



# CARBOXYTHERAPY

.... The miracle gas.

A Novel technology for  
*Body Contouring*

Millions of women are dissatisfied with the appearance of their bodies. More than 80% of women over the age of 20, regardless of their weight or size, are affected by cellulite and exercise resistant fat. Many of them are managing a healthy lifestyle; yet reshaping their body seems like an unachievable dream. Collections of fat and layers of cellulite located in the most inconvenient locations can ruin your best efforts at looking good. They can dramatically affect how you feel about yourself and your appearance; especially at summertime when you head for the beach. Carboxytherapy is a revolutionary new non surgical treatment that can deliver dramatic results without surgery in a short space of time. Dr Maureen Allem from Skin Renewal takes a look at this problem for ASM.

## What is cellulite?

Cellulite can be defined as a medical disorder observed as microscopic changes within the skin. These invisible changes manifest later after puberty as dimples. Cellulite is caused by skin that has deteriorated to a point that buoyant fat cells are able to push into the dermis, the middle layer of the skin, and show through the surface as unsightly lumps and bumps.

Cellulite is a progressive condition and if not treated can become a major stumbling block to self esteem and a healthy body. The best treatment is early intervention.

## Why do women get cellulite?

One plausible explanation - which also explains why very few men suffer from cellulite - is based on the composition and behavior of women's fat cells and the connective tissue that holds them in place. Very simply, a woman's connective tissue is very inflexible, so as females gain weight their fat cells expand, and tend to bulge upwards towards the surface of the skin, giving the classic orange-peel appearance of cellulite. In men, not only is there generally less fat on the thighs and the buttocks, but also the outer skin is thicker and thus obscures what is happening to any surplus fat below.

## How does one treat cellulite?

Cellulite has different forms and grades and thus success at combating cellulite needs a combination of treatments that include increased micro circulation, reduction of fat cells, disruption of fibrous bands that tether the fat and collagen stimulation to improve the thickness of the dermis. Carboxytherapy is non invasive modality which addresses all

of the above in treating cellulite in a single modality; bringing lipo-cellulite therapy to a whole new level.

## What is Carboxytherapy?

Carboxytherapy or Carbon Dioxide Therapy also known as the miracle gas, has been touted as the biggest beauty breakthrough since Botox, and is now available in South Africa. Carboxytherapy is an innovative, minimally invasive, simple and clinically proven technique that can greatly improve the appearance of cellulite and localized fat deposits. Added benefits of the treatments are improvement of stretch marks and skin laxity.

Therapy involves injecting tiny amounts of Carbon dioxide (CO<sub>2</sub>) beneath the skin to break down fatty deposits and stimulate collagen production. The treatment has no downtime and a single session can take between fifteen minutes and an hour depending on the size of the area.

## What is resistant fat?

Just about everyone is familiar with fat pockets that you cannot get rid of. No matter how much you exercise, eat healthily and maintain your body at a healthy weight, localized fatty pockets fat pockets will continue to be problematic.

A possible explanation behind this is that some fat cells have a predominance of beta receptors and others have a dominance of alpha receptors.

Beta receptors are very receptive to the presence of adrenaline which is produced by exercise. Fat cell breakdown is triggered when adrenaline attaches to the beta receptors. Fatty areas with a predominance of beta receptors respond to exercise and a person on a regular exercise

program will see noticeable results.

The opposite applies to fatty areas with a predominance of alpha receptors. When adrenaline attaches to alpha receptors, fat breakdown slows down and the fat tends to accumulate more. This explains why some people will experience problems in areas that just won't respond to a consistent and regular exercise. These problem areas are typically around the hips, tummy and upper thighs, leading to love handles, saddle bags, spare and tummy rolls.

### How does Carboxytherapy work?

Carboxytherapy infuses CO<sub>2</sub> just beneath the skin's surface with a tiny needle inserted into the skin. The body interprets this as an oxygen deficit and responds by increasing blood flow to the area. An increase in certain growth factors encourages production of new blood vessels which provides a surge of oxygen and nutrients to the treated area and improves circulation with increased oxygen concentration. This in turn decreases water retention in the area, improving the appearance of cellulite.

The cellulite condition is also aggravated by a weakened dermis. Carboxytherapy increases blood flow to the area which stimulates long term collagen production, with more regular sheets of collagen laid down strengthening the dermis and improving the cellulite appearance. Introducing carbon dioxide into the dermis breaks down tethered fat which causes the orange peel appearance. Carboxytherapy also involves reducing the subcutaneous fat which adds to the problem.

### What problems are treated with Carboxytherapy?

Carboxytherapy for body contouring

- Improves the appearance of cellulite
- Treats exercise resistant fat deposits
- Tightens loose skin
- Fades stretch marks

### Typical problem areas treated are:

- Love handles
- Saddle bags
- Tummy rolls
- Bra bulges
- Heavy outer thighs
- Sagging buttocks
- Lax skin

### What can one expect before and after a Carboxytherapy Treatment?

During the treatment the sensation can be likened to a dull throb or pressure depending on the area treated. This mild discomfort lasts 2 to 4 minutes. CO<sub>2</sub> is 20 times more soluble than oxygen and it is easily and quickly diffused from the injection site to the surrounding tissue. After a treatment the gas is totally reabsorbed within 5 minutes and the treated area will turn slightly red with the increased blood flow to the area.

After the procedure, there is no pain, just possibly a crackling sensation under the skin that may last a few hours until the gas is excreted. The area should not be rubbed or immersed in water for about 4 hours. Most patients can return to work immediately after treatment.

### How many treatments are necessary?

For cellulite and fat reduction, 8 to 12 treatments are necessary depending on your age, body shape, cellulite type and grade. Clients have one or two 30 to 45 minute treatments per week.

### Is Carboxytherapy safe?

Carbon dioxide is a natural byproduct of the body and is not toxic even in elevated doses. Each cell of our bodies produces CO<sub>2</sub> as a by-product of cellular respiration, the process of breaking down sugars

or fats with oxygen. Because CO<sub>2</sub> is non-embolic it is very safe. Carboxytherapy devices are widely distributed in Europe and South America and have been used safely and effectively on 30 000 + patients with no complications. Conditions previously difficult to treat such as, dark eye bags, dark circles, psoriasis, diabetic ulcers, cellulite, stretch marks and skin rejuvenation are all now possible for improvement with Carboxytherapy.

The protocol methods for performing Carboxytherapy treatments have changed since the introduction of innovative built in safety devices for the newer generation machines. The discomfort also has decreased because the gas is heated during the procedure and all unwanted air is drained; an important additional safety precaution.

### Has Carbon Dioxide previously been used in the medical field?

Carboxytherapy has been used in France since the thirties to treat patients suffering from poor circulation, blocked arteries and heart problems.

Carboxytherapy has also safely been used for many years and in thousands of patients in laparoscopic operations where large volumes of CO<sub>2</sub> (about 12 to 20 liters) are used to insufflate the abdomen. The dosage utilized for aesthetic and therapeutic treatment is less 100cc/min.

### Can all skin types be safely treated with Carboxytherapy?

Carboxytherapy safely treats all skin types without significant pain or down-time. It can erase centimeters of the areas treated and the appearance of cellulite is noticeably improved in only 8 to 12 treatment sessions one week apart.

### Can Carboxytherapy be combined with other treatments?

Cellulite has different forms and grades and thus success needs a combination of treatments that include reduction of fat cells, collagen stimulation and collagen contraction.

For cellulite and body sculpturing, Carboxytherapy can be safely combined with traditional treatments such as Endermologie, Lipodissolve, TriPollar, Velashape, Lipomassage, Mesotherapy and Transdermal Mesotherapy.

### What other ageing problems can Carboxytherapy treat?

**Around the Eye area Carboxytherapy improves:**

- Dark circles
- Eye bags
- Crows feet wrinkles

**On the Face Carboxytherapy improves:**

- Saggy jowls
- Crepey necks
- Double chin
- Fat or flabby cheeks

**Additional difficult to treat problems improved by Carboxytherapy include:**

- Stretch marks
- Hair loss or alopecia
- Wrinkled décolleté
- Acne scars
- Lax skin on arms
- Saggy knees

**Alternative therapies for Carboxytherapy include:**

- assisting wound healing (as in diabetic ulcers) and
- Post liposuction to improve irregularities.
- psoriasis
- Before surgical procedures such as a surgical facelift to improve wound healing and tissue perfusion especially in smokers.

'Before and after' photos courtesy of Skin Renewal [www.skinrenewal.co.za](http://www.skinrenewal.co.za)

