latest studies into the body’s response to Cryo Stimulation, Cryo technology is now being used in aesthetic treatments. From procedures such as cryo sculpting (Fat freezing), Cryo contouring all areas of the body, cryo facials (frotox) to tighten skin, firming jawlines and treating inflammatory skin conditions such as rosacea, acne, psoriasis and eczema to name just a few.

One UK Company Trucryo has led the way in using cryo technology to expand the range of aesthetics treatments you can do with a single device.

There range of devices are called Kaasen, named after a famous husky dog sledder who had saved an Alaskan village that had an epidemic of diphtheria and was cut off from the medicine due to bad weather in 1925. Gunner Kaasen helped save the village by getting through the dangerous, Icey conditions with his husky dogs to deliver the antidote and save the village.

This Kaasen technology is based upon rapid cooling on the skin surface combined with pressure to deliver many health benefits. The Kaasen device is a handheld technology that uses

liquid carbon dioxide which is filtered and funnelled in the form of a cold spray onto the surface of the skin which then rapidly cools the underlying tissues from around 32°C (90˚F) to 4°C (39˚F).

The rapid cooling and pressure applied to the skin produces a localised thermal shock effect that we call “CryoStimulation”.

The Kaasen device is connected to a cylinder of collected liquid, food grade Co2 via a robust hose. Co2 is your only consumable, it is inexpensive and easy to get delivered from your nearest gas supplier. If you are close to a pub or bar you are close to someone who can deliver gas. The Kaasen device comes with a variety of nozzles to bespoke your treatments depending on the area you are treating and treatment you want to perfom.

The trained aesthetician of the technology maintains the temperature, kept around 0oC throughout the application. This is achieved through their technique when using the device controlling the cooling of the treatment area. The temperature can be monitored on screen by the incorporated sensors within the device and a light is also shone onto the skin which changes colour from white to blue to indicate to the practitioner they are in the optimum temperature zone.

* To see a cryo Sculpting treatment being demonstrated
* To understand the bodies biological effects to targeted cryo stimulation
* To explain what causes Cryo-lipolosis (fat cell death)

When targeting fat cryo technology causes a reaction called cryo-lipolosis (fat cell death).

Fat removal procedures are mostly used in cosmetic surgery to remove unwanted adipose tissue (fat). The optimum temperature for fat cell death is actually just above freezing. Fat is more temperature sensitive than your skin, fat goes through the cell death process before your skin does.

Using the Kaasen device fat cells are never frozen, but rather chilled to the point of triggering fat cell death. Once the fat cells have been destroyed, they gradually break down and are removed by the liver. Apoptosis of fat cells (adipocytes) is initiated when these cells are cooled to the temperatures below +4∘C. A recommended course of 5 or more treatments with a week apart will maximise the results as you can target another layer of adipose on following treatments. The destruction of adipocytes does not affect serum lipid levels or liver function.

There are two types of adipose or fat tissue: brown and white. White adipose tissue stores energy - this is also the type of fat that can add inches to your waist and thighs. Brown adipose fat, which is primarily located around the neck and collar bones, is metabolically active and can burn or oxidise white adipose tissue,

Cryotherapy activates the brown adipose fat and muscles. Once activated, they release two hormones: irisin and FGF21. These hormones then burn white fat tissue and help you lose weight.

Studies have shown that what activating irisin does is that it converts white fat into healthier brown fat - this improves the glucose tolerance of the body.

When doing a cryo facial, the stream of cold Co2 enhances exfoliation of dead cells on the surface of the skin, exposing the healthy, more radiant skin underneath. The process works to contract the skin, accelerating microcirculation and therefore promoting oxygen rich blood to the dermis and epidermis, which in turn stimulates the production of collagen, the protein that gives your skin its strength and structure.

Unlike with some facials and cosmetic procedures, the cryo facial does not inflame or irritate the skin in any way. You will leave with glowing skin and a decrease in any redness and puffiness, with noticeably tighter pores.

Cryotherapy can help users maintain a youthful appearance, whilst also targeting wrinkles, fine lines, and blemishes.

* To distinguish between the different cold application modalities on the market

Slide of comparisons

There are a few different cold modalities on the market, most of which use cooling plates that are applied to the skin. These are either massaged on the skin or suction cup applicators that suck the fat and the internal cool plates cool the skin. These devices treatment times take around 45 minutes depending on the brand. We feel the benefit of the Kaasen device is that you can achieve the optimum fat freezing temperatures quicker without the need of this gradual cooling. The clients for the suck and freeze type devices also must be a certain fat type for the suction applicator to be stuck onto your body. This means some clients cannot be treated. You can also get bruising from these devices after treatment and a pocket can form that will go down after a few days.

The cold massager devices are usually around -8oC so can take around 30 to get the fat cells down to below 4oC and you are limited to just one type of massage head.

Other devices you see on the market that use gas, tend to use nitrogen, which is a vapour, with Vapour you do not get the pressure thus unable to penetrate the fat layers like Co2 can. Nitrogen is also a dangerous gas which is difficult to find a supplier and very expensive to buy. Nitrogen also evaporates if not used.

The reason TruCryo chose Co2 is because you get the freezing temperatures but also the pressure which is controlled with the variety of nozzles and attachments that come with the Kaasen Kit.

Most cryo chambers use nitrogen filled rooms which are also popular and common and mainly used to help with pain and as a therapy. These are very popular however don’t offer something targeted and as powerful as the Kaasen device.

* To comprehend how cryo can help with inflammatory skin conditions

If you suffer from Eczema, Psoriasis or inflammatory skin conditions that you currently treat with cream or lotion then targeted cryotherapy is an alternative. Cryotherapy has been proven to relieve the effects of Eczema and Psoriasis, such as redness, irritation, inflammation and soreness.

The pressure of the jet will remove any layers of dead skin cells, the cooling will help calm the irritation and with repeat treatments can lessen the appearance and redness of the affected area.

* To be shown results that can be expected after treatment

Questions for CPD

What is cryo therapy used for apart from aesthetic treatments?

What is Cryo-lipolosis?

What temperature do fat cells start to die?

What are the differences between using C02 gas and nitrogen?

How does Cryo therapy help with inflammatory conditions?