A new indication for AWT: improving facial laxity

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- 5CC President, Nice 2009 – Cannes 2011

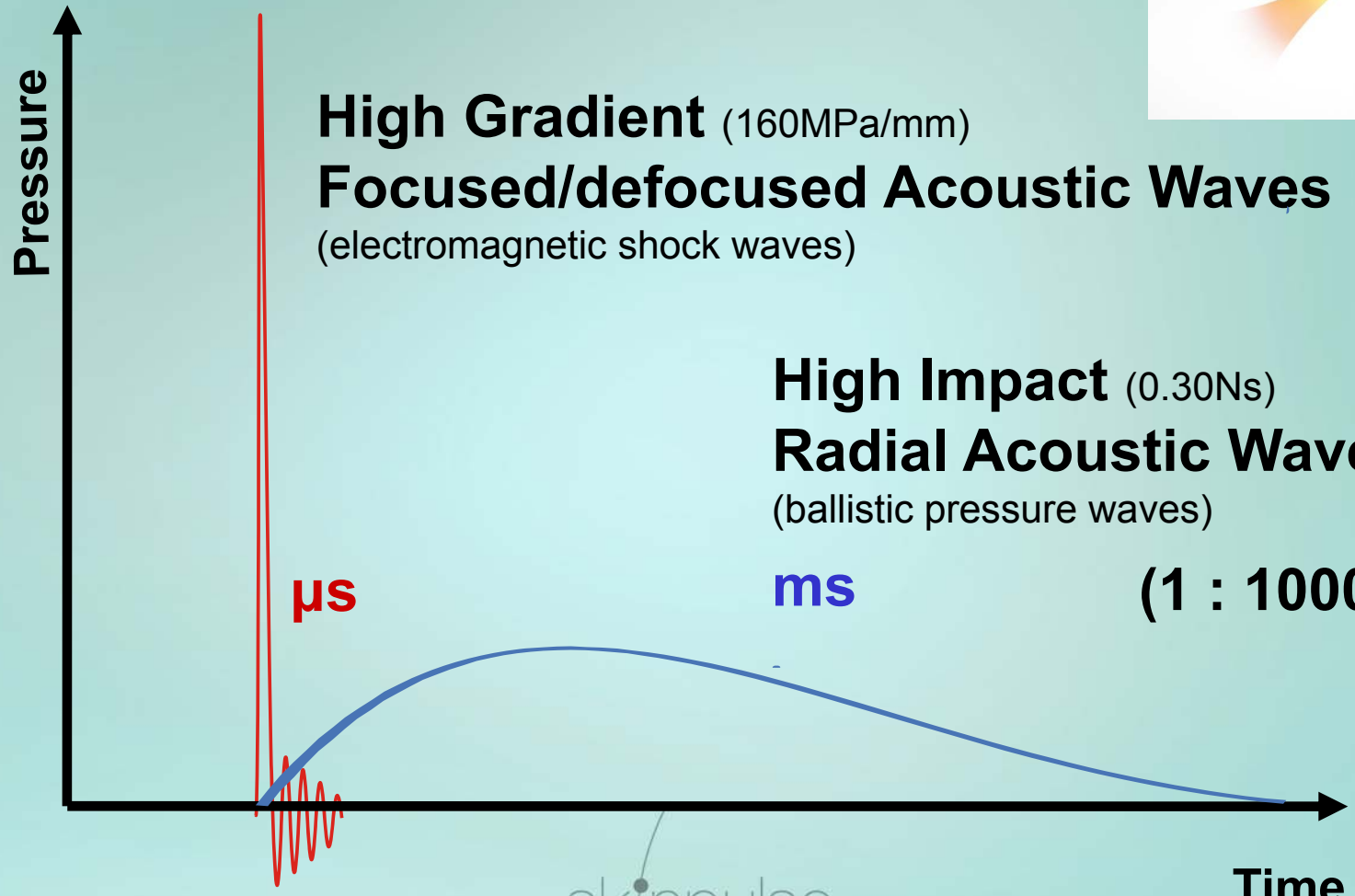
IMCAS Paris –

Session Video Papers – Saturday February 1st, 2014.

Disclosures

- Research, Clinical Studies, Advisory Board:
  - Alma
  - Cynosure / Palomar
  - Cutera
  - Miravex
  - **Storz**
  - Syneron /Candela

Acoustic Wave Therapy



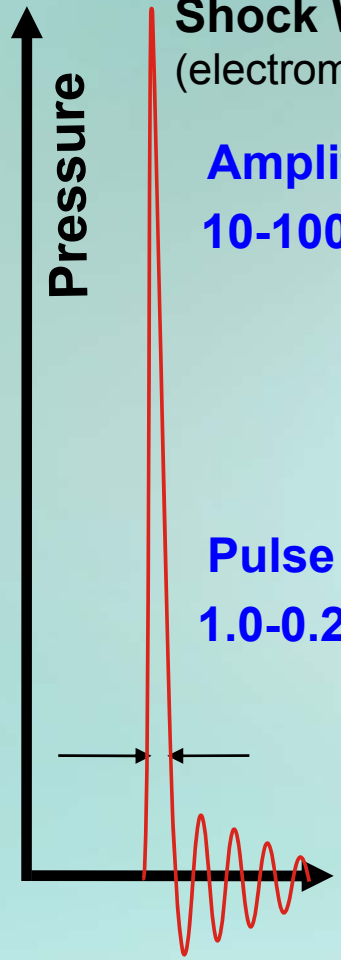
High Gradient (160MPa/mm)
Focused/defocused Acoustic Waves
(electromagnetic shock waves)

High Impact (0.30Ns)
Radial Acoustic Waves
(ballistic pressure waves)

(1 : 1000)

AWT ® Physics

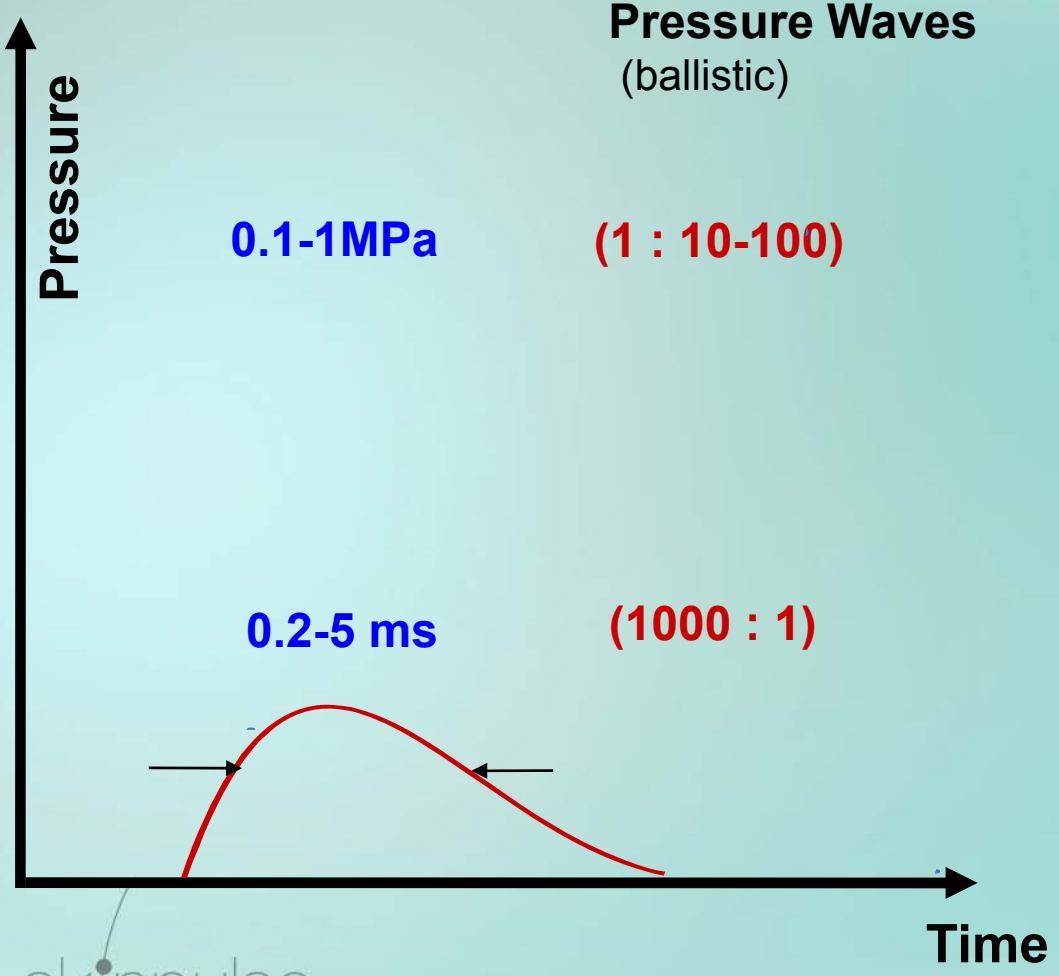
Focused/defocused Shock Waves
(electromagnetic)



Amplitude
10-100 MPa

Pulse length
1.0-0.2 µs

Radial Pressure Waves
(ballistic)



0.1-1MPa **(1 : 10-100)**

0.2-5 ms **(1000 : 1)**

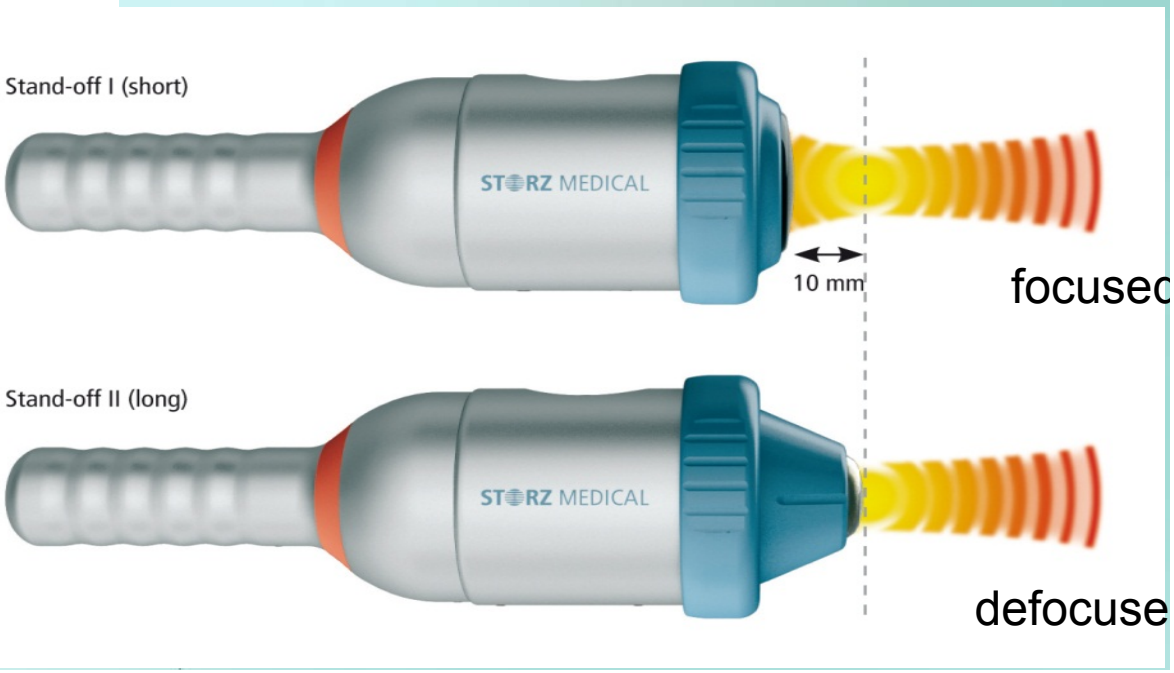
Tissue/Cell Effect

	Planar AWT® **"high gradient"** **Acoustic Waves Therapy**		**Radial AWT®** **"high impact"** **Acoustic Waves Therapy**
Pressure:	high	⟷	low
Pulse duration:	short	⟷	long
Frequency:	high	⟷	low
Wavelength:	short	⟷	long
	0.3-1.5mm		0.3-7m
Pressure gradient:	**high**	⟷	**low**
	160MPa/mm		**0.0003MPa/mm**

CELLACTOR® - PLANAR

"high gradient" Acoustic Waves Therapy: hi-AWT ®

C-ACTOR II Handpiece



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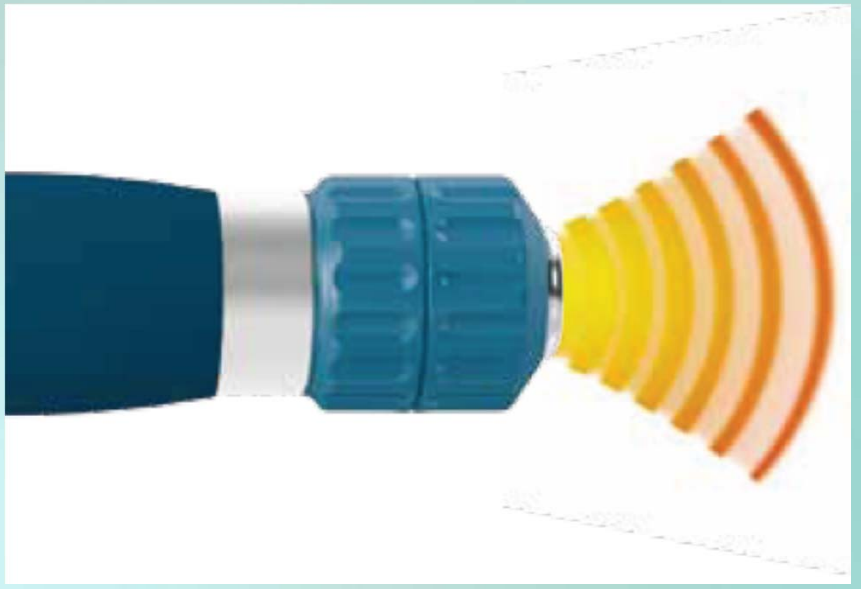
CELLACTOR® - D-ACTOR ® RADIAL

"high impact" Acoustic Waves Therapy: AWT ®

D-ACTOR Handpiece



0 – 20 mm

F15, Ø 15 mm,
»Focus-Lens« transmitter,
energy focus area.
For close to surface application, for facial application, wrinkle treatment.

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AWT® Biological effects on skin

- **Increase cell membrane permeability**
- **Improve exchange of substances between cells**
- **Activate fat-splitting enzymes (lipases)**
- **Increased metabolism**
- **Stem cell stimulation**
- **Lymphatic drainage**

- Release of NO (Nitric Oxide)
  - Vasodilation → increased blood flow
  - Neovascularization
  - Growth factor release
- Mechanotransduction
- Muscle relaxation

Adatto M, Adatto-Neilson R, Servant JJ, Vester J, Novak P, Krotz A.

Controlled, randomized study evaluating the effects of treating cellulite with AWT/EPAT.

J Cosmet Laser Ther. 2010 Aug;12(4):176-82.

Introduction & Objective Cellulite affects 95% of women and can lead to negative consequences. The objective of this study was to demonstrate the efficacy and safety of acoustic wave therapy(AWT®) using extracorporeal pulse activation technology (EPAT®) for the management of cellulite.

Material and Methods 25 women were included in the study and treated with AWT®. 6 AWT® treatment sessions have been performed within 4 weeks. 3000 pulses have been applied to an area of approximately 10x15 cm located on the thigh. The treatment was performed with the D-Actor 200 by STORZ MEDICAL AG (Tägerwilen, Switzerland). Follow-up visits were performed 1 week and 12 weeks after treatment. Changes of the skin structure were evaluated using the DermaTOP System (Eotech, Paris, France). Skin elasticity measurements were performed using the DermaLab Device (Cortex Technology, Hadsund, Denmark).

Results **With regard to holes, bumps, roughness and elasticity the difference between treated and untreated legs is statistically significant after the first follow-up visit.**

Conclusion The study showed that the AWT/EAPT treatment with the D-ACTOR 200 appears to be a safe and effective treatment alternative for the temporary improvement in the appearance of cellulite.

Results :

- **Depressions, Elevations, Roughness, Elasticity, Visco Elasticity**
- **Verum and Control: differences statistically significant**

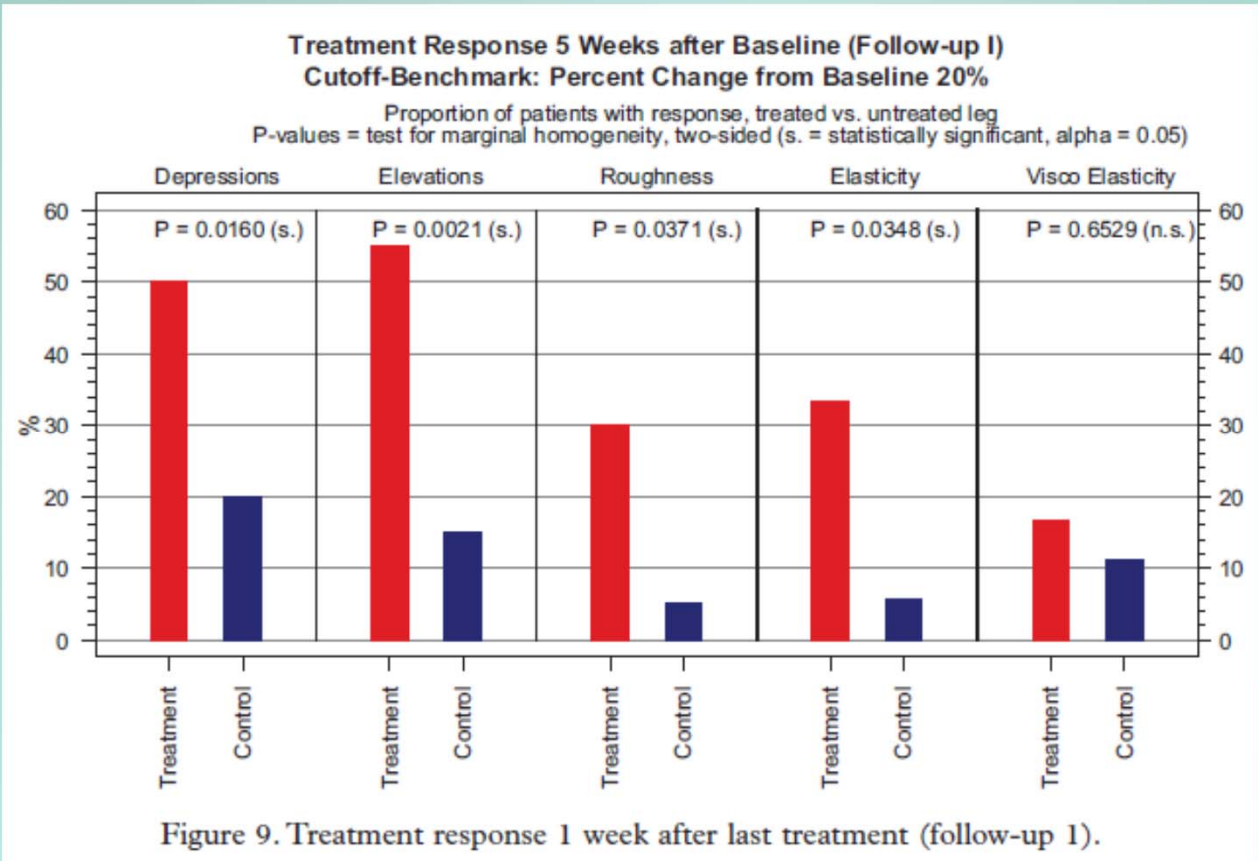


Figure 9. Treatment response 1 week after last treatment (follow-up 1).

J Cosmet Laser Ther. 2011 Dec;13(6):291-6. doi: 10.3109/14764172.2011.630089.

Body shaping with acoustic wave therapy AWT(®)/EPAT(®): randomized, controlled study on 14 subjects.

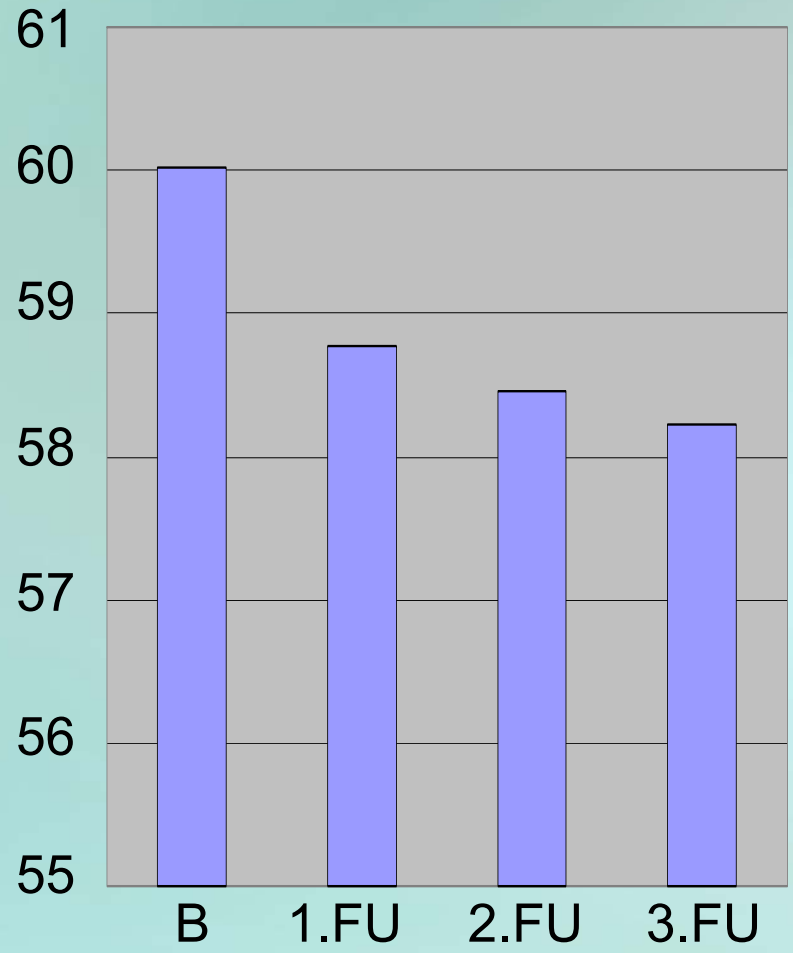
Adatto MA, Adatto-Neilson R, Novak P, Krotz A, Haller G

Conclusion

This study, although performed on a small number of patients, tends to show the safety and efficacy of AWT in treating localized fat areas in a non-invasive way.

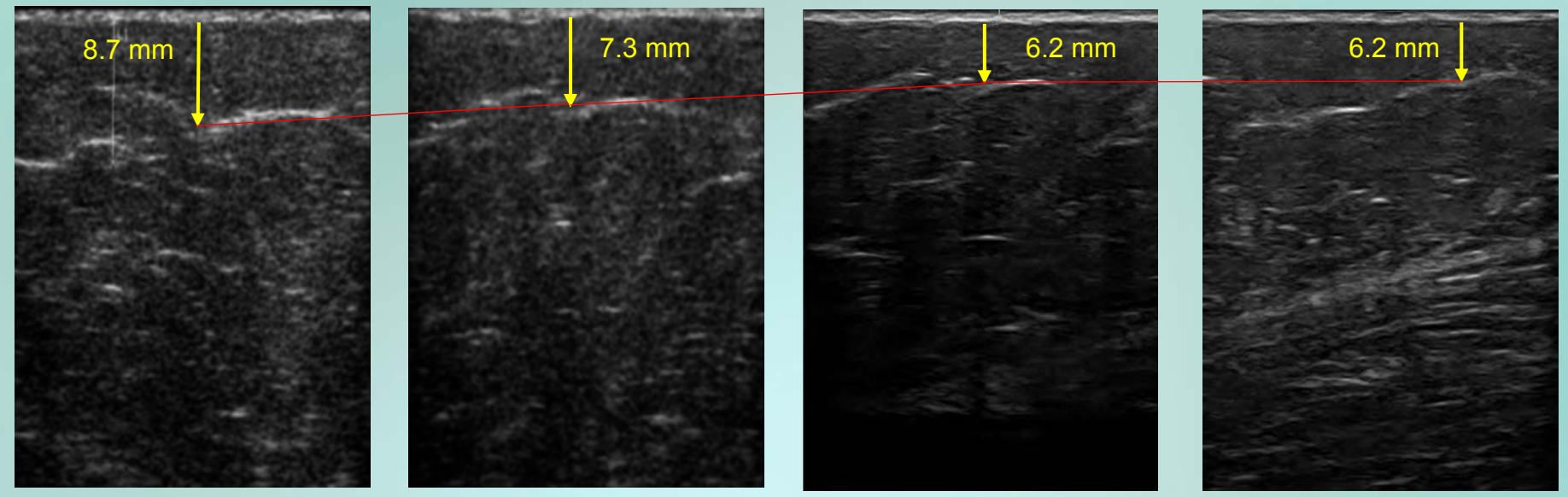
Results: Circumference reduction

(in cm)



Mean of all 14 patients,
Baseline (B) – 60.0 cm
1 week (1FU) – 58.8 cm
4 weeks post (2FU) – 58.5 cm
12 weeks post (3FU) – 58.2 cm
= minus 1.8 cm

Results: Fat Layer thickness - Ultrasound



Ultrasound Images patient 202: left thigh, baseline, 1.FU, 2.FU, 3.FU

Results: 2D Photos

Patients ID 202: Baseline -> Follow-up 1

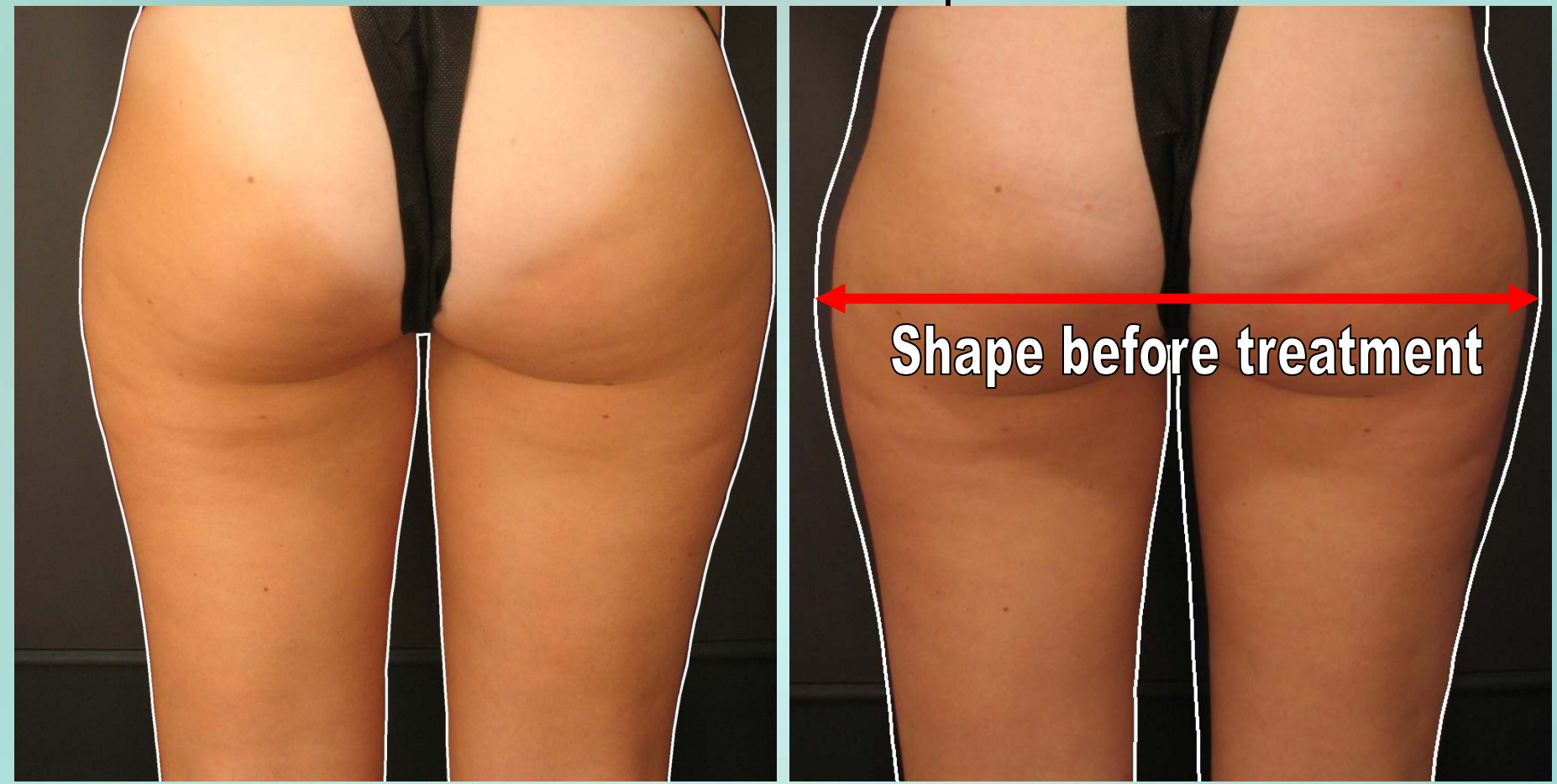


Photo Patient 202

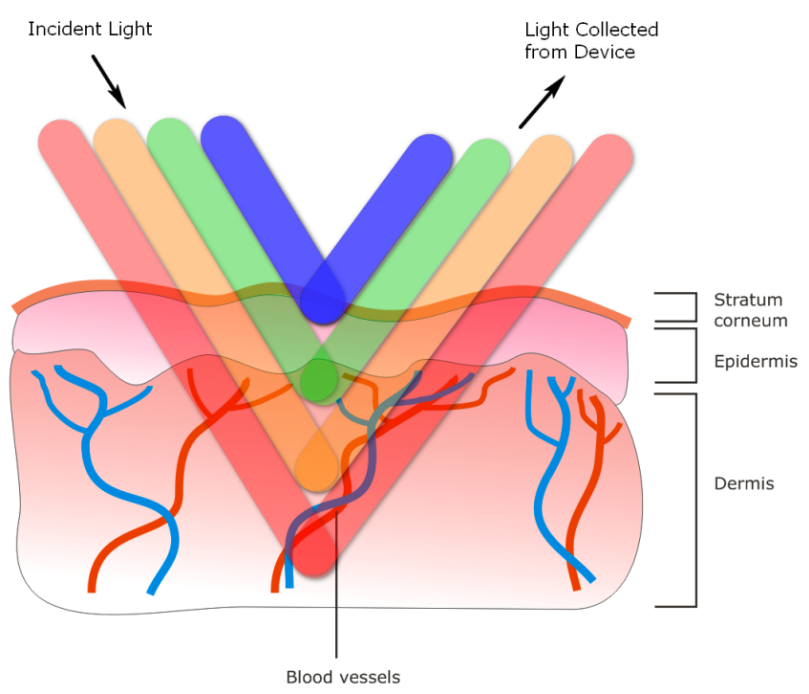
Why not on the face?

- We have an increased collagen production as well as increased cell metabolism. So let's try on the face…..
- We might also have production of new collagen on the face and then a better skin texture and reduction of depth of nasolabial folds.

Material & Method

- 5 patients: 4 female / 1 male
- Mean age 48y old (42 to 59).
- 6 Tx 2x/week with High gradient + High Impact.
  - C-Actor 0.53 Bars 2'000 shots per ½ face
  - D-Actor 2.0 Bars 5'000 shots per ½ face
  - Coupling gel
- Photos + Objective Measurements Antera 3D
  - Before, @1m & 2m FU.

ANTERA 3D

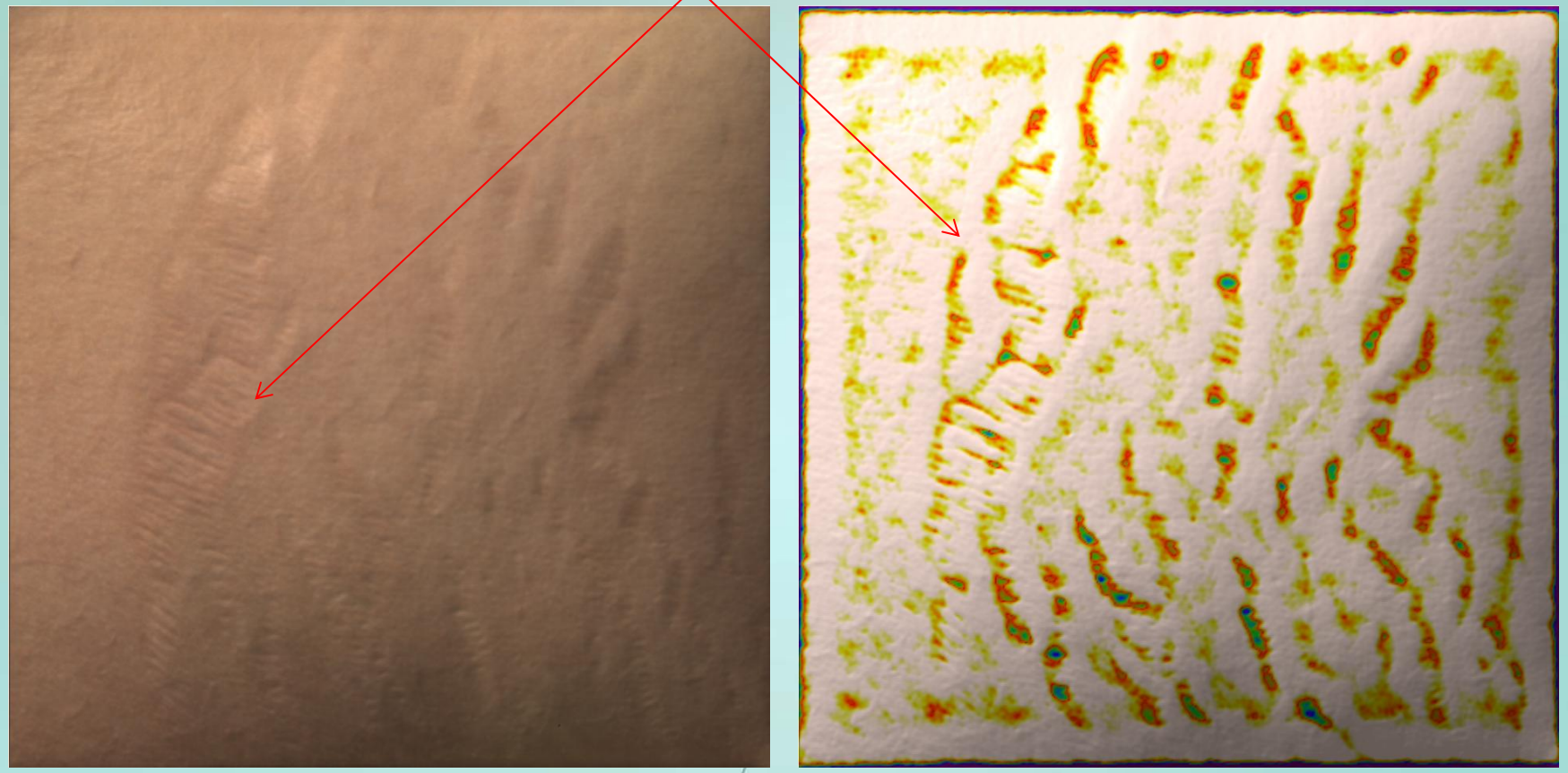


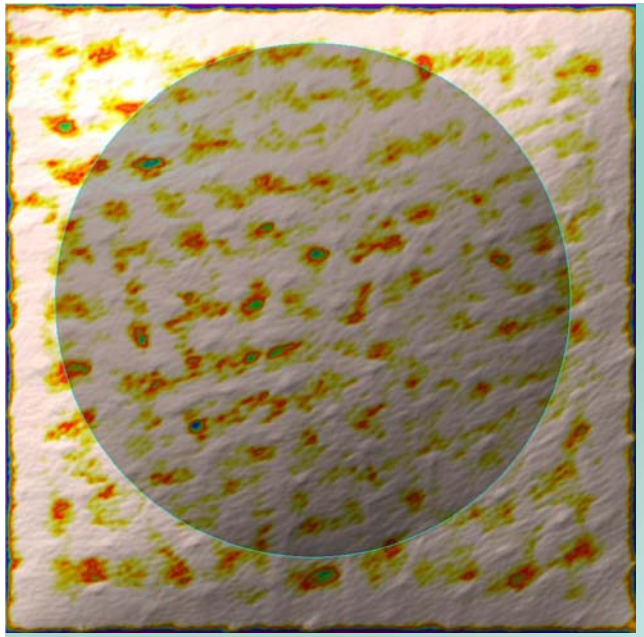
- Use of multispectral illumination.
- It allows analysis of epidermis and dermis.
- The reconstruction of the surface is based on comparison of the images with different illuminations.

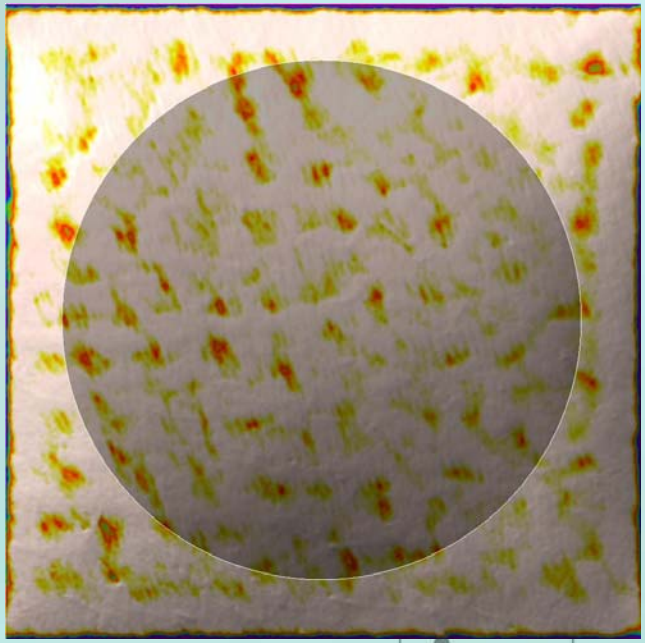
- Optical and mathematical models of light reflectance are used for the 3D reconstruction of the surface.
- Lateral resolution ~0.1mm.
- Vertical resolution ~0.01mm.

Objective measurement with ANTERA 3D - Miravex

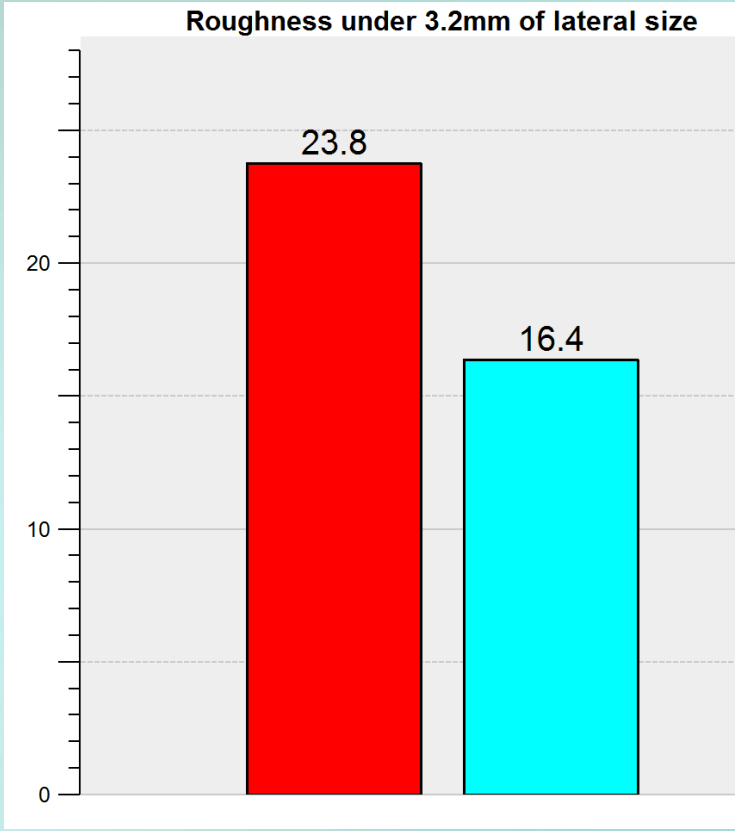
laddering







Post Tx1



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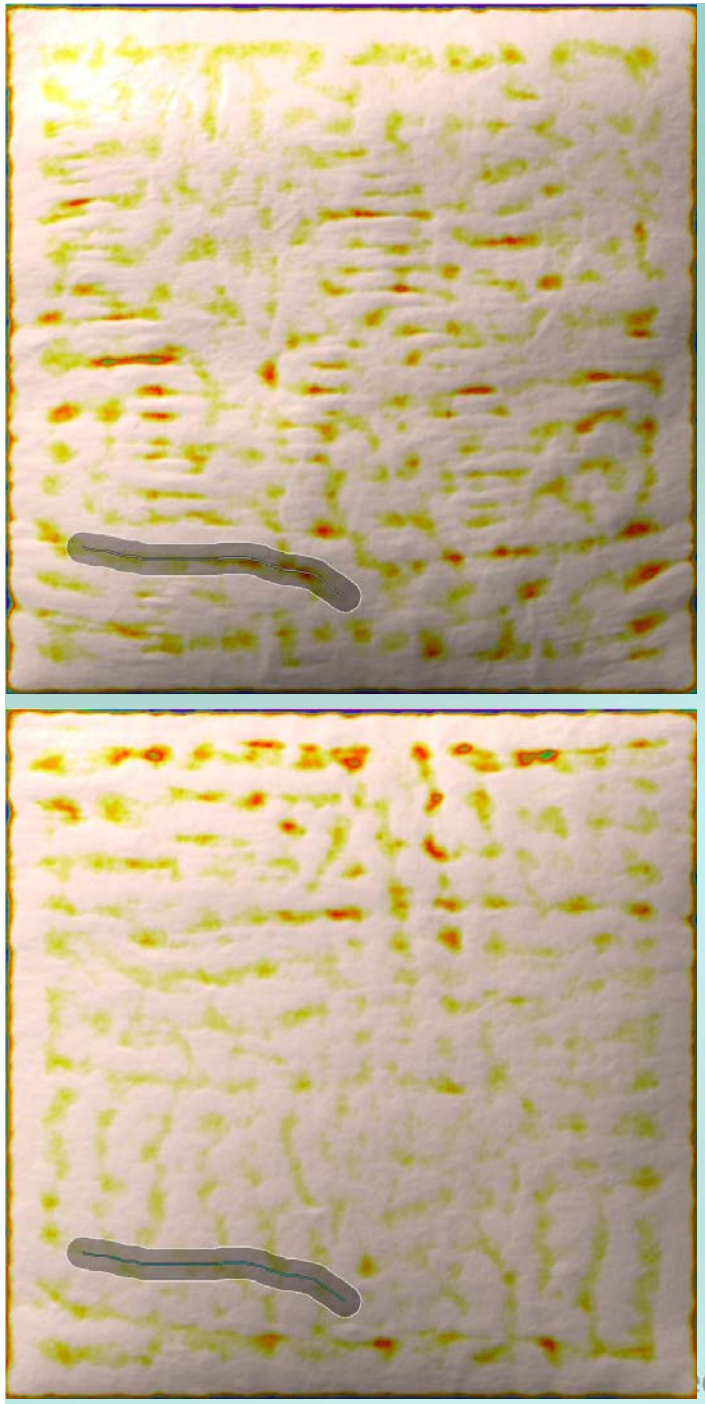
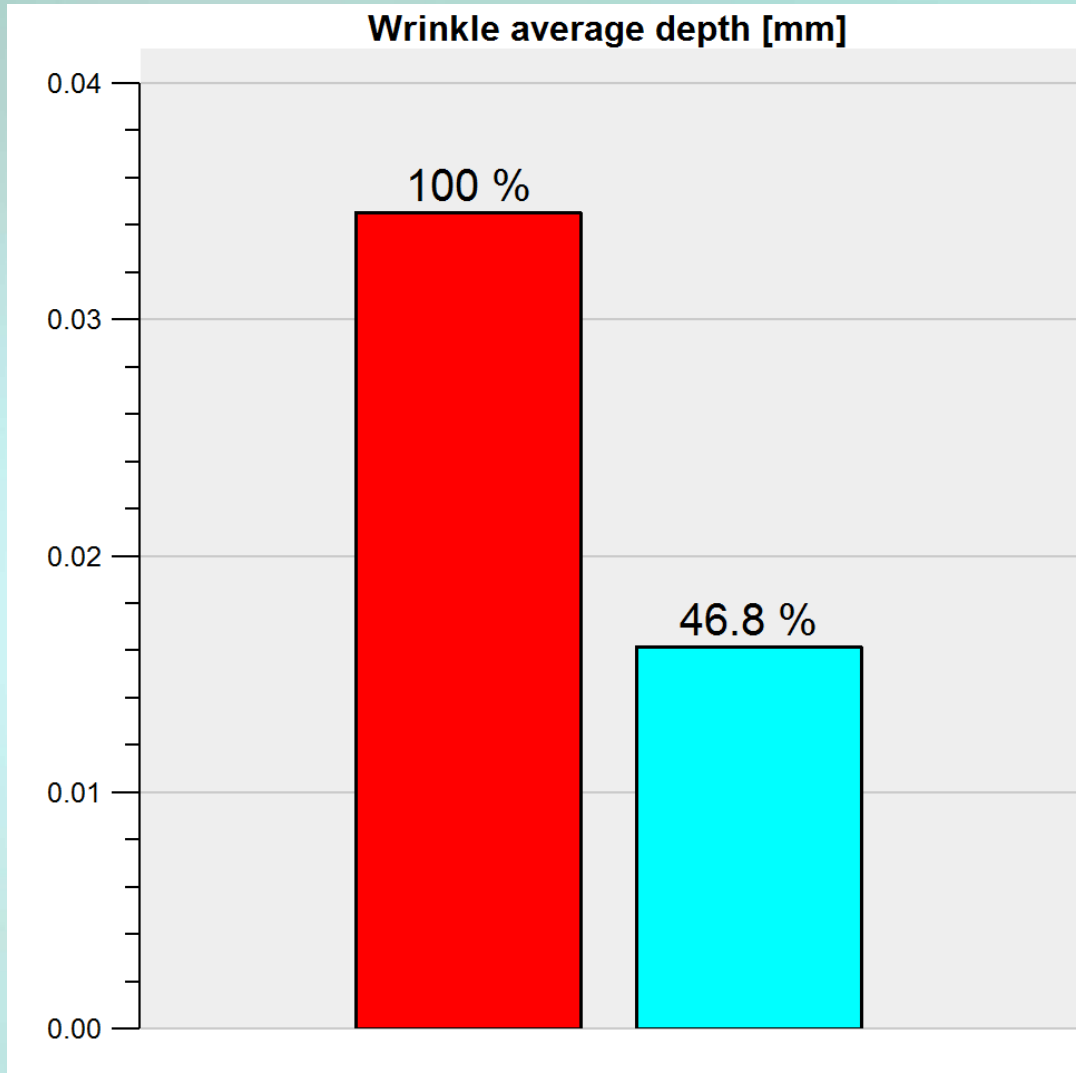


Post Tx1

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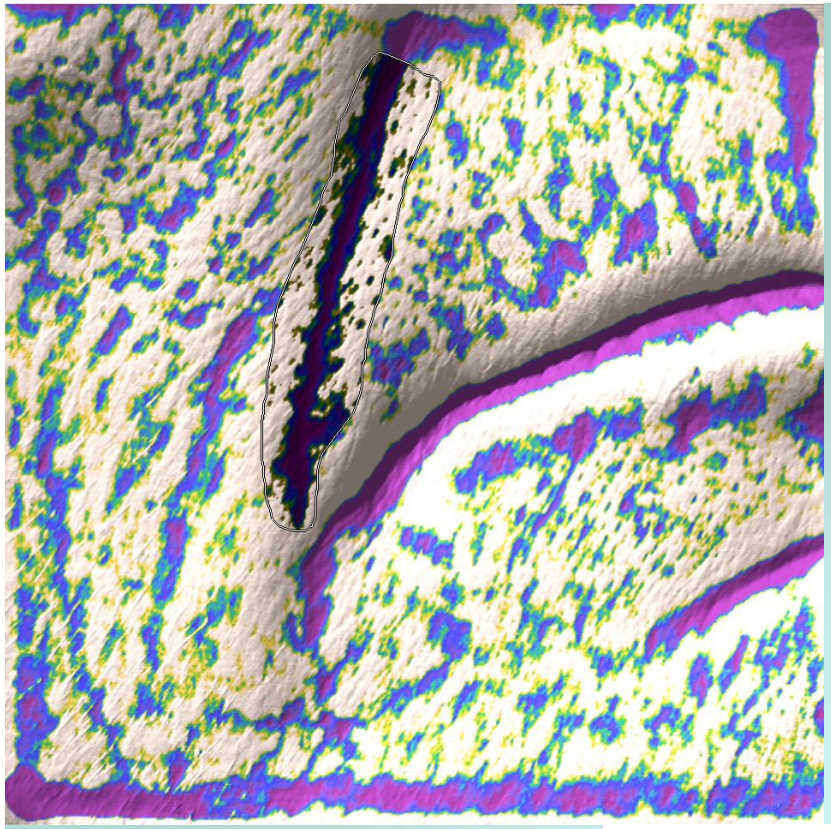
2 m post Tx4



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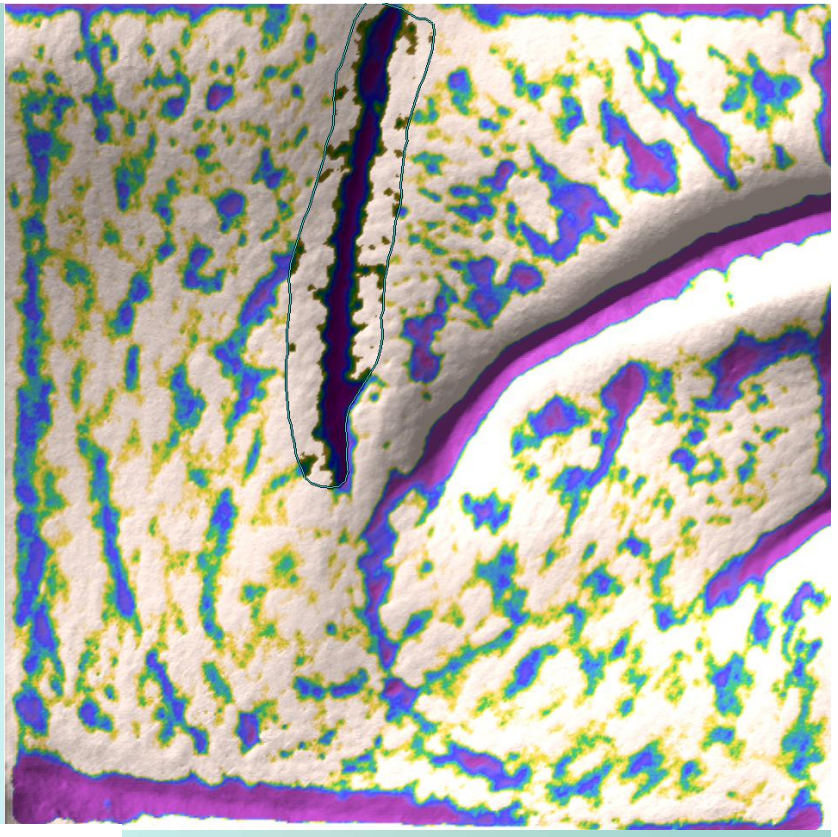

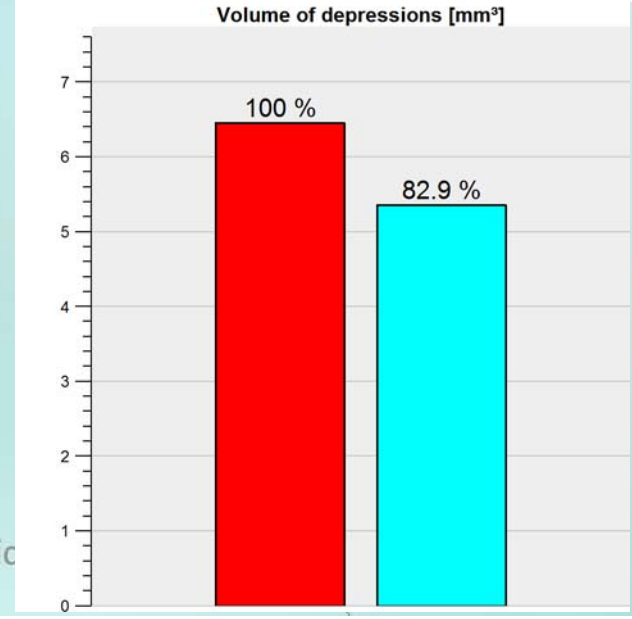

2m FU
Post Tx4

17.1% improvement

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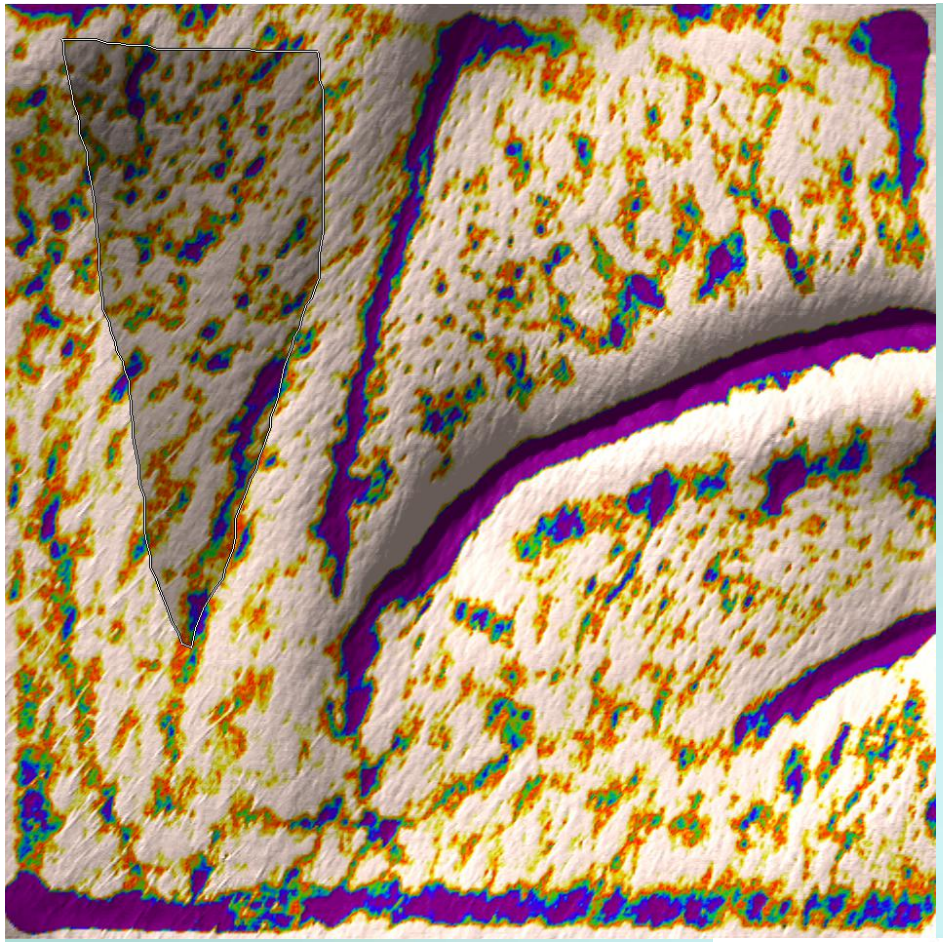

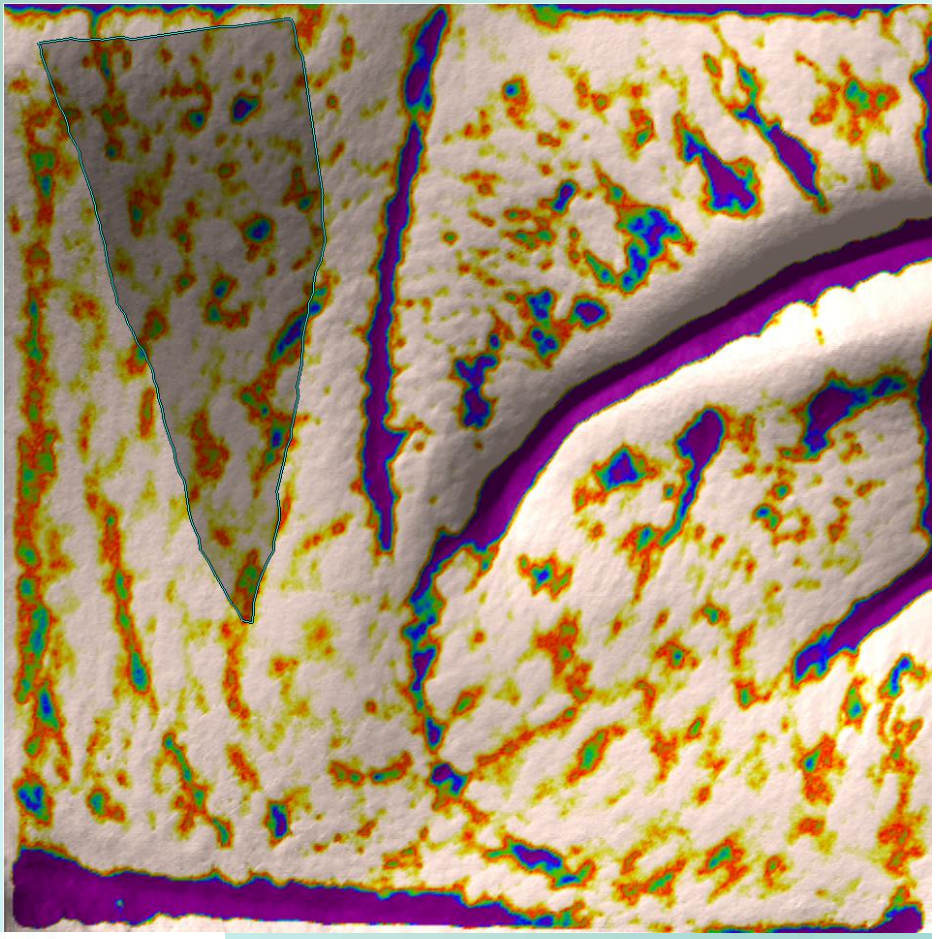

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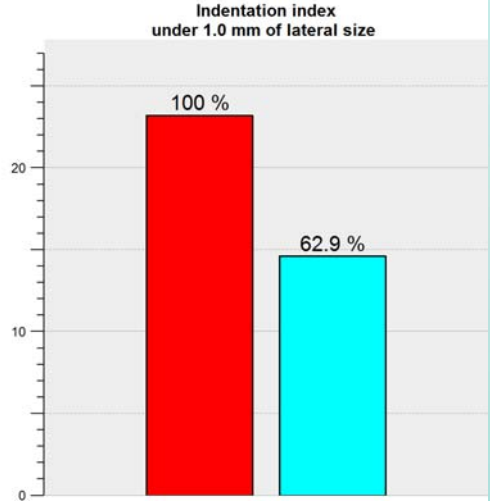

2m FU
Post Tx4

37.1% improvement

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2 m post Tx4


2 m post Tx4