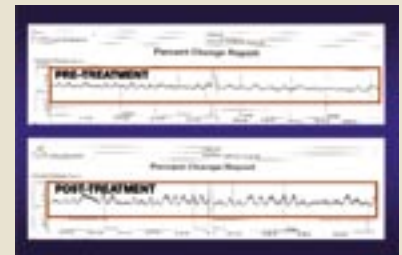
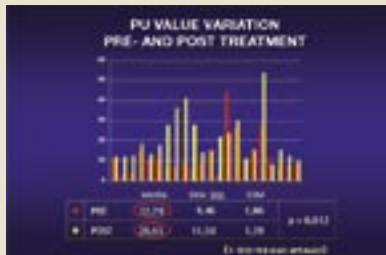




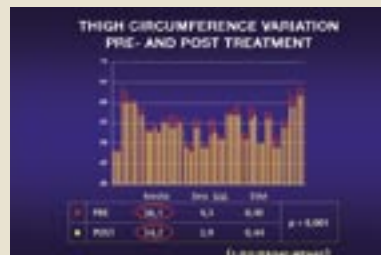
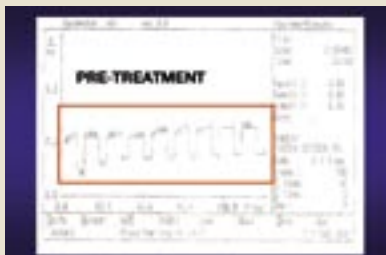
# Carboxytherapy in the treatment of adipose panniculus irregularities

Prof. Carlo D'Aniello - Dept. Plastic and Reconstructive Surgery - University of Siena

- Methodology:** Doppler, TcPO<sub>2</sub>, Laser Doppler, Elastometric histology, direct measurement.
- Improved tissue perfusion values:** using a Laser-Doppler flowmeter it has been possible to highlight a significant increase in the perfusion (PU) of the treated areas.
- Improved arterial activity:** Laser-Doppler flowmetric trace recordings show increased arterial sphygmicity (broader amplitude of sphygmic waves) after administration of CO<sub>2</sub>.
- Improved tissue O<sub>2</sub> partial pressure values:** tissue O<sub>2</sub> partial pressure values (tcPO<sub>2</sub>) are clearly increased after subcutaneous administration of CO<sub>2</sub>.

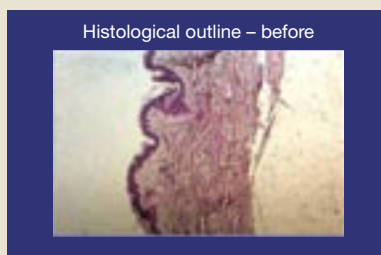
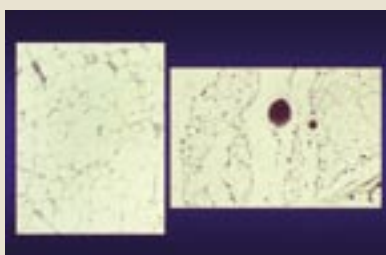


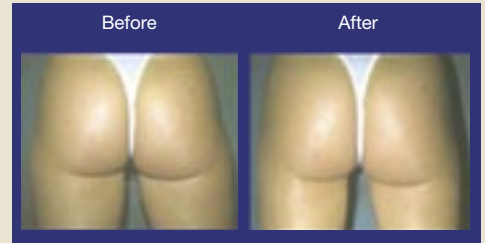
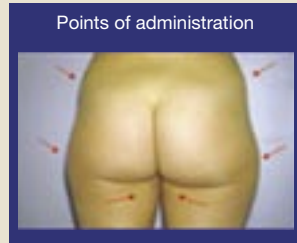
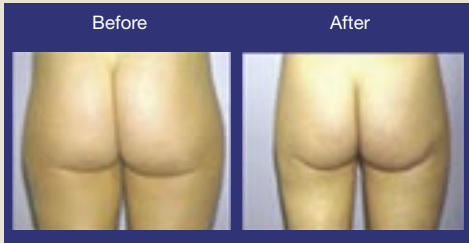
- Pre and post-treatment variation in thigh circumference. Pre and post treatment variations in knee circumference.**
- Elastometry:** patients also undergo elastometric tests to evaluate the effect of subcutaneous carbon dioxide administration on the treated areas.



Anatomical modifications (thigh and knee). Thigh and knee circumference show a clear decrease after Carboxytherapy

- Histology:** seven volunteer patients, all candidates for dermolipectomy of the lower limbs, underwent pre and post-treatment cutaneous and subcutaneous histological examinations.
- Derma:** increased thickness. Collagen fibres variously disposed and spaced from the intercellular substance.
- Adipocytes:** fracture lines in the adipose tissue with lesions at plasmatic membrane level.
- Deep connectivity:** intact.





■ **Clinical results:** reduction of local adiposity, significant improvement to the skin that appears more compact and elastic, and reduced dimpling.

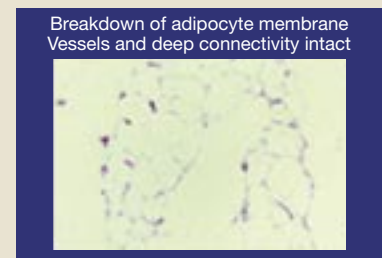
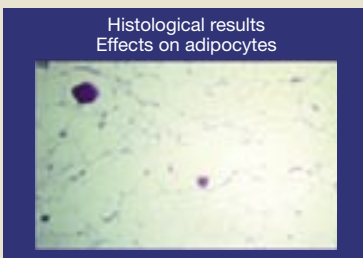
## Carboxytherapy complementary to liposuction

■ **Division into two groups (A: liposuction. B: liposuction + carboxytherapy).**

Circumference measurement on first examination and at 20 and 60 days after operation.

Therapy cycle: unchanged

Elastometry: unchanged



**RESULTS**  
**MEASUREMENTS OF THIGH CIRCUMFERENCE**

	PRE-OP	POST-OP	AT 2 MONTHS
GROUP A	58.9	55	53.7
GROUP B	58.1	53	51.4

**RESULTS**  
**AVERAGE MEASUREMENT OF KNEE CIRCUMFERENCE**

	PRE-OP	POST-OP	AT 2 MONTHS
GROUP A	42.1	38	37.7
GROUP B	43.3	38	35.9

Circumference measurement two months after liposuction (at the end of the CO2 treatment performed only on group B):

Greater reduction in circumference at thigh and knee level in group B after carboxytherapy than in group A.

## The role of Carboxytherapy in multiple symmetrical lipomatosis

■ The use of carboxytherapy, a technique that is safe, repeatable and easy to perform, is particularly effective in reducing adipose tissue and thus in the treatment of patients afflicted with this pathology.



Patient with symmetric multiple lipomatosis: pre-op situation (profile)



Patient with symmetric multiple lipomatosis: post-op situation

## Scientific publications

### **Aesthetic Plastic Surgery 10.1007/s00266-004-2068z**

Carbon Dioxide Therapy: Effects on skin irregularity and its use as a complement to liposuction

### **Aesthetic Plastic Surgery 10.1007/s002660010116**

Carbon Dioxide Therapy in the treatment of localized adiposities: clinical study and histopathological correlations

### **Rivista italiana di chirurgia plastica - 22-12-1999 S1-256-269**

The role of Carbon Dioxide therapy in symmetric multiple lipomatosis therapeutic strategy

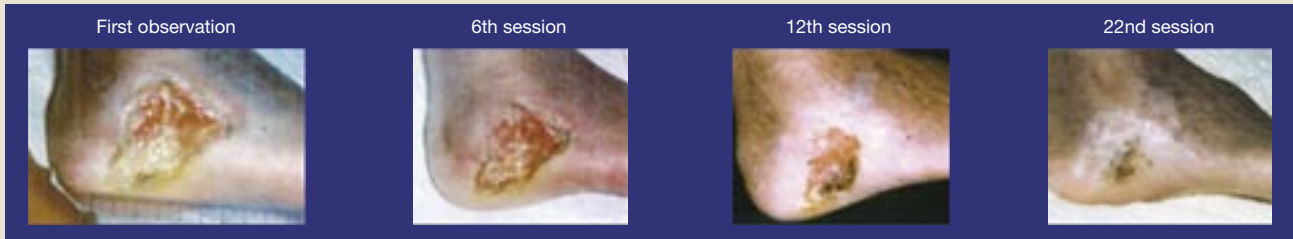
# Carboxytherapy can be used in the treatment of:



**G. I. S. C.**  
*International Scientific  
Carbondioxide Therapy Group*

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Head: Prof Carlo D'Aniello  
U.O. Plastic Surgery  
University of Siena

## ■ Ulcers



## ■ Psoriasis



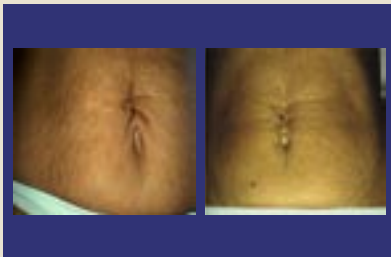
## ■ Remodelling



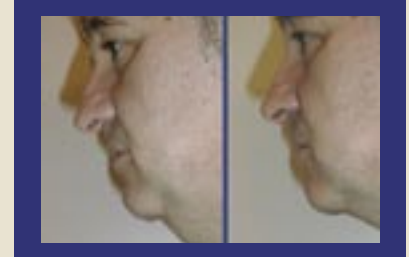
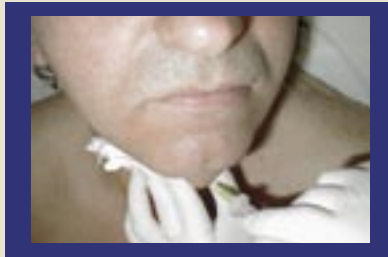
## ■ Remodelling



## ■ Stretch marks and cutaneous relaxation



## ■ Double chin reduction



## ■ Arm anti-ageing



## ■ Neckline anti-ageing



## ■ Waistline



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