

Ultra

Face & **Body Contouring Station**

Clinical Overview

Dr. Joseph Lepselter
VP, Clinical Affairs
Alma Lasers Ltd.
Caesarea, Israel



Accent Ultra V



iTED

Trans-epidermal delivery
for difficult skin conditions

iPixel^{RF}

Impact

VShape

Noninvasive fat reduction and
body & facial contouring

UltraFace

UltraBody

BiPolar +
thermomete
r

UniLarge +
thermomete
r

UniFace

Periorbital

UniBody

Lipolysis

Invasive fat reduction
for facial contouring

Lipo

Touch-Screen
Control Panel



Module
(any one)



Module
(any one)



Footswitch



System
Console





Touch-Screen
Control Panel

Emissions
Indicator

Keyswitch

Emergency
Shut-Off Knob

Modules & Indications

RF UniLarge and Bipolar



Internal thermometer preset to C° or F°
Every 1.5 seconds

Thermometer Display



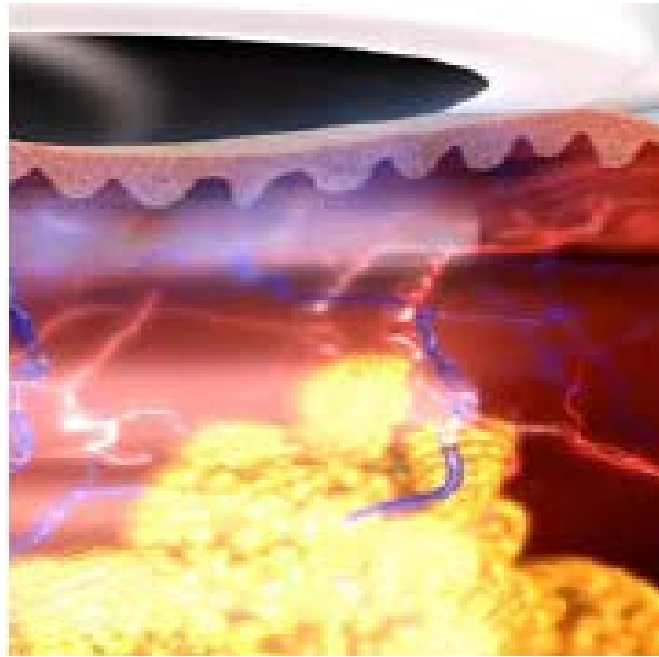
Indications

- Adiposis
- Skin tightening
- Cellulite

RF Handpieces



Body



Face



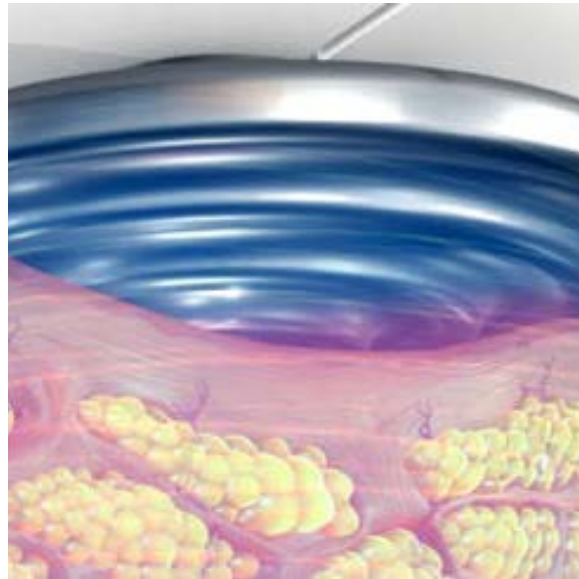
Indications

- Adiposis (non-invasive)
- Skin tightening
- Cellulite

US Handpieces



Body



Face

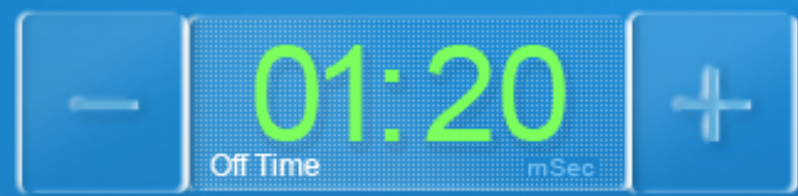
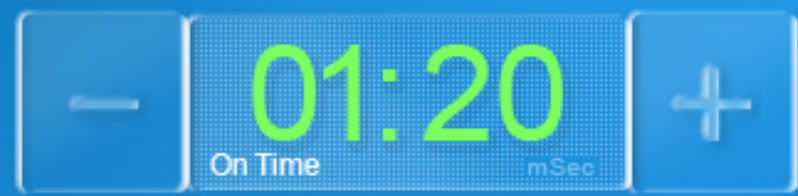
Indications

- Body & face adiposis (non-invasive)



Screens

Laser Lipolysis



IMPACT





— 50 +
Freq Hz

— 50 +
Impact %

— 01:20 +
Time Min



STBY READY

RF Pixel (Roller)





— 50 Watt +



STBY READY



RF Pixel (Stationary)





— 50 +
Watt

— .1 +
Sec

STBY READY



UltraFace

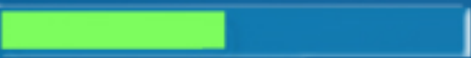


01:20 Min

30 KJ

STBY

READY



UniFace





— 30 +
Watt

— 100 +
KJ

01:20
Min

STBY READY

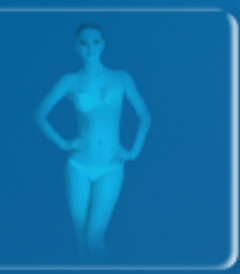


Face





Select Area



V-shape hand pieces

- the ultrasound frequency was doubled, and its output power decreased by half.

	frequency	Output power
Ultra Face	100~160kHz	20W
Ultra Body	60~70kHz	40W

- The head size of both ultrasound and radiofrequency hand-pieces were reduced to fit the face.



Mechanism of ultrasound on face

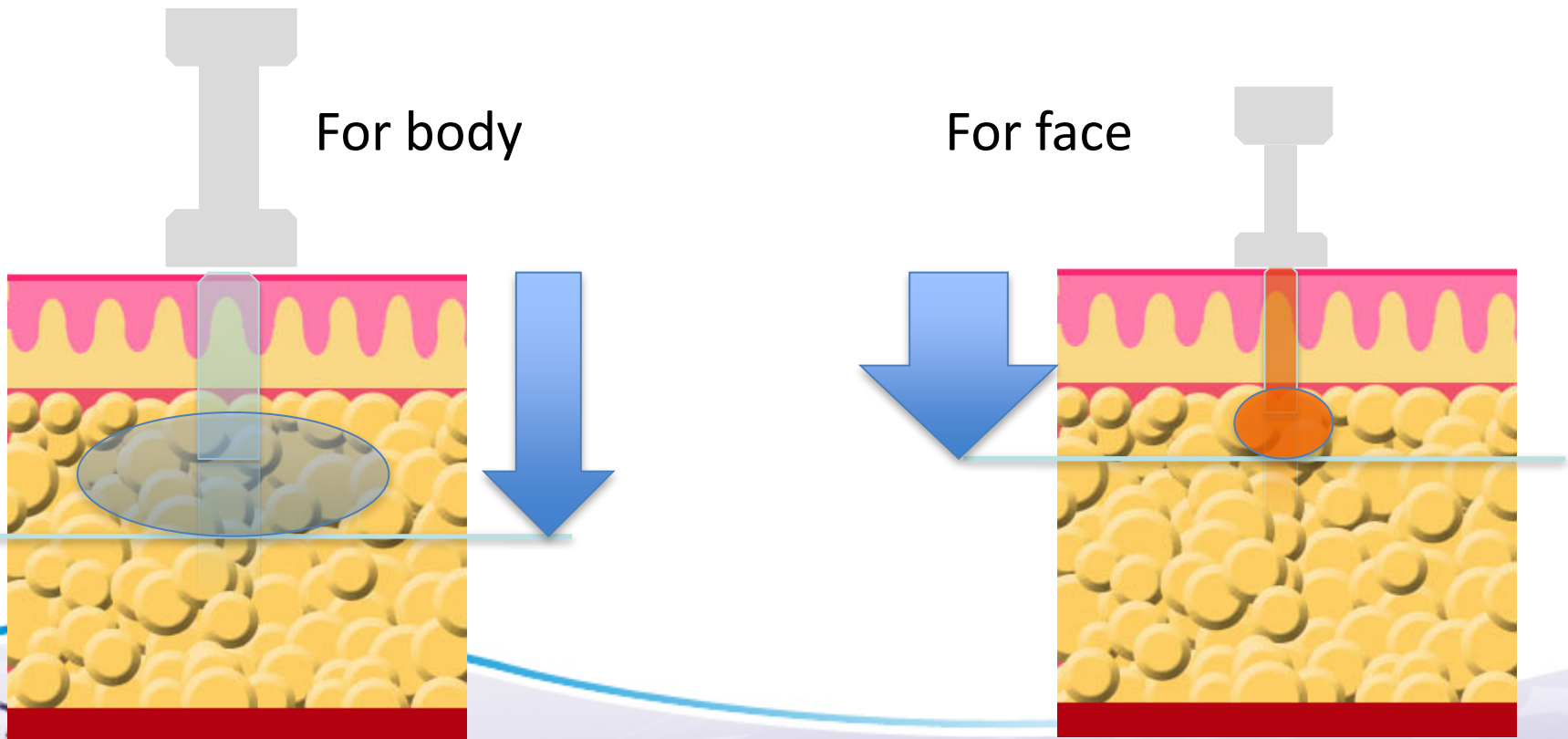
In High frequency

The ultrasound focuses on small area & attenuate just below the surface.

That means

ultrasound vibrates strongly

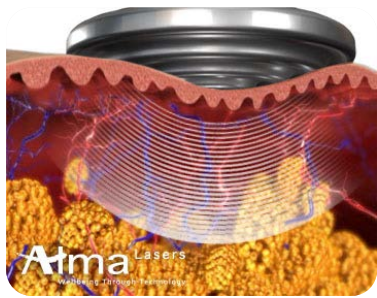
small superficial layer.



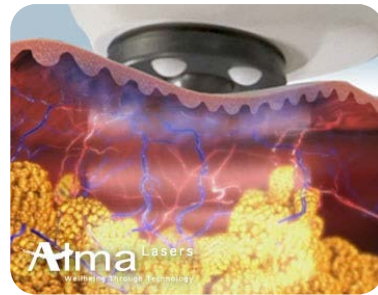
The result is

- Damage by ultrasound is only beneath the skin , but does not affect deep fatty tissue.
- Thermal damage by RF causes skin tightening.

Synergetic tightening effect
by decreasing fat and collagen contraction



&



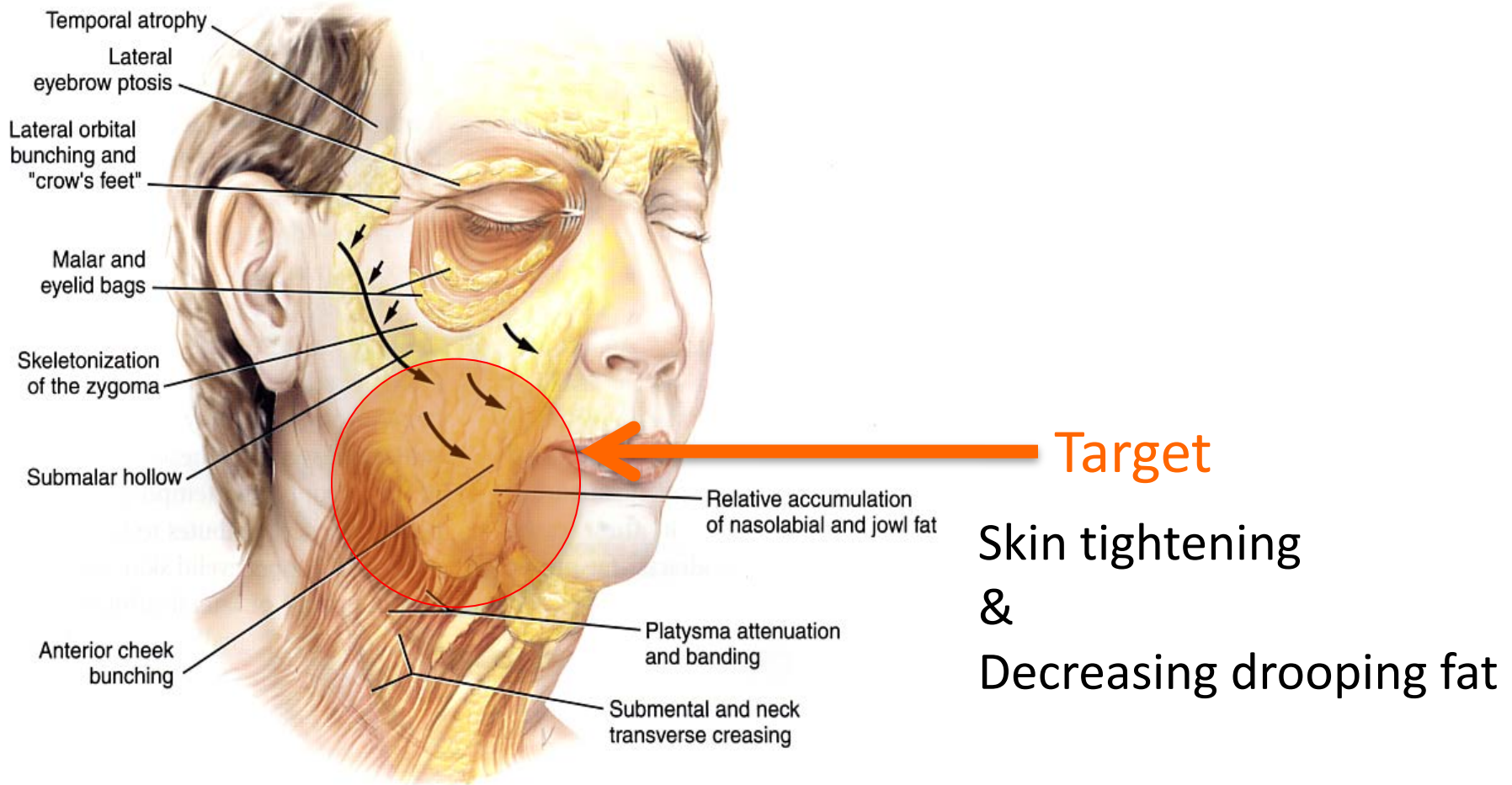
Ultrasound

Radio frequency

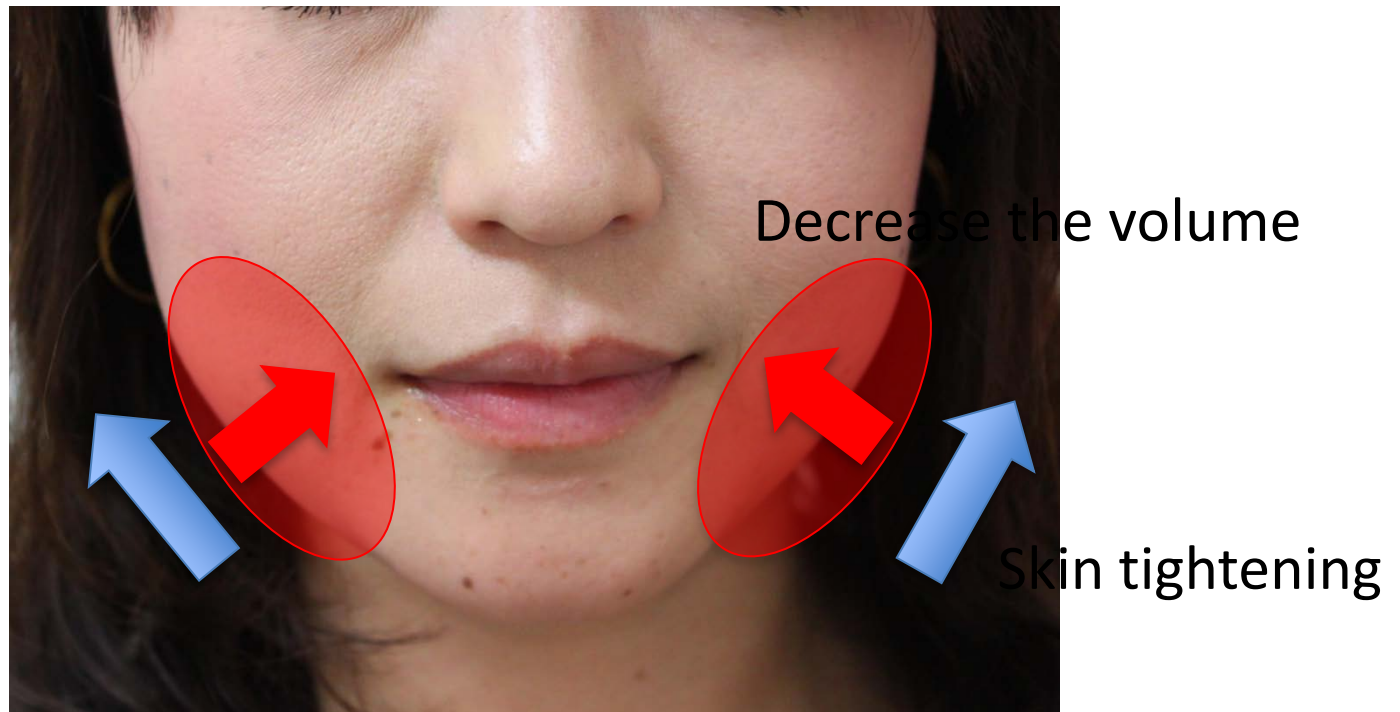
Alma Lasers
Wellbeing Through Technology®



Changes in appearance caused by aging



Clinical effect



Clinical Evidence - Face



Before



1 Month After 3 Treatments

Dr. J. Lepselter, Alma Lasers Clinical Department



before



after

29 y/o female



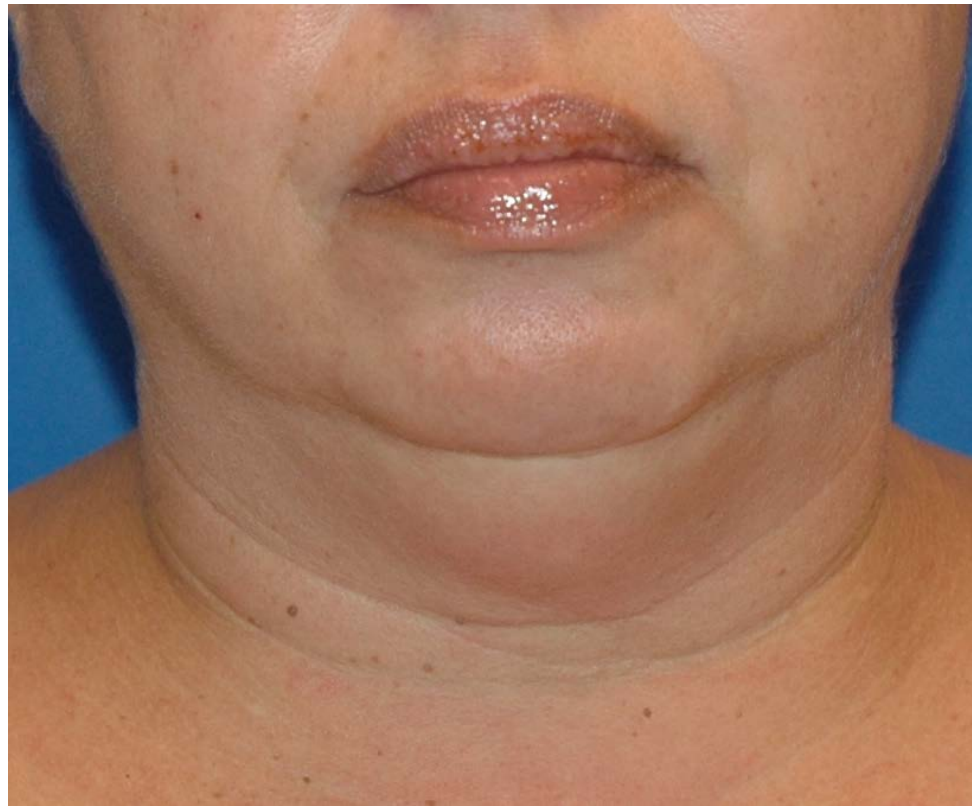
Before



After 4 Treatments



Before



After 3 Treatments



Before



After 4 Treatments

Ultraface + Uniface

- Age: 42 year-old
- 2 Tx with Ultraface + Uniface
- U/S COLD 8 minutes
- RF 90W 30kJ at each side
- 1 Tx with UniFace
- RF 90W 40kJ at each side



before



2 weeks after 3 Tx



before



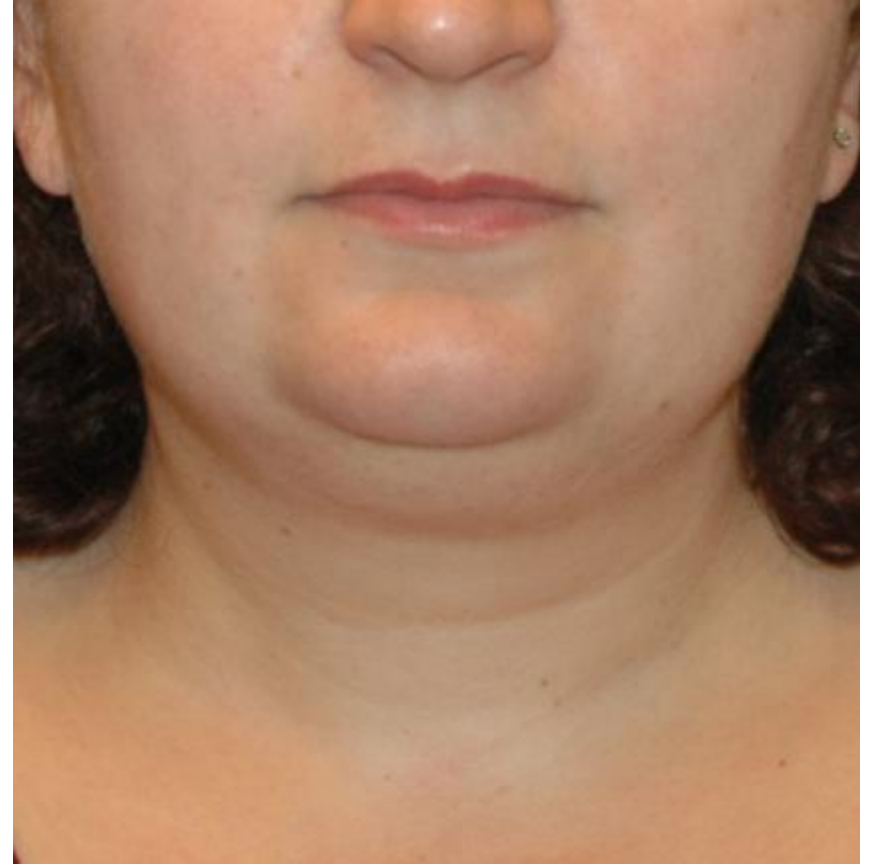
2 weeks After 3 Tx

UniFace/UNILARGE+UltraFac e

UltraFace COLD MODE ONLY-
8 min at each side (7.5x5cm)
UniFace/UNILARGE – 30KJ at each
side



Before



After 5 Tx

Scott Scherer, MD

Renaissance Clinic
Stockholm, Sweden

Case Report

- A general practitioner w/diabetes
- Patient has had nerve damage on her left side, where they did a fat transplant 10 years ago.
- Because of gravity the fat pocket fell.
- Treatment on left side of the face only; Ultra treatment (32min) with cold mode only to reduce the fat, and RF treatment 80-90 W temperature up to 45 to pull the face upwards.
- Diet and niacin.



before



2wks after 4 Tx



before



2wks after 4 Tx



Courtesy of Dr. Scott Scherer, MD, Stockholm, Sweden



Courtesy of Dr. Tania Aparecida Meneghel, Dermatologist, Clínica Renaissance, São Paulo, Brazil



Courtesy of Dr. Fernando Urdiales, Aesthetic Medicine, Instituto Médico Miramar, Málaga, Spain



Courtesy of Maria Angelo-Khattar, PhD, Aesthetica Clinic, Dubai



Courtesy of Dr. Rafael Nunes , plastic surgeon, Slim Clinique, Rio De Janeiro, Brazil



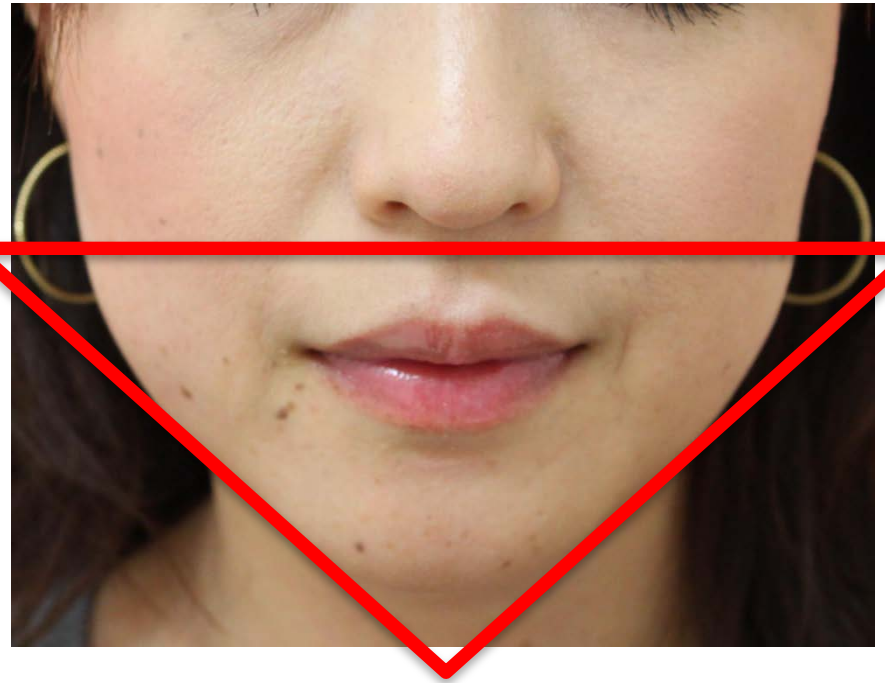
Courtesy of Dr. Fernando Urdiales, Aesthetic Medicine, Instituto Médico Miramar, Málaga, Spain

Case 1

Pre



Post 2 Tx



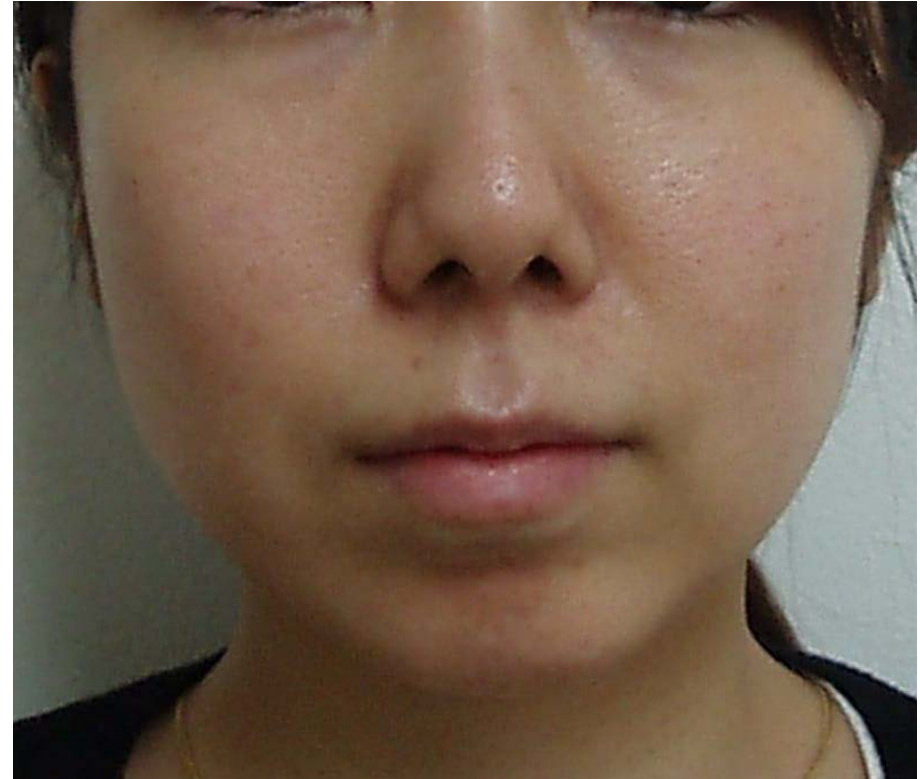
Nariaki Miyata M.D.

Miyata Plastic Surgery & Skin

Case 2

Pre

Post 3 Tx



Nariaki Miyata M.D.

Miyata Plastic Surgery & Skin

Case 3

Pre



Post 2Tx



Nariaki Miyata M.D.

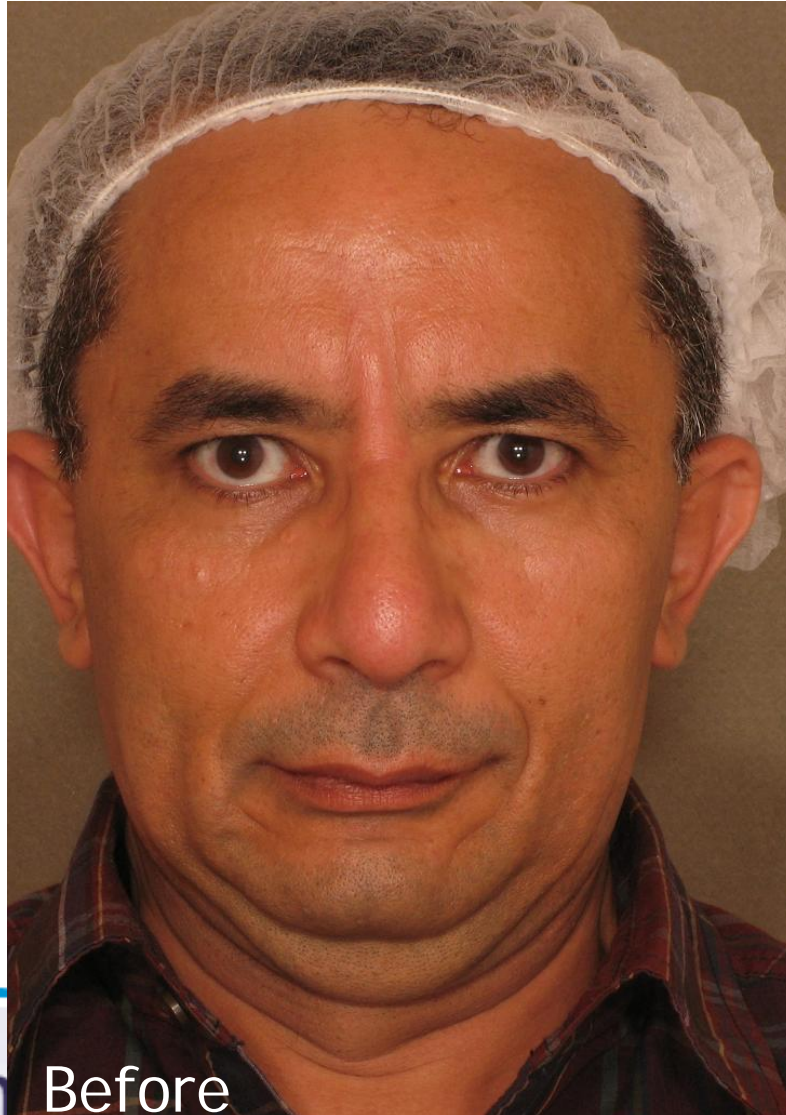
Miyata Plastic Surgery & Skin

Dr. Maria Angelo-Khattar
Dermatology & Plastic
Surgery Clinic
Dubai

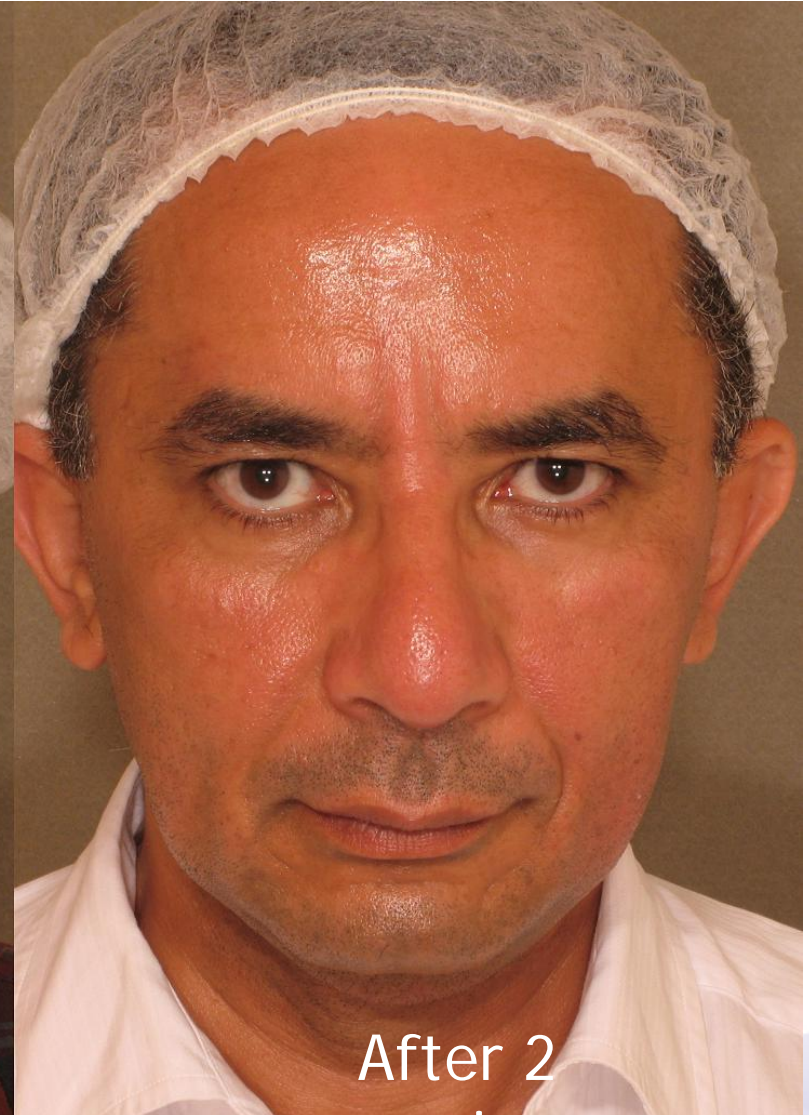
Accent for Lower Face Volume Reduction and Rejuvenation



Reduction of Lower Face with Ultrasound and Unipolar and Bipolar radiofrequency.



Before



After 2
sessions

Aesthetica Clinic, Dubai



aestheticaCLINIC

COMBINED APPROACH

**Volume Reduction of Lower Face
Restoration of Volume in Upper Face**

After 2 sessions for Volume Reduction

A.V. 26 years old



Before Rectangular



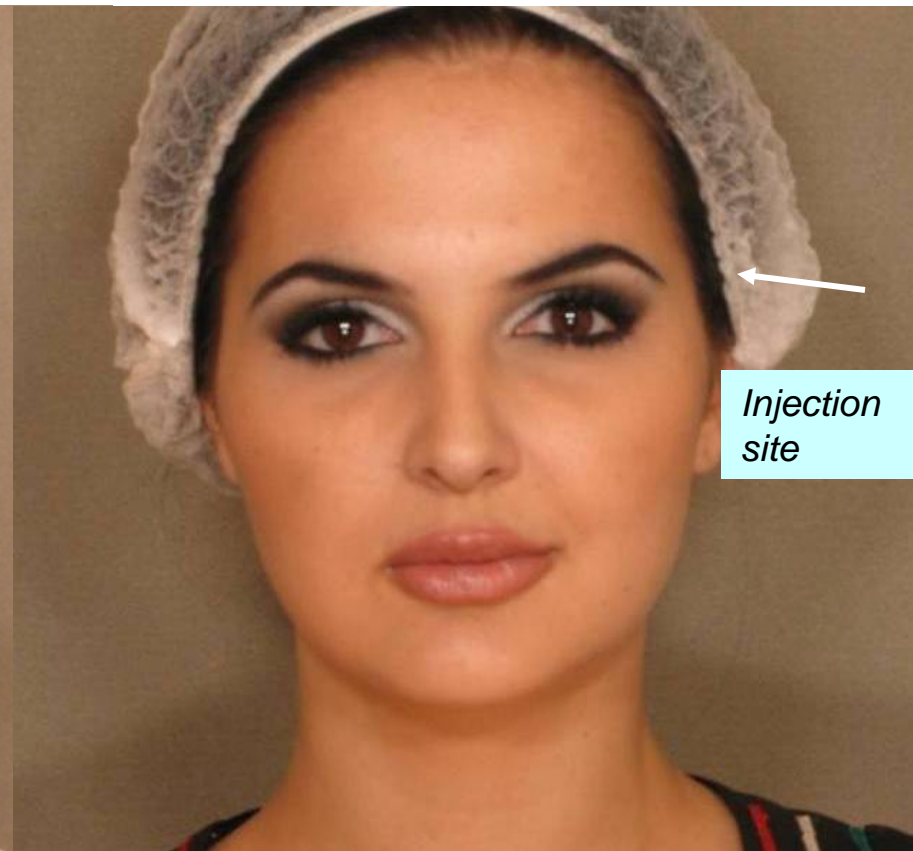
After more oval

After Radiesse and Lip Augmentation for Total Facial Contouring

A.V. 27 years old



Before oval



Injection site

After more oval

Cheek Enhancement



aestheticaCLINIC



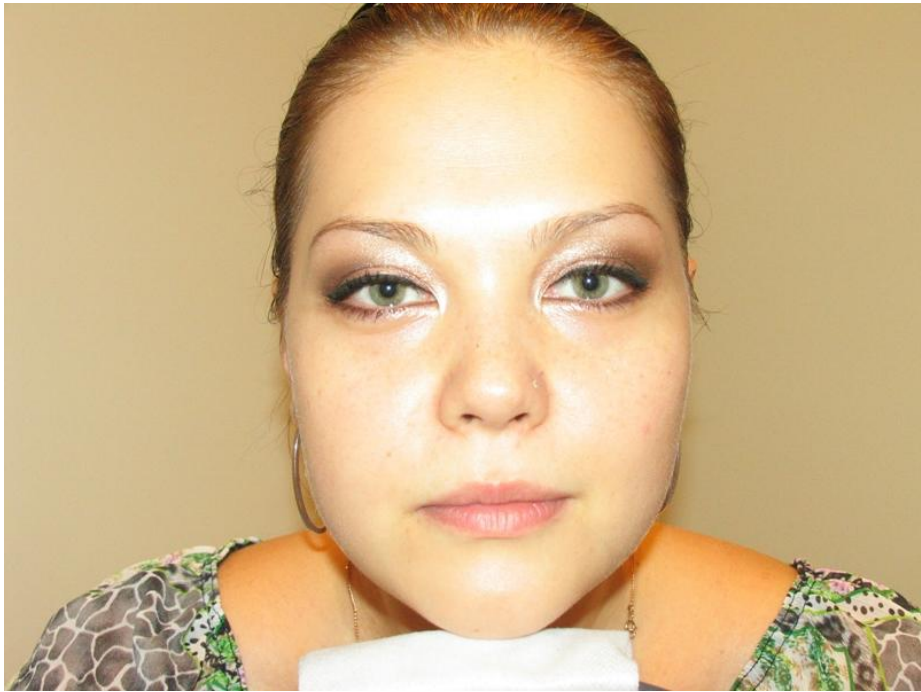
Before



After

Volume Reduction of Lower Face and Radiesse for Cheeks

Y.Z. 26 years old



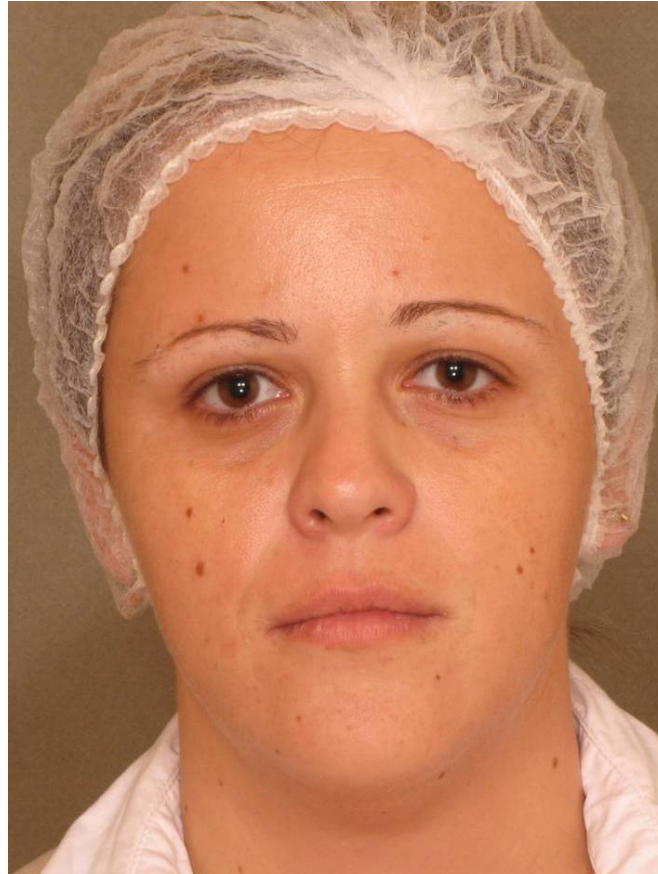
Before Rectangular



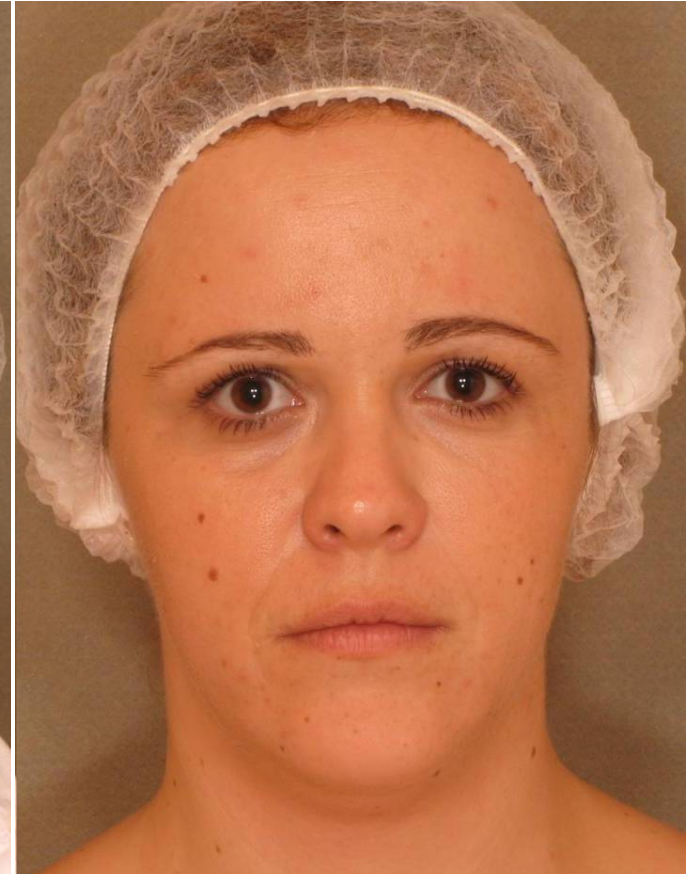
After more oval

Radiesse for Infraorbital Hollows

I.N. 28 years old



BEFORE



AFTER

Radiesse for Infraorbital Hollows



aestheticaCLINIC

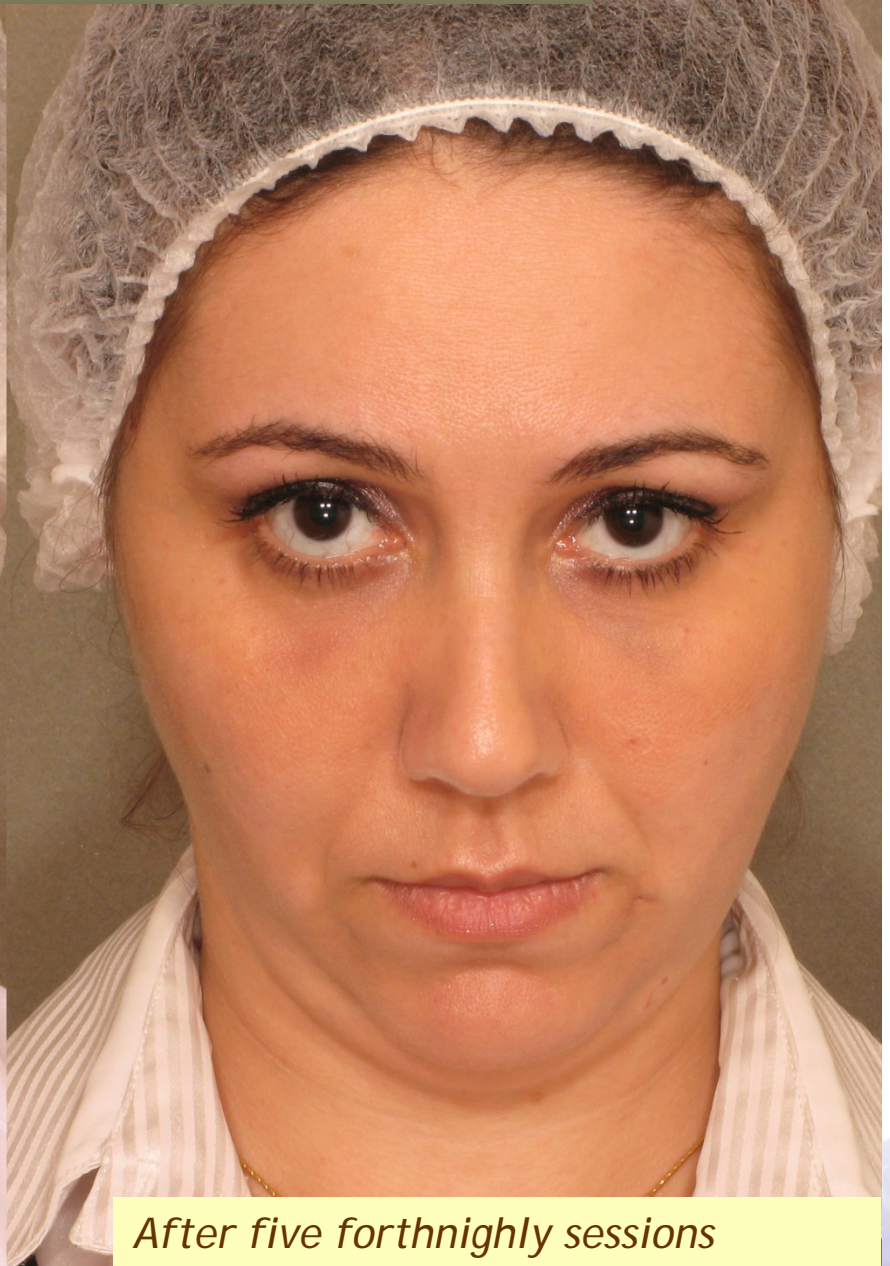
D.I. 34 years old



BEFORE

AFTER

Accent for Lower Face Volume Reduction and Rejuvenation



Volume Reduction of Lower Face and Radiesse for Cheeks

C.B. 36 years old



Before Heavy Lower face



After more oval

Advantage of Accent ultra “V-shape”

- Compared with other devices for fat reduction (cool sculpting & focused ultrasound), Accent ultra is the only one that able to use for face.
- Compared with other devices for facial rejuvenation, Accent ultra is the only one that able to reduce adipose tissue.

Conclusion

- “Sagging” is caused by loose skin and drooping subcutaneous tissue. So, not only tightening the skin but also reducing the subcutaneous tissue is most important to get a good result.
These hand-pieces, especially the one designed for the “V shape” concept, are ideal tools for tightening the face with no down time, pain, or disposables.

Body





Select Area:



Handpiece Selection





Select Handle:

Diode

A vertical, slender laser handle with a thin white shaft and a blue, segmented tip. The handle is shown against a dark blue background with a subtle glow.

UltraFace

A handheld laser device with a blue, ergonomic handle and a white, rounded head. The head has a circular lens and a small handle. The device is shown against a dark blue background with a subtle glow.

Handpiece Selection





Select Handle:

UniFace



UltraFace



Handpiece Selection



Select Handle:

UniLarge



UltraFace



UltraBody Screen





Power

A horizontal panel with three wavy icons. The middle icon is green and has the word "Power" below it. The panel is highlighted with a glowing blue border.

5 sec. hot

A horizontal panel with four circular gauges. Each gauge has a red needle and the number "20" in the center. Below the gauges are the numbers "0", "1", and "3". The rightmost gauge is highlighted with a glowing blue border and has "5 sec. hot" written below it.

01:20
Min / Grid

A horizontal panel with a minus sign on the left, a digital display showing "01:20" in green, and a plus sign on the right. Below the display is the text "Min / Grid".

30 KJ / Grid

A large digital display showing "30" in green, with "KJ / Grid" written below it.

STBY READY

A horizontal panel with two buttons: "STBY" on the left and "READY" on the right. The "STBY" button is highlighted with a glowing blue border.

Technology

RF Handpieces

- Unipolar electrode 19mm Ø (high power)
- 50/25 mm diameter massage wheel (Body/Face)
- 10/5 mm diameter massaging Balls (5/8 Body/Face)
- 150 turns/minute

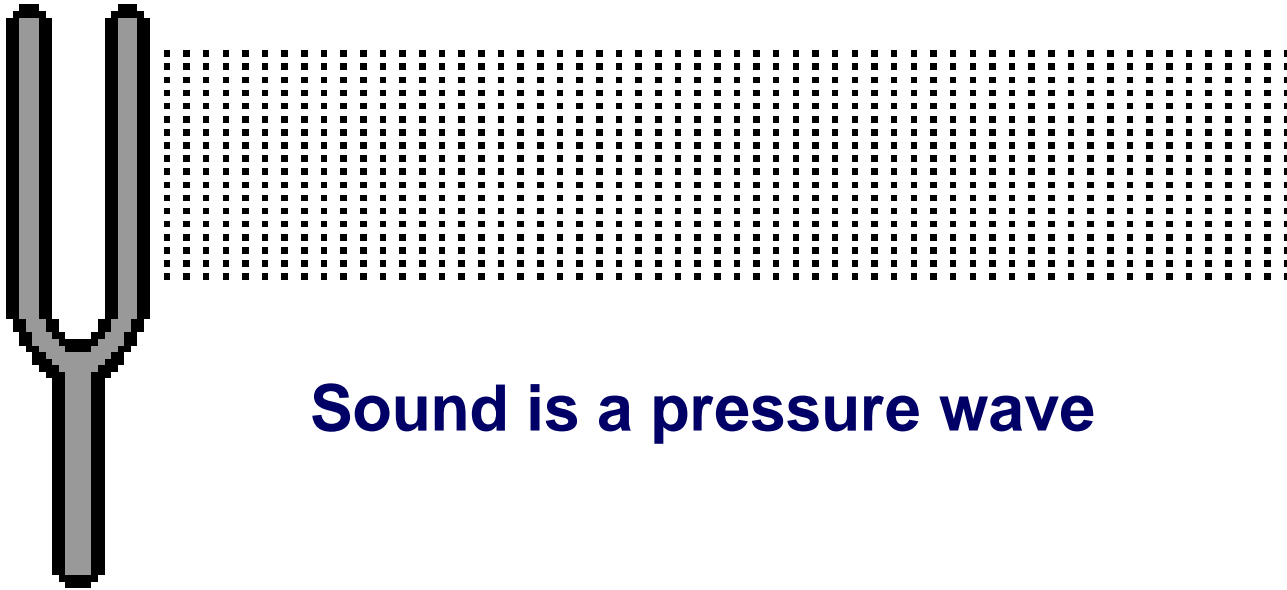


US Technology

Sound - Definition

- Sound is a form of mechanical energy that is propagated from one point to another by the interaction between neighboring oscillating particles.
- The direction of propagation is parallel to the direction of oscillation and, hence, sound is defined as a longitudinal wave.

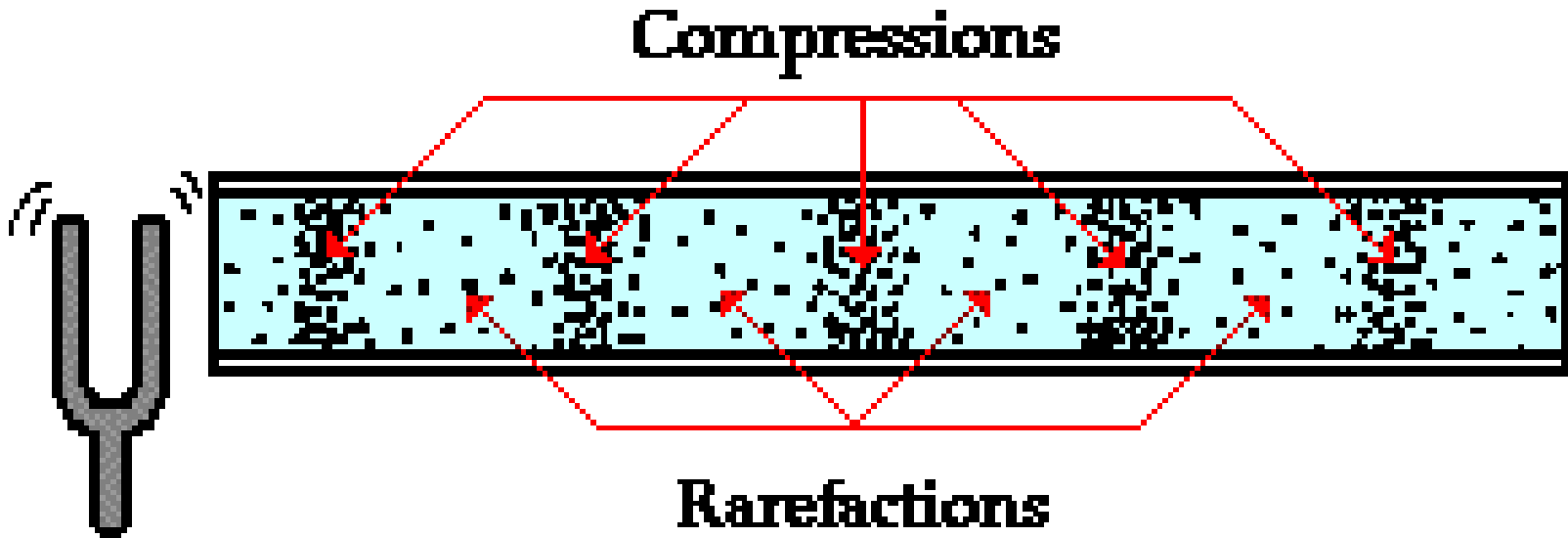
What is Sound?



Sound is a pressure wave

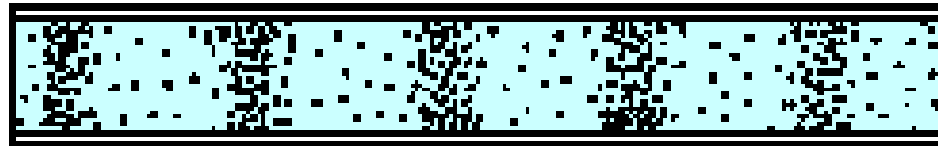
- As the tines of the fork vibrate back and forth, they push on neighboring air particles
- The forward motion of a tine pushes air molecules horizontally to the right and the backward *retraction* of the tine creates a low pressure area allowing the air particles to move back to the left.

What is Sound?

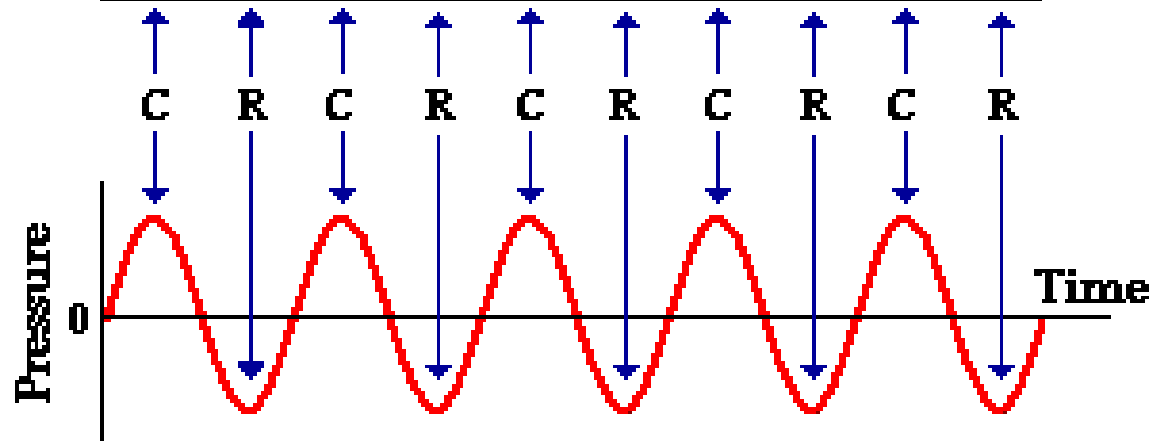


- There are regions in the air where the air particles are compressed together (high pressure) and other regions in the air where the air particles are spread apart (low pressure)
- These regions are known as compressions and rarefactions

What is Sound?



Sine Curve



NOTE: "C" stands for compression and "R" stands for rarefaction

- Crests correspond to compressions (peak pressure points)
- Troughs correspond to rarefactions (low pressure points)
- One cycle is measured crest to crest (or trough to trough)

Modes of Sound Waves Propagation

Wave Types in Solids

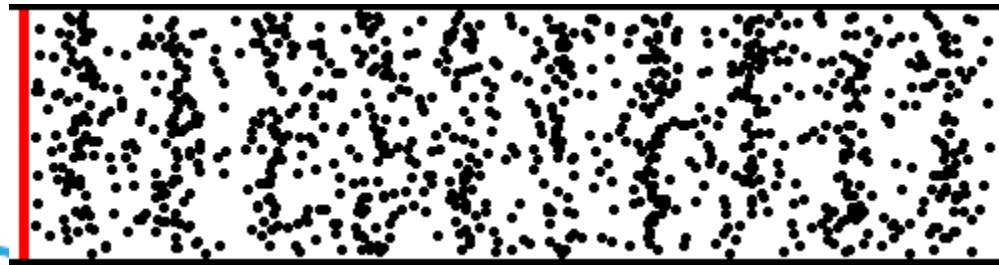
- Longitudinal →
- Transverse (Shear) →
- Surface - Rayleigh →
- Plate Wave - Lamb →

Particle Vibrations

- Parallel to wave direction
- Perpendicular to wave direction
- Elliptical orbit - symmetrical mode
- Component perpendicular to surface (extensional wave)

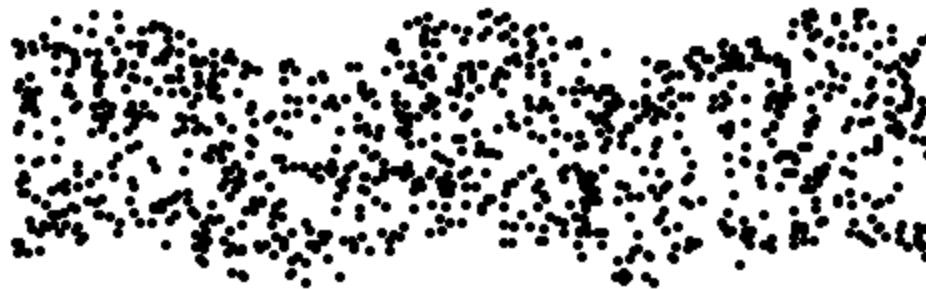
Longitudinal Ultrasonic Wave

1. In longitudinal waves, the oscillations (or particles displacements) occur in the direction of wave propagation.
2. Since compressional and dilational forces are active in these waves, they are also called compression waves.



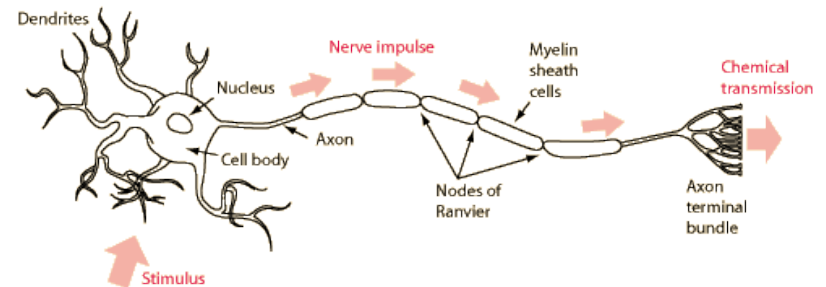
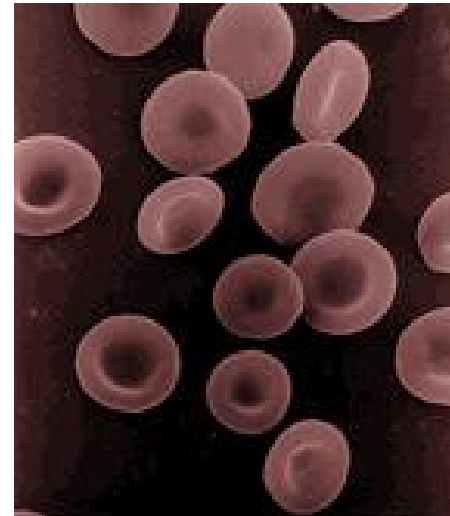
Transverse (Shear) US Wave

- ULS shear wave is a specific wave with mechanical oscillations perpendicular to the propagating longitudinal US wave.



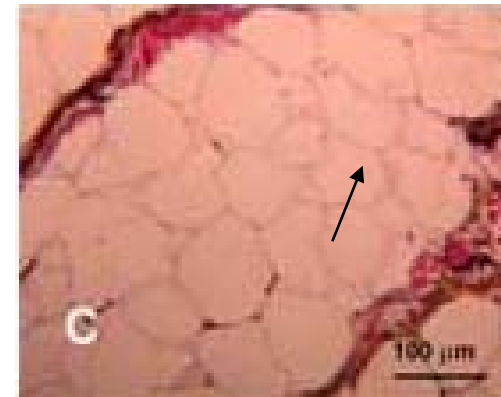
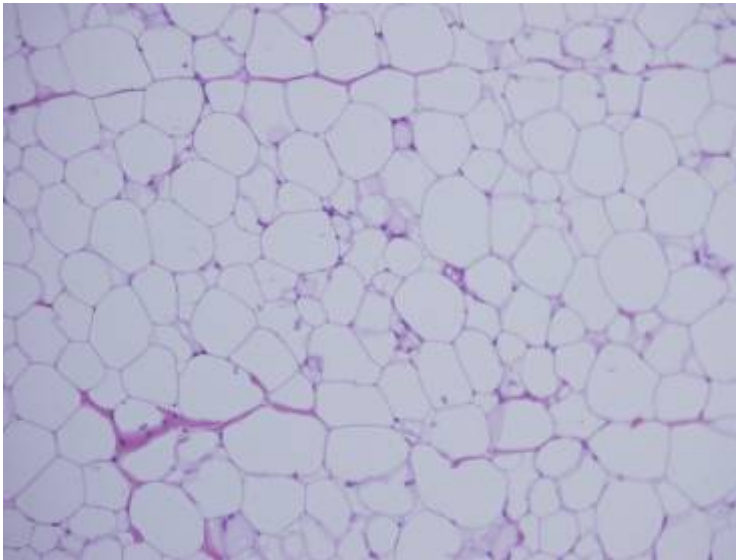
Human Cells Size

- Red Blood Cell ~ 6-8microns
- Muscle cell ~10 microns
- Bone cell ~15 microns
- Nerve cell ~ 4 microns



Adipocytes

- Fat cells are composed of 90% triglycerides and free fatty acids.
- They are “large” cells, 50-150 microns: **easy to vibrate.**

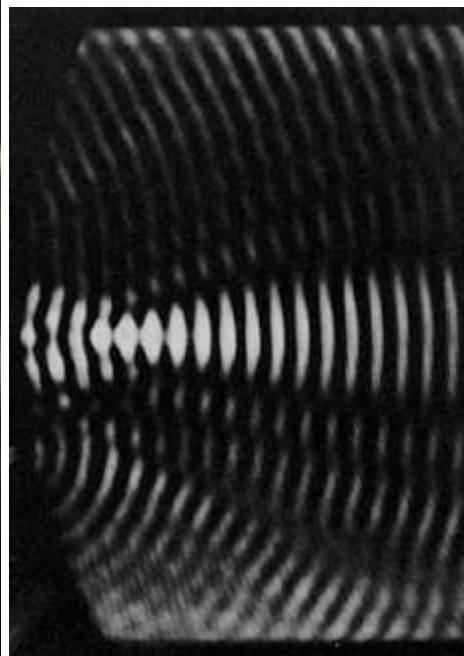


Size: 50 -150 μm

(van Gieson's Stain, Bar= 100 μm)

Self Resonance



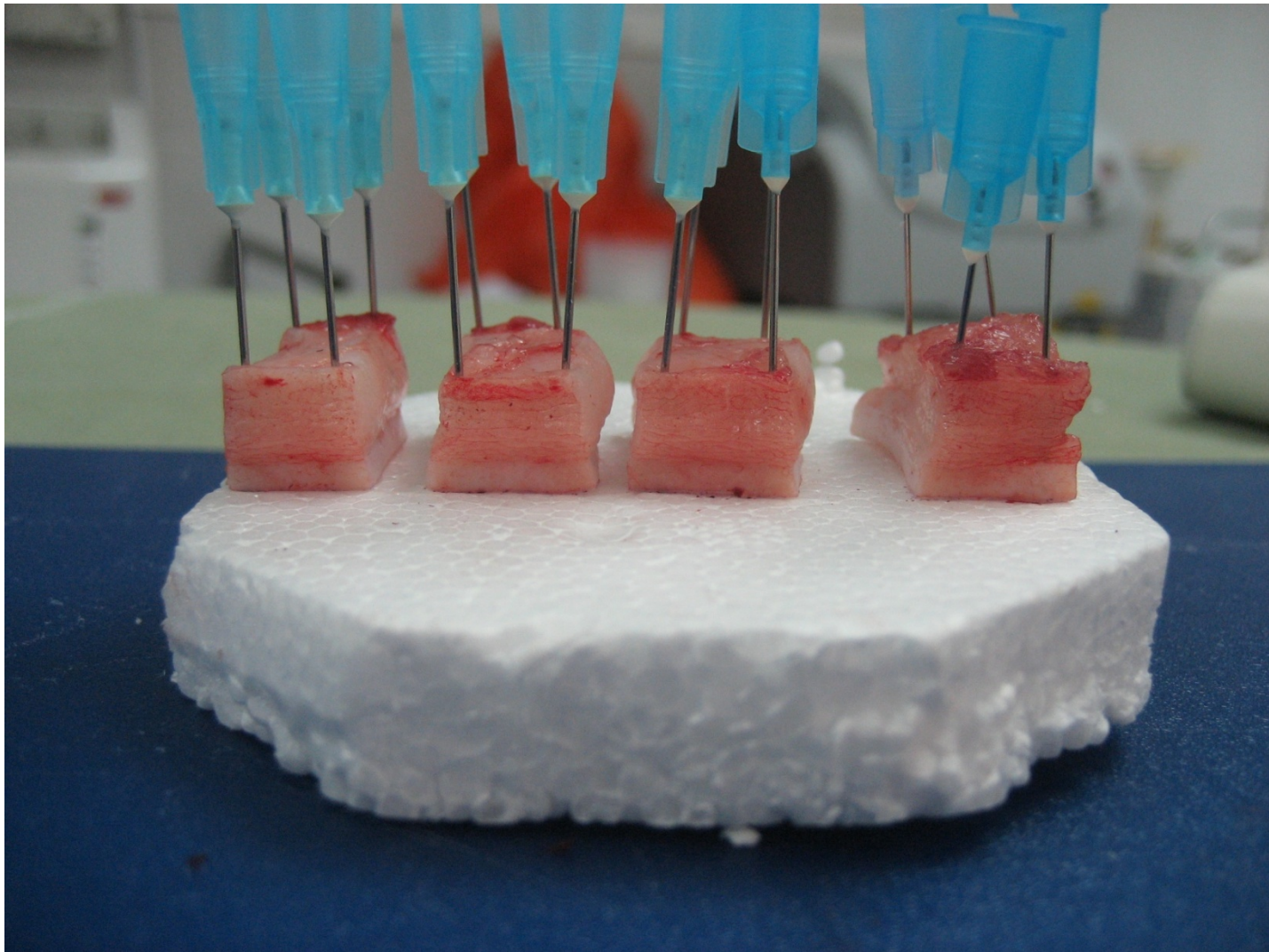


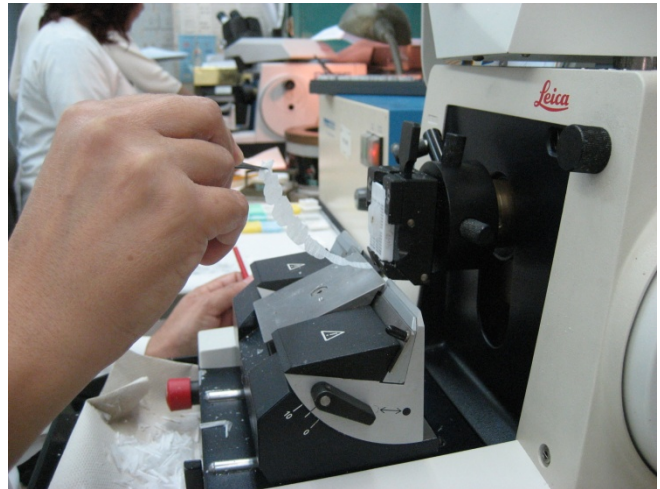
Maria Callas

Broken Glass Movie



Selective Lipolysis by Acoustic Energy: A Dose Response Feasibility Study with a Novel Technology in an In-Vivo Porcine Model





Selective Lipolysis by Ultrasound: A Dose Response Feasibility Study with a Novel Technology in an In-Vivo Porcine Model

Guy Nahmany, MD, Prof. Arie Orenstein, MD
Plastic Surgery Department, Sheba Medical Center, Israel

Objectives:

In-vivo feasibility assessment and dosimetry study with a novel selective ultrasound lipolysis system (Alma Lasers Ltd. Caesarea, Israel).

Methods:

Crossbreed (Landers & Large white) domestic female pigs were divided to the following groups: acute, 3 days, 7 days and 14 days. Each animal was marked with grids of treatment areas differ in energy level and duration of treatment. Samples were harvested and histological sections were prepared using H&E stain. Histopathological analysis of the samples was made and effects for each energy level and treatment duration were characterized through the time scale described above.

Results:

Well noted effects from membrane alteration through complete lysis were observed in the sub cutaneous fat. A specific parameter combination of power level and treatment duration as well as a unique frequency window enabled a highly selective damage to the adipose tissue with no epidermal and dermal damage

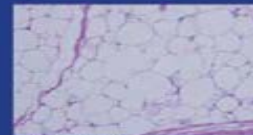
Damages:



Damaged adipocytes
"condensation" effect



Membrane shape alteration



Ruptured adipocytes



Area of lysis

Control Vs treatment



Control: intact adipose tissue

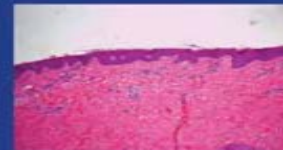


Damaged adipose tissue
post treatment

selectivity



Intact nerve and blood vessels
surrounded by damaged fat tissue



Intact dermis and epidermis
post treatment

Skin appearance



Slight redness immediately
post treatment



Normal appearance post 15 min

Conclusion:

Non invasive selective ultrasound assisted lipolysis is feasible through use of specific parameters composition with no epidermal and dermal damage. This can be performed in a very simple procedure, high efficiency and low complications rate. This highly selective ultrasound technology might be a solution for fat remodeling and sculpturing in the human body

ASLMS Annual Conference, April 2009

Conclusion:

Alma Lasers

Wellbeing Through Technology®

Histology

Normal Skin

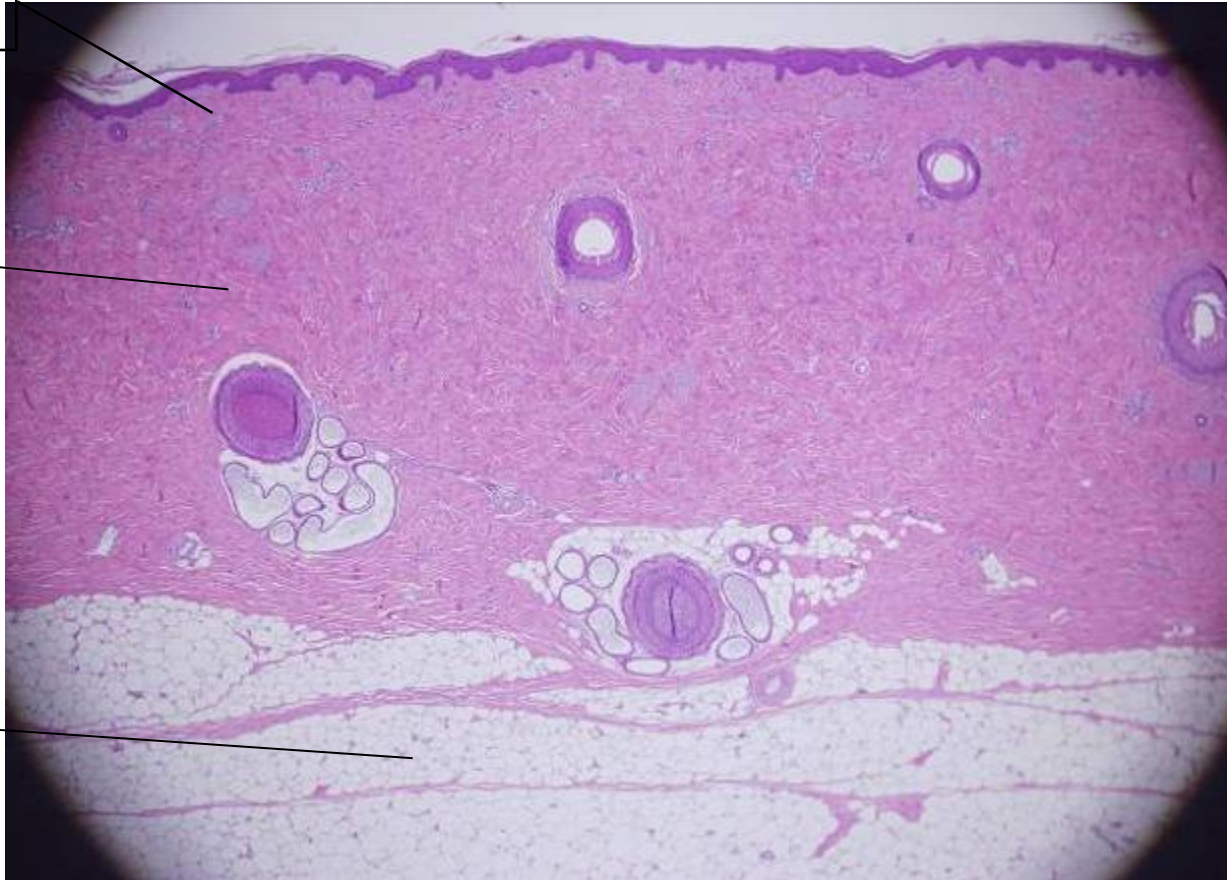


Skin Layers

Epidermis

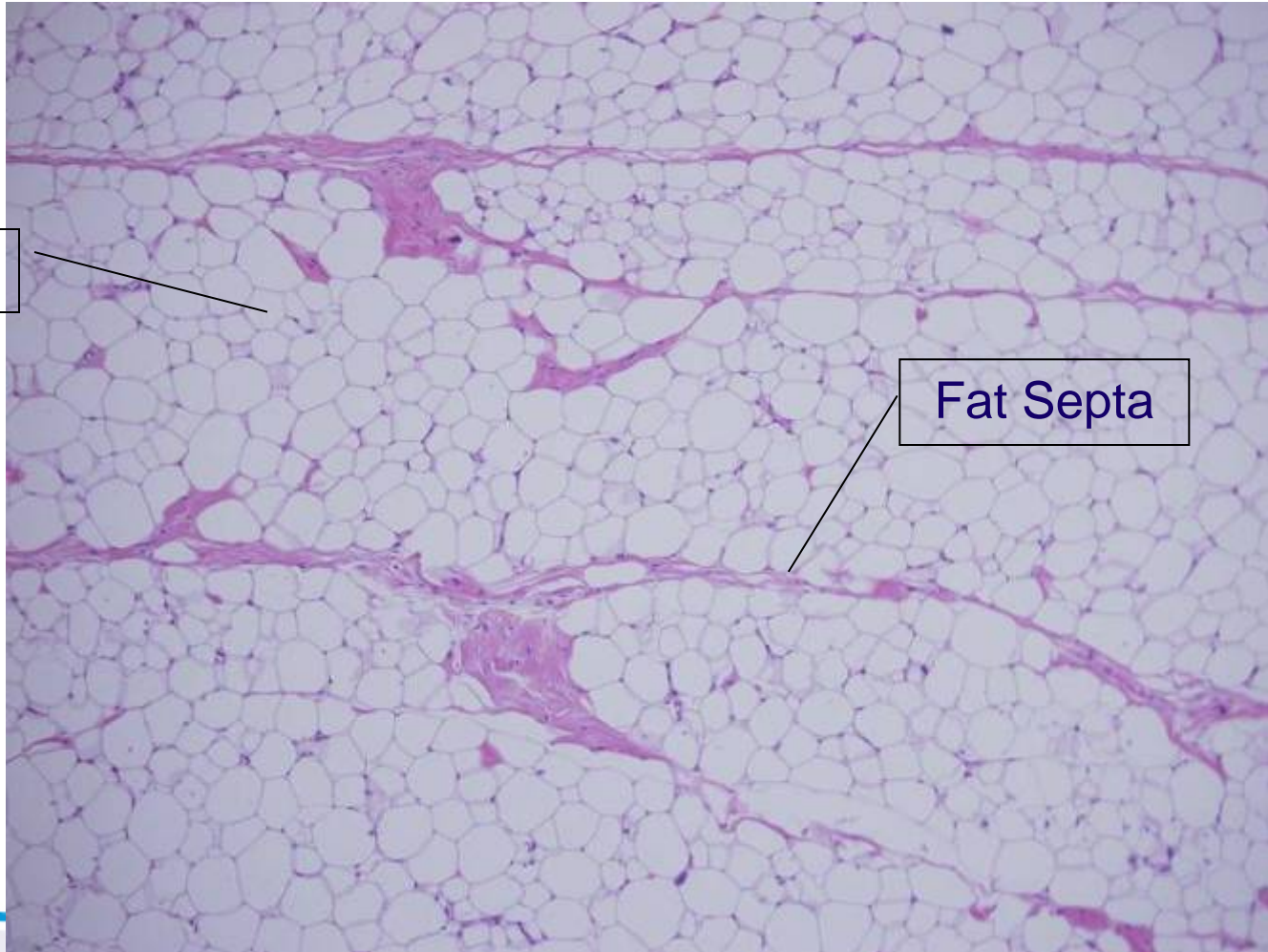
Dermis

Hypodermis

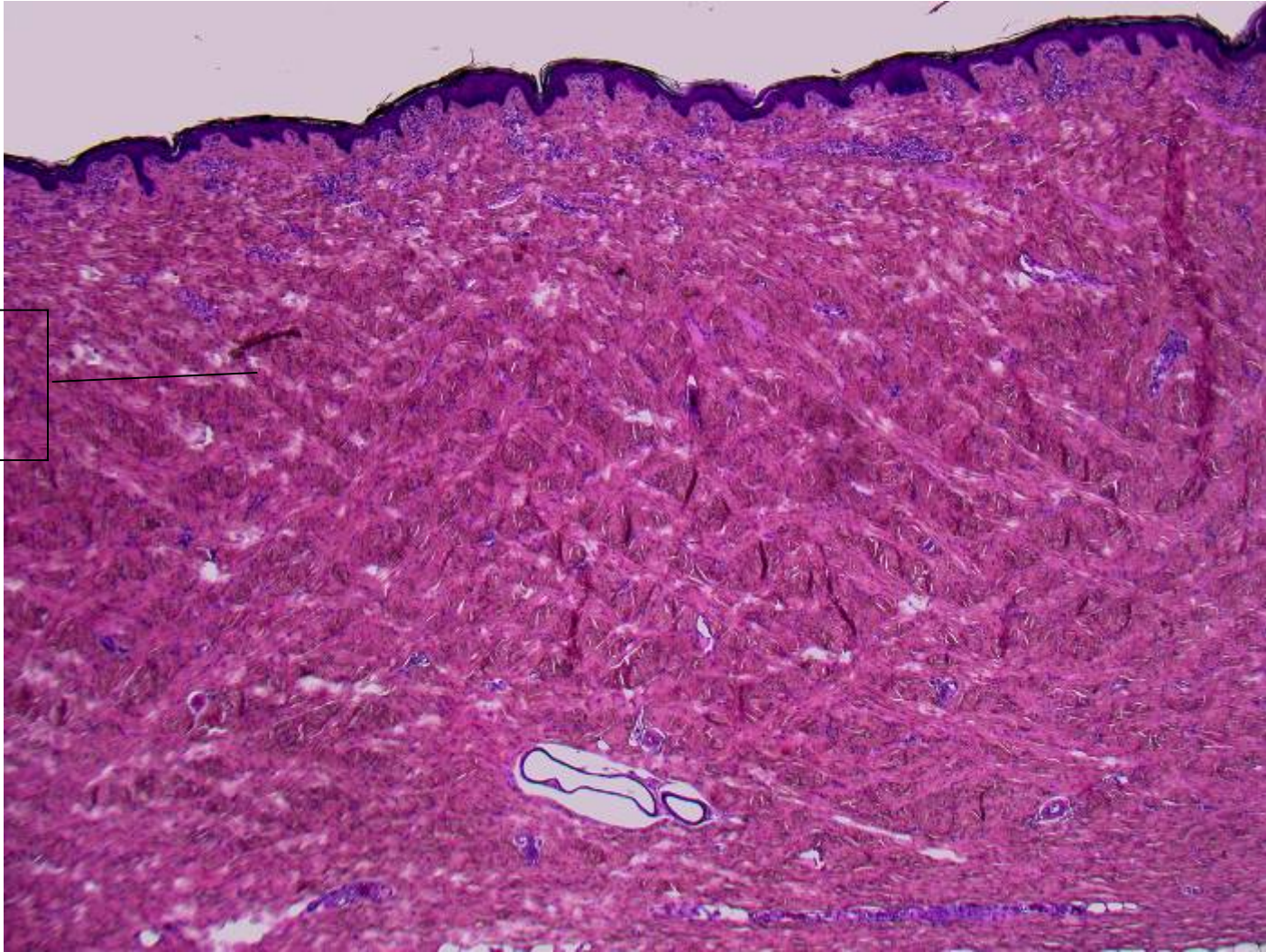


Normal Adipocytes

Adipocyte



Fat Septa



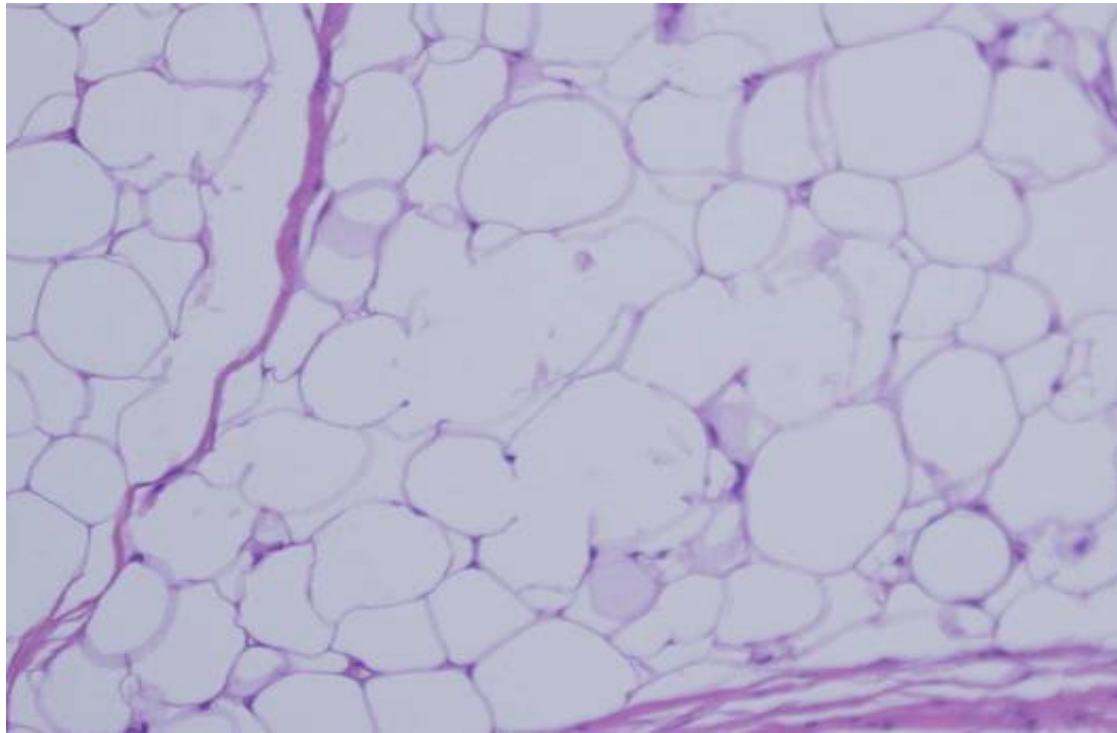
Collagen
bundles

Histology

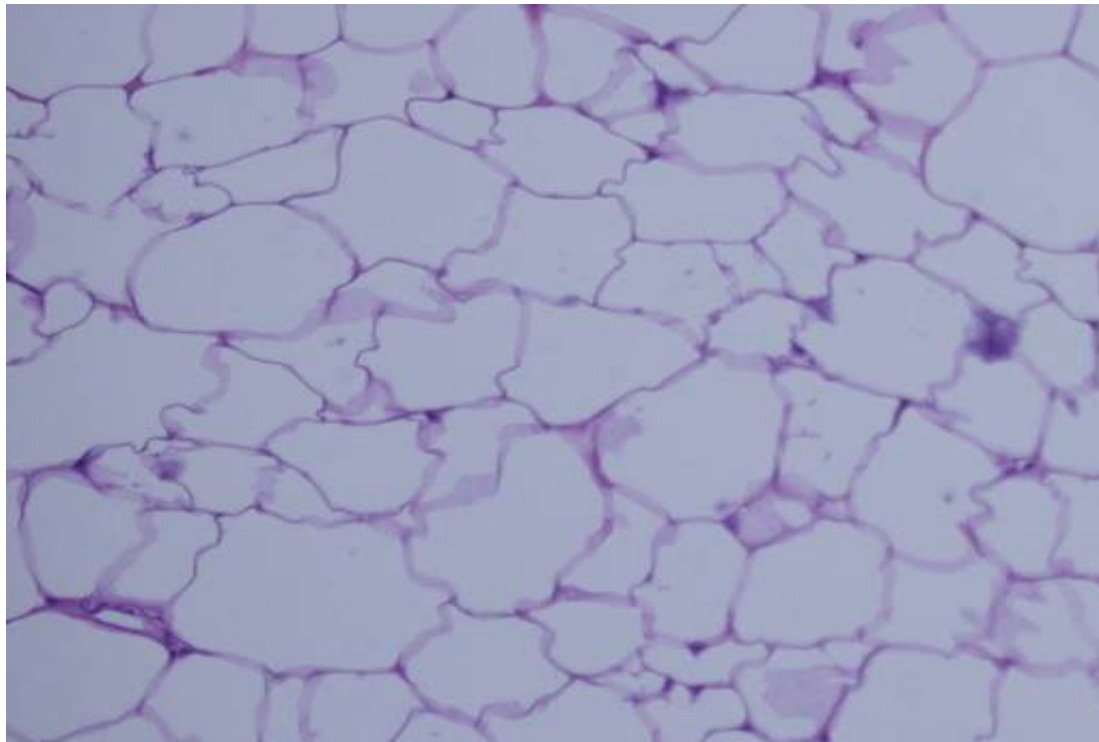
Types of Damage to Fat Cells



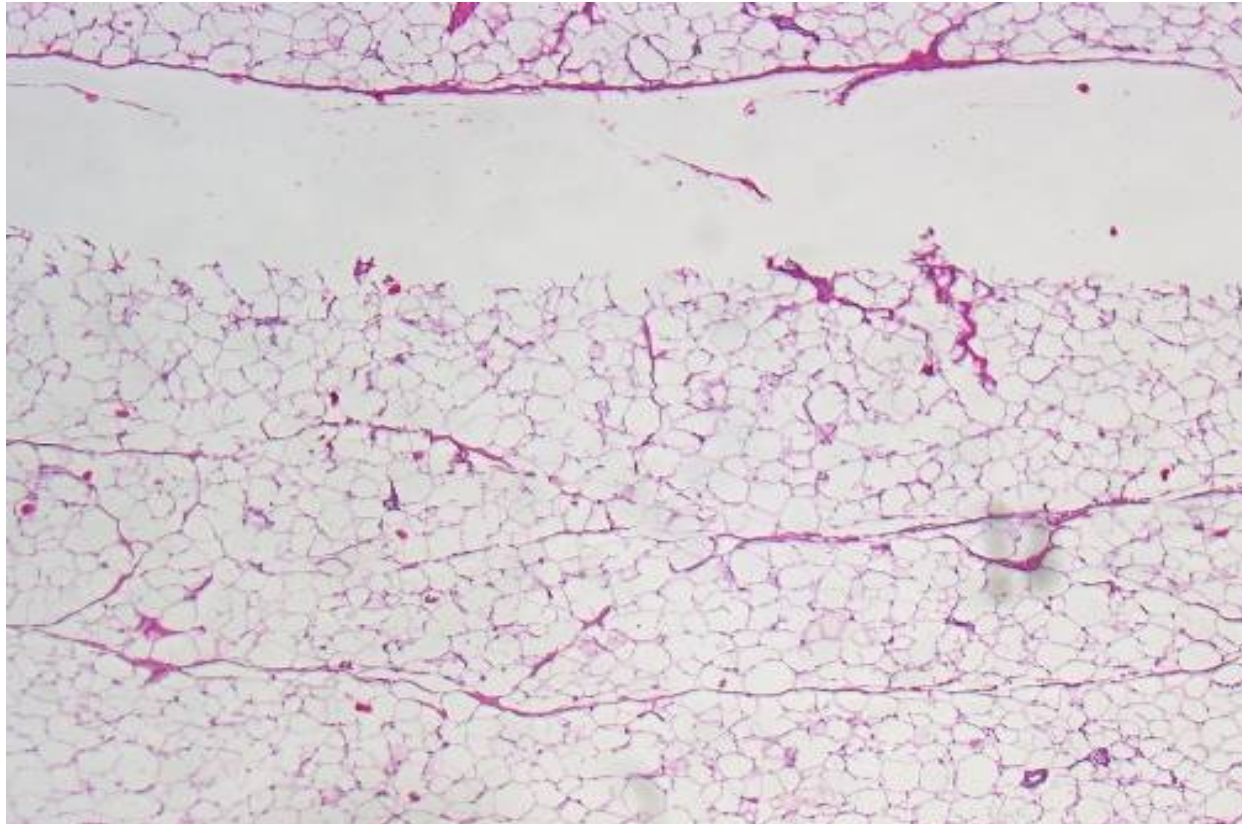
Destruction of fat cell membrane



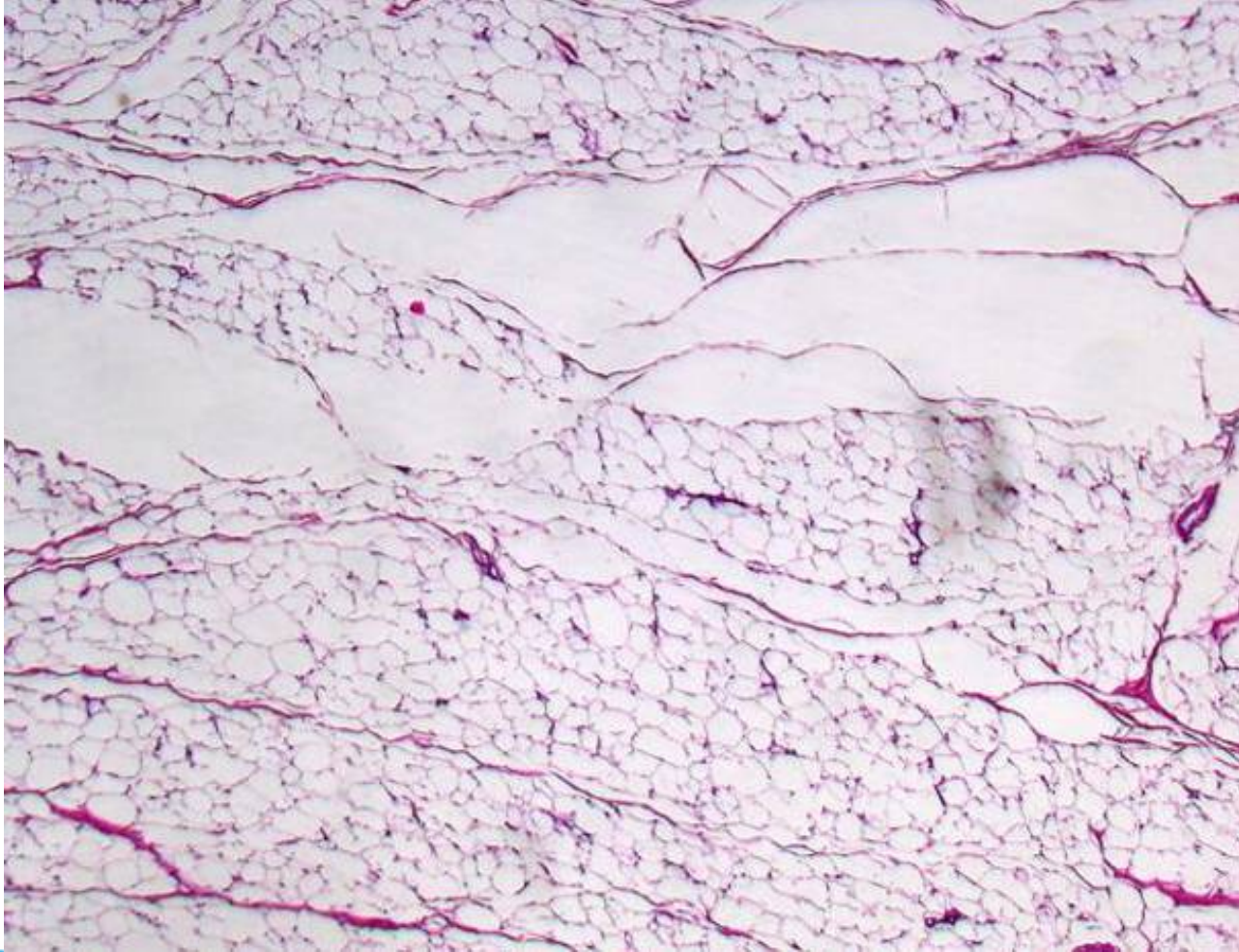
Change of fat cell membrane appearance



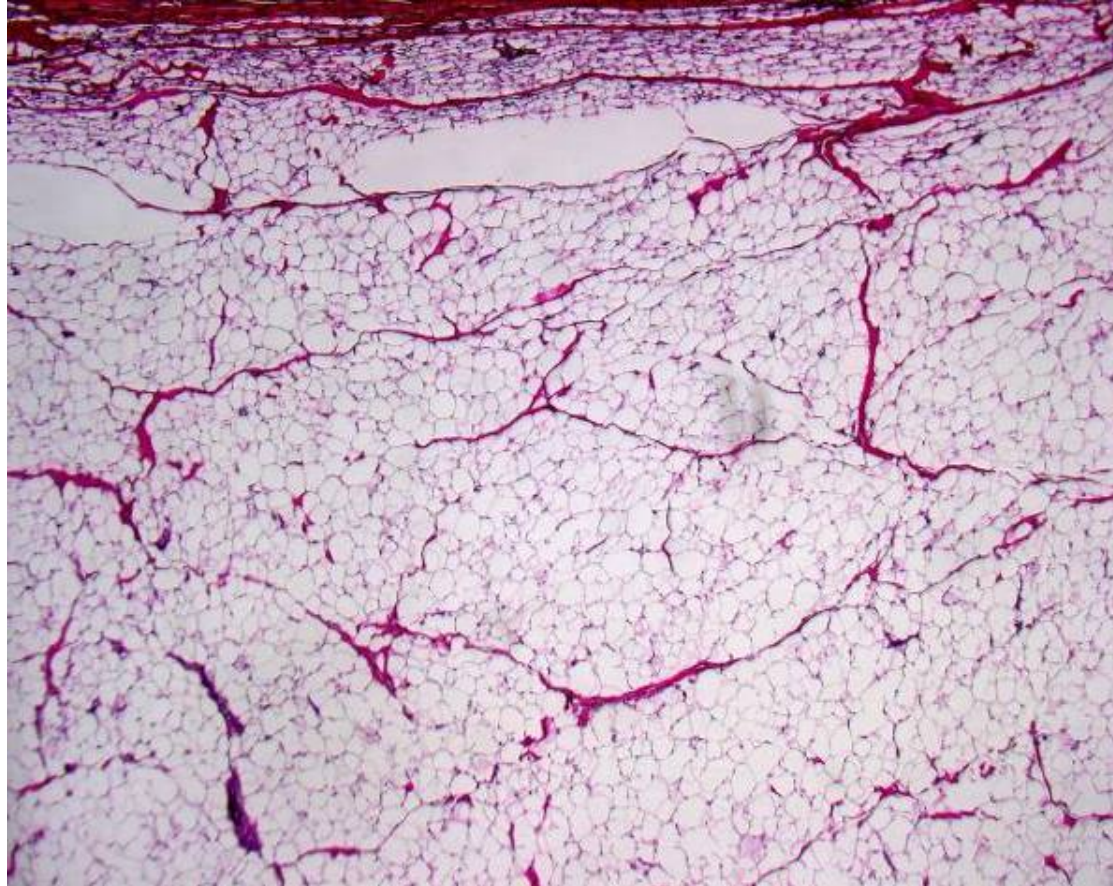
Septa Separation



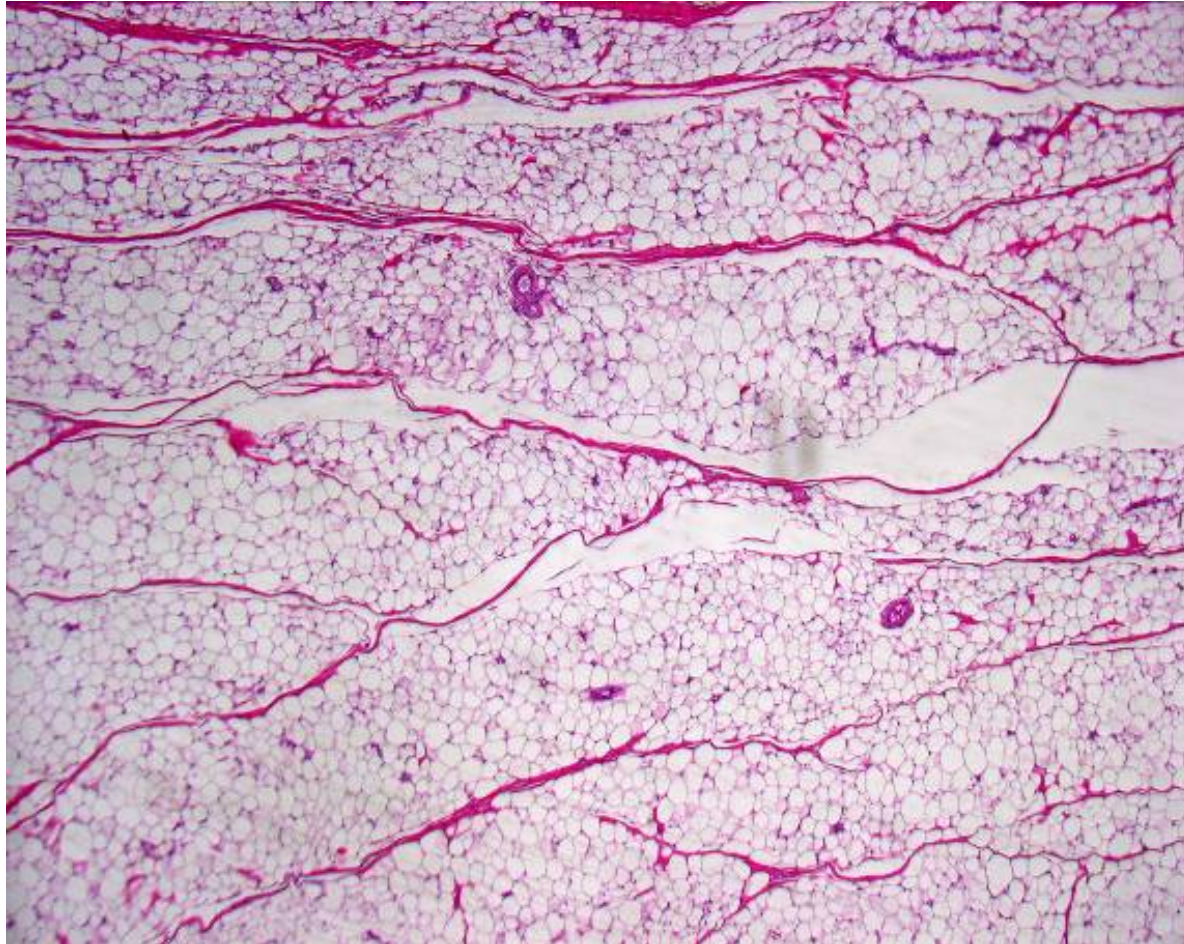
Acute



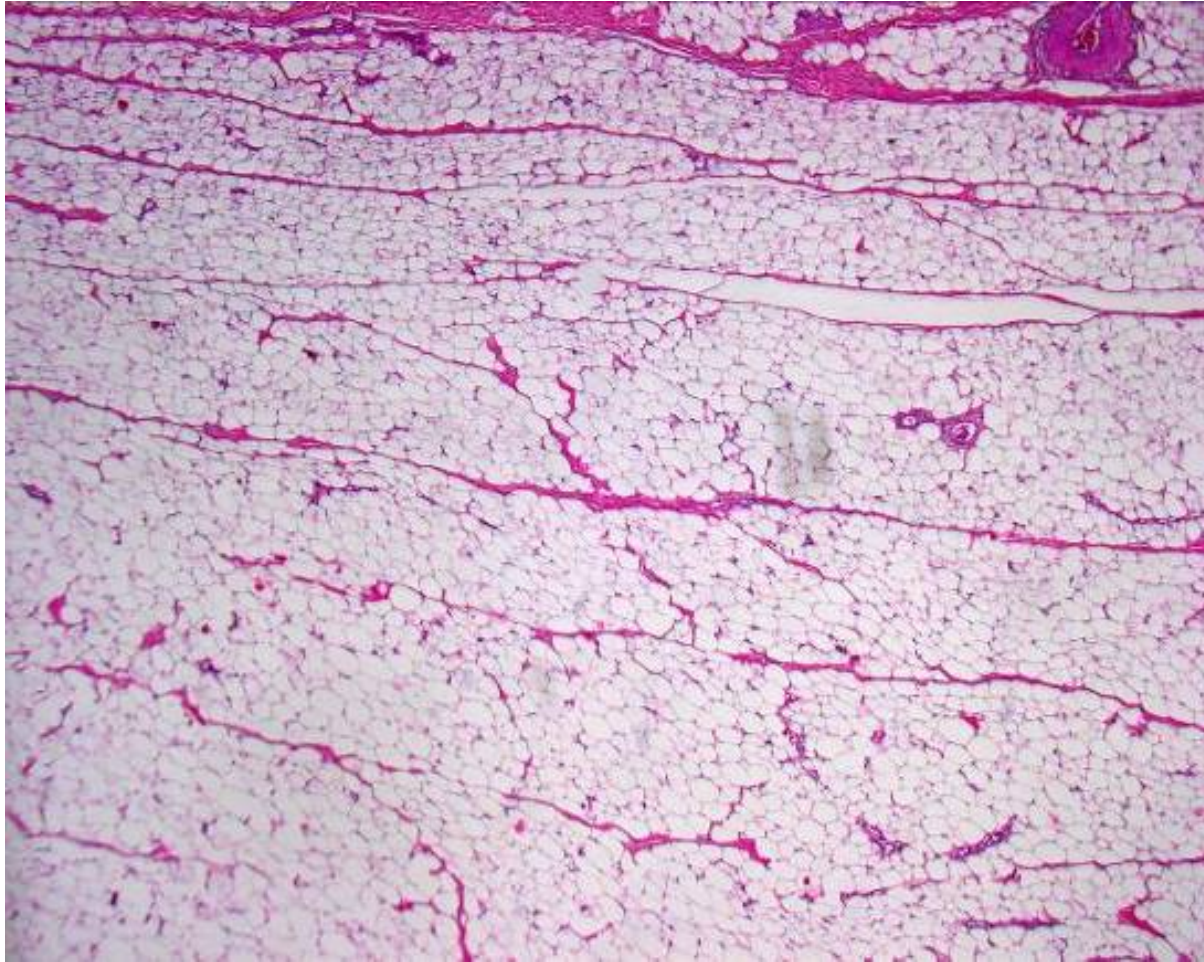
3 Days



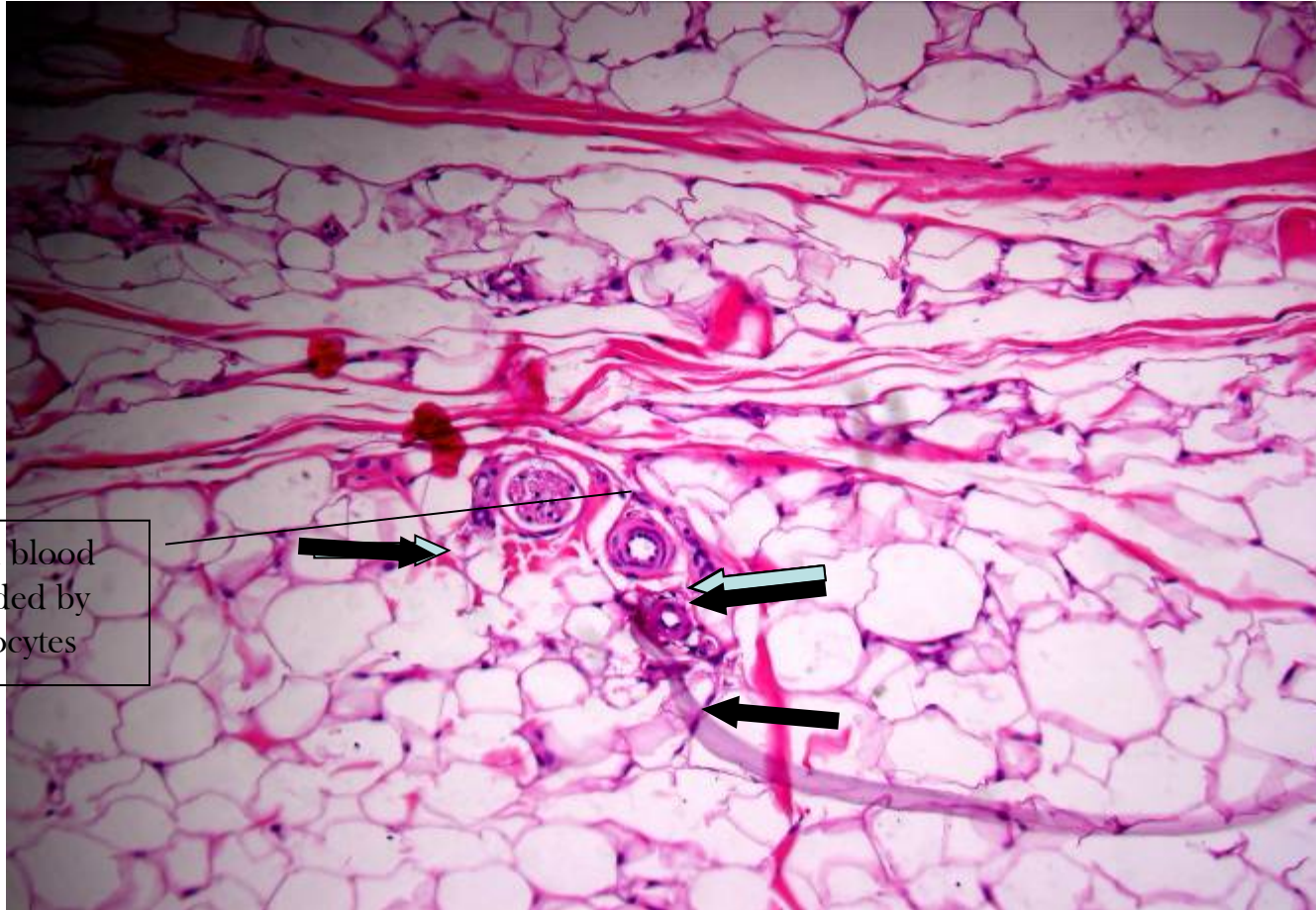
7 Days



14 Days

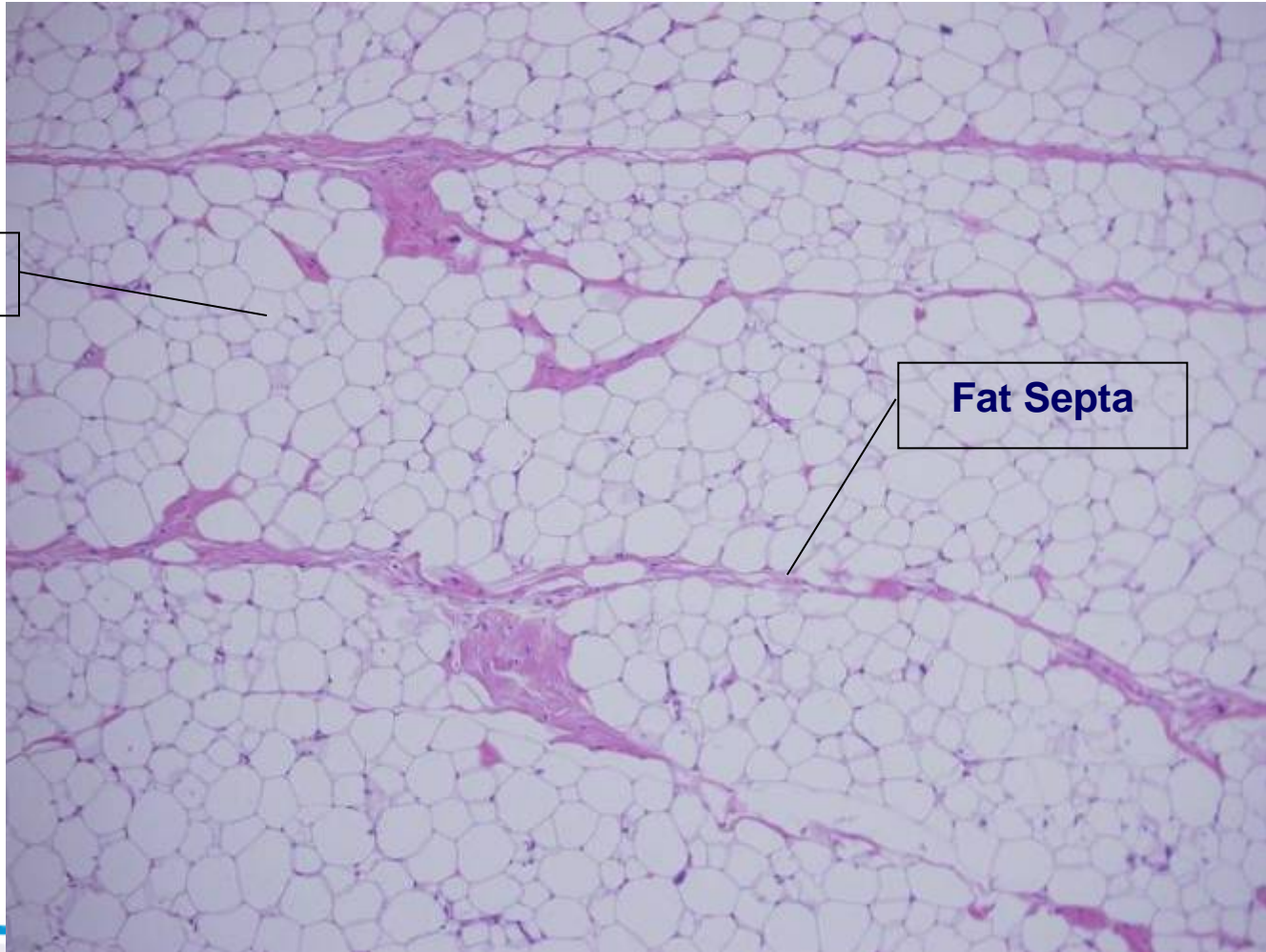


Selectivity



Intact nerve and blood vessels surrounded by damaged adipocytes

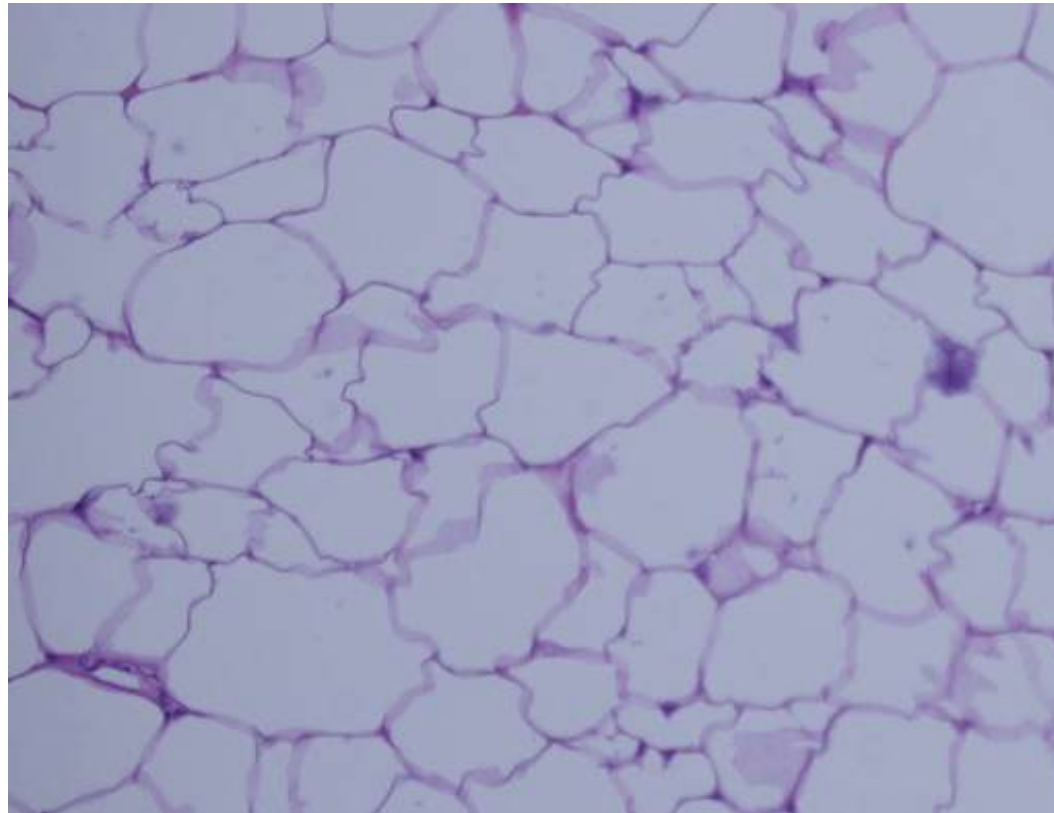
Normal Adipocytes



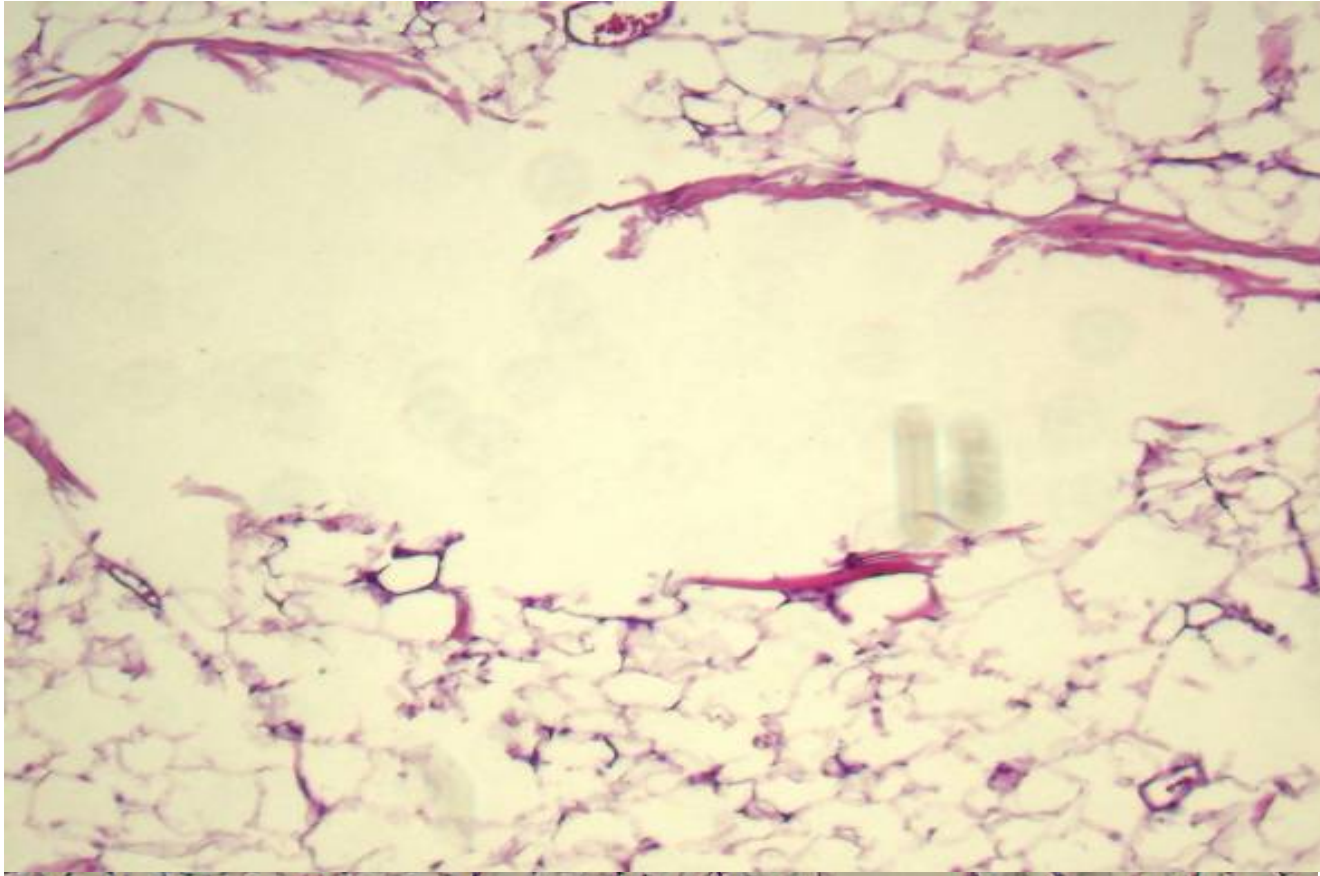
Adipocyte

Fat Septa

Deformation in fat cell membrane appearance

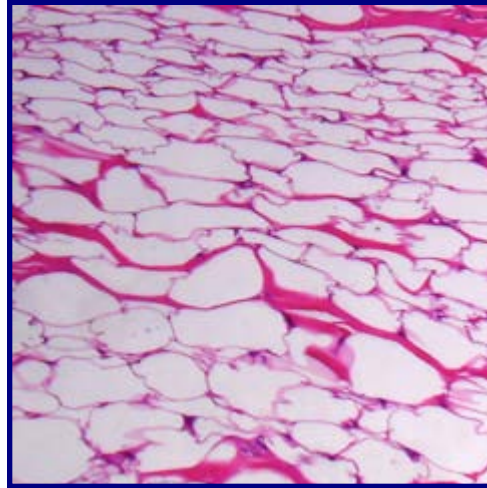


Lysis of fat cells

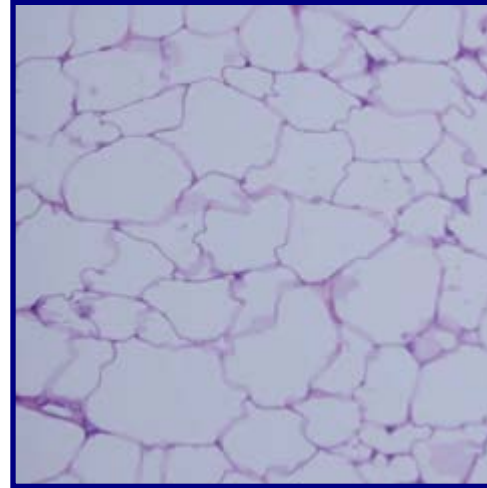


Histology

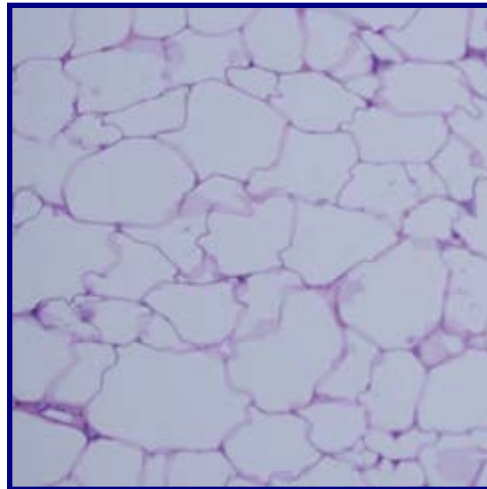
Cell Volume Reduced



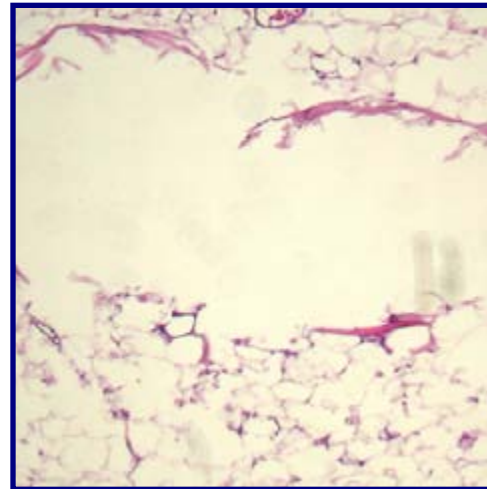
Membranes Disrupted



Membranes Breakdown



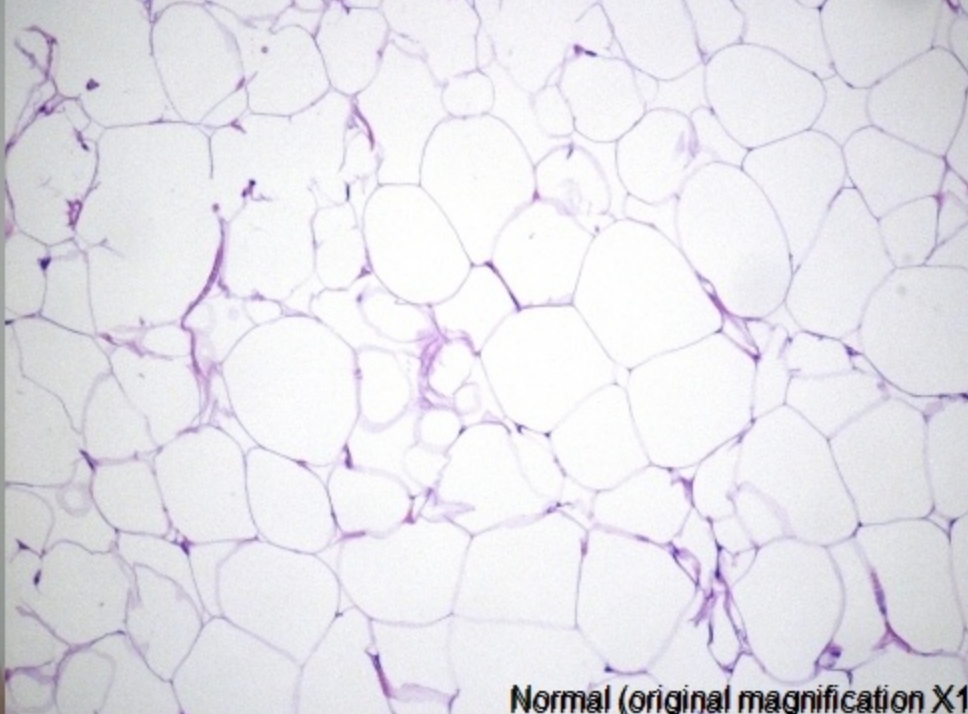
Cells Eliminated



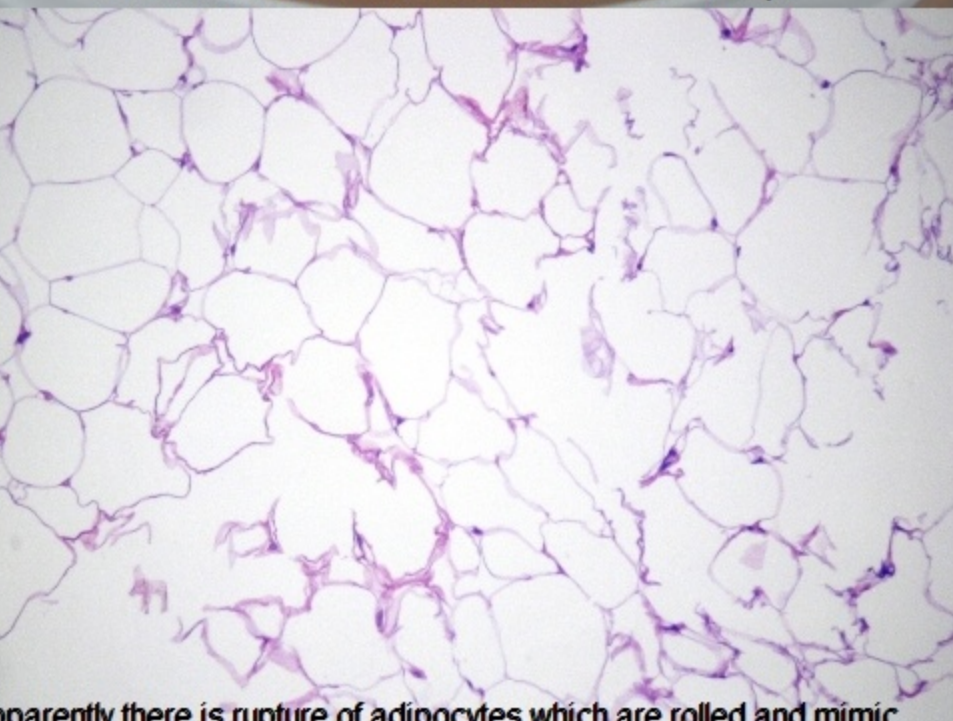
Courtesy of Professor Arie Orenstien, MD



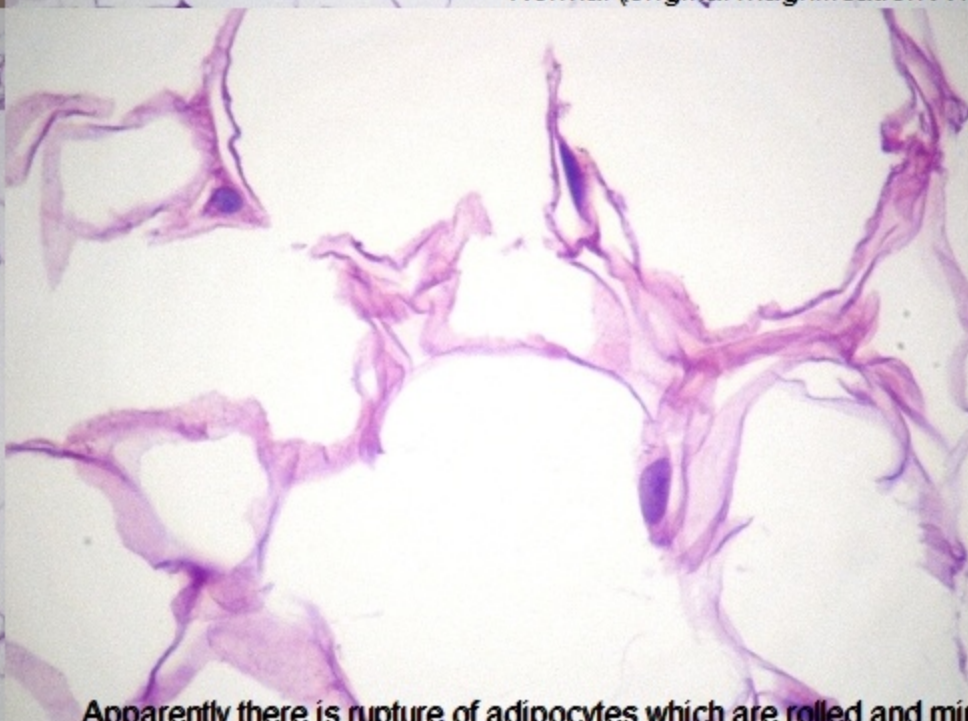
ULTRA Accent XL - 15sec. cold / 5sec. hot - 7 days



Normal (original magnification X100)



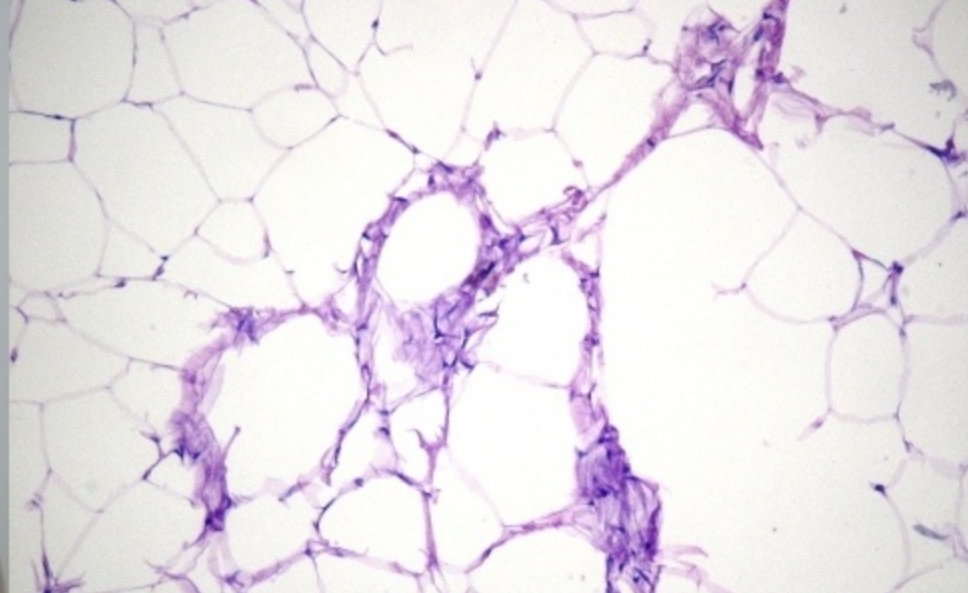
Apparently there is rupture of adipocytes which are rolled and mimic



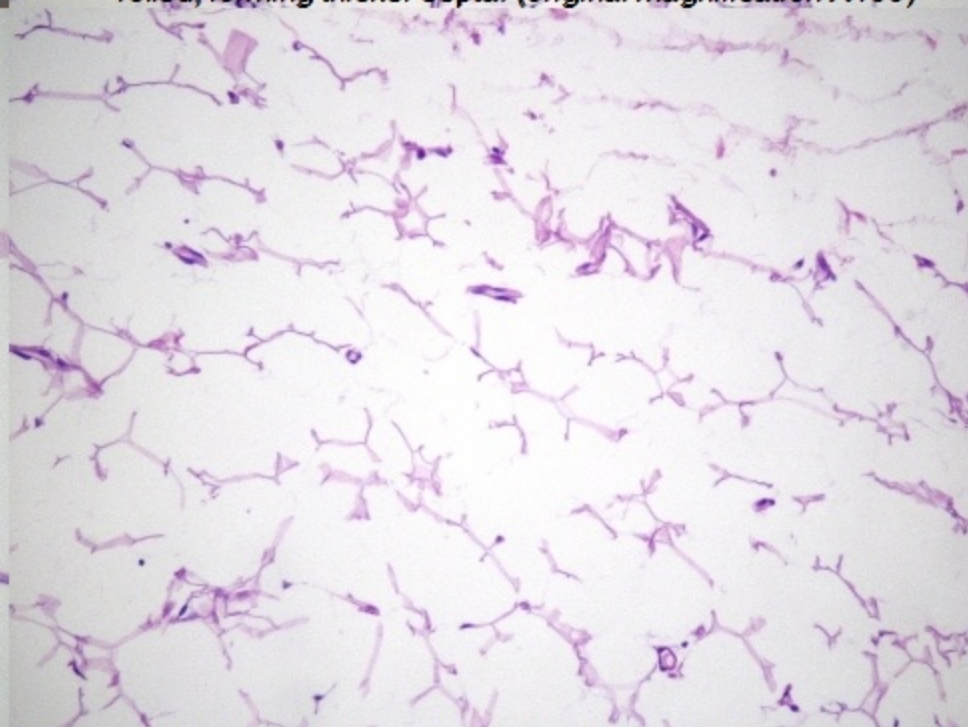
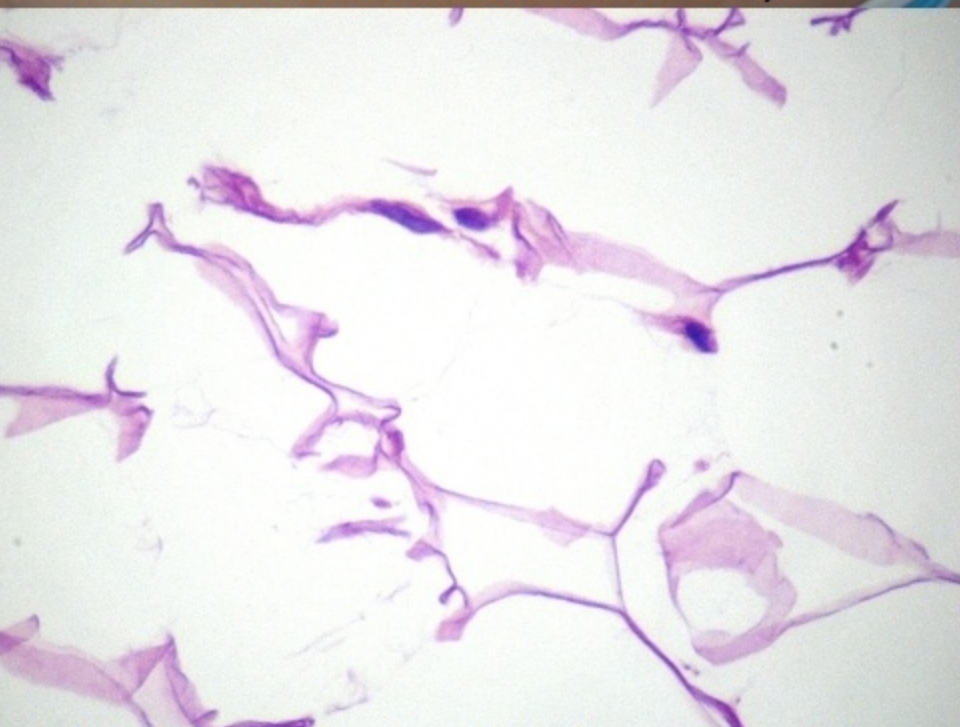
Apparently there is rupture of adipocytes which are rolled and mimic



ULTRA Accent XL - 15sec. cold / 5sec. hot - 15 days

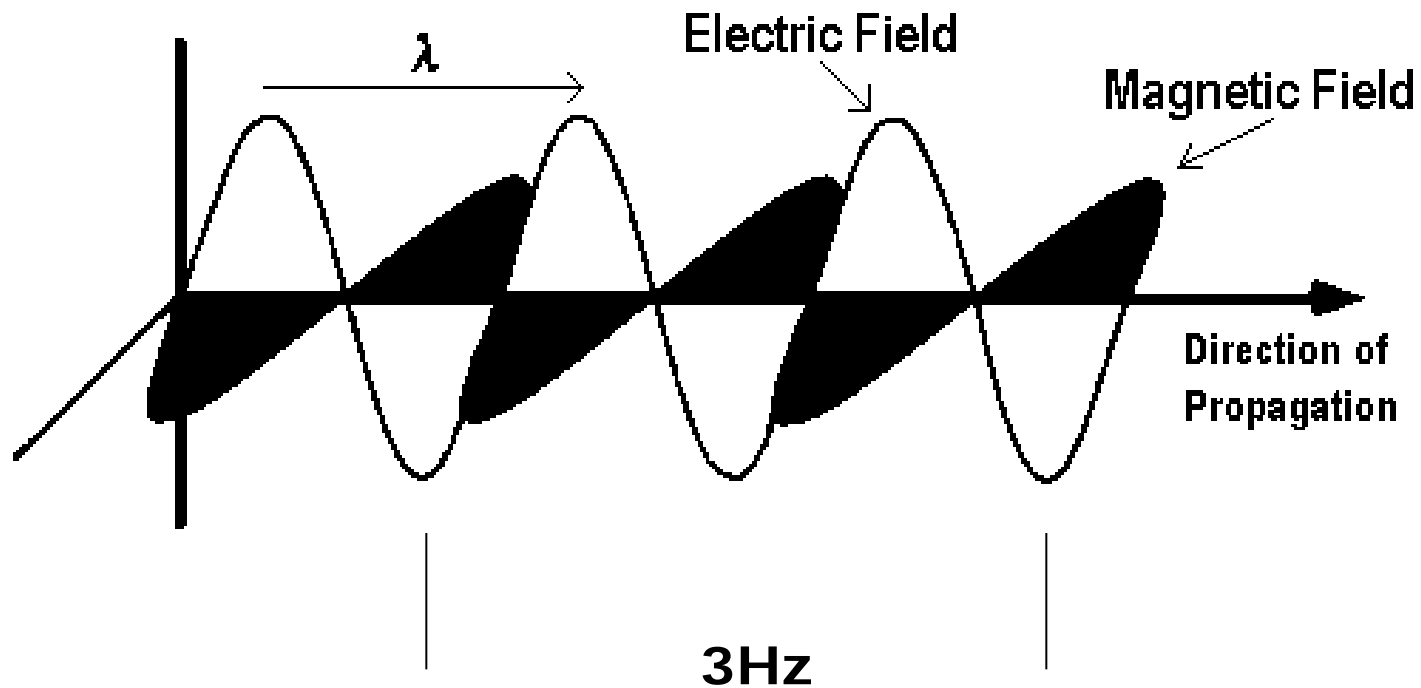


There are large cavities, apparently as a result of the breakdown of membranes of adipocytes and some small adipocytes (ruptured? rolled, forming thicker septa. (original magnification X100)

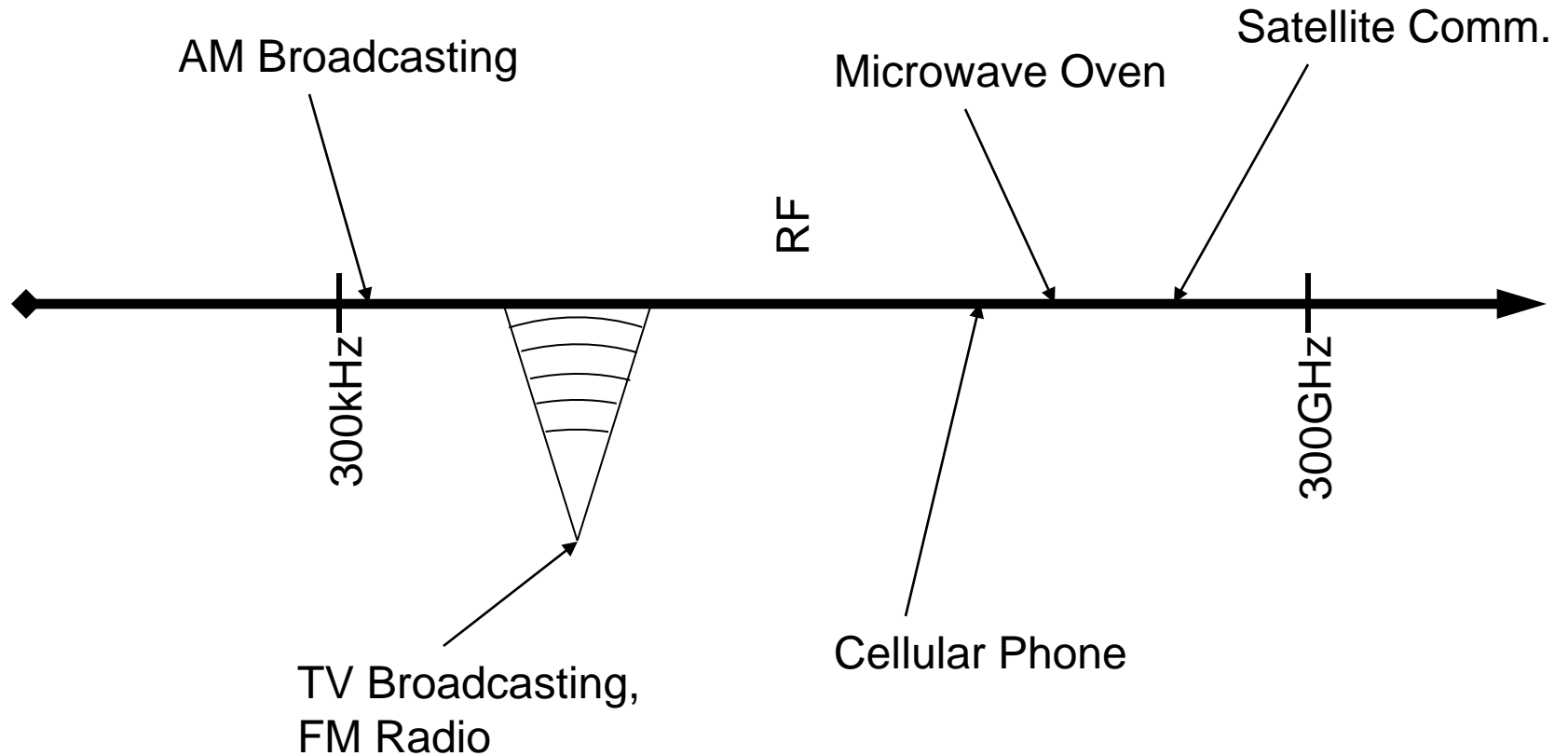


RF Technology

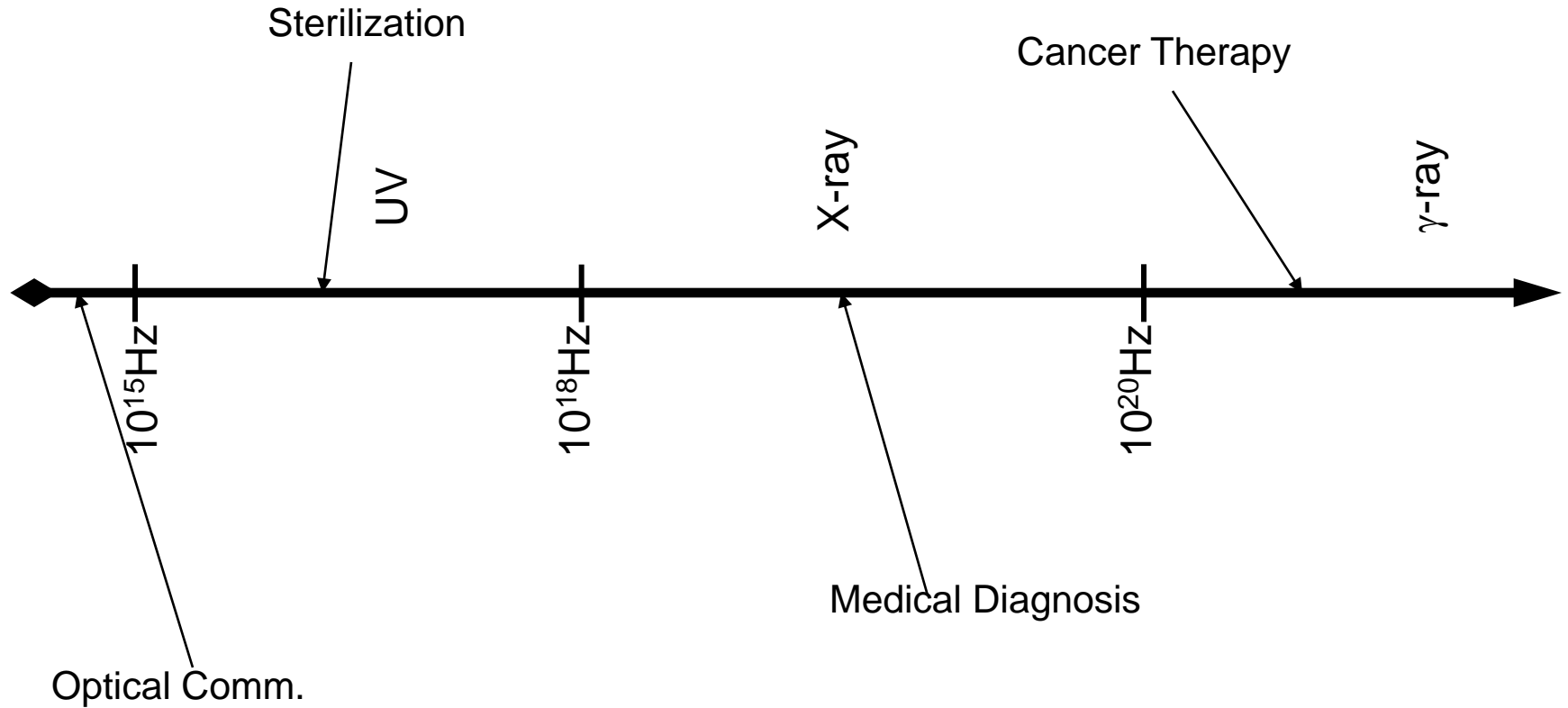
Electromagnetic Wave



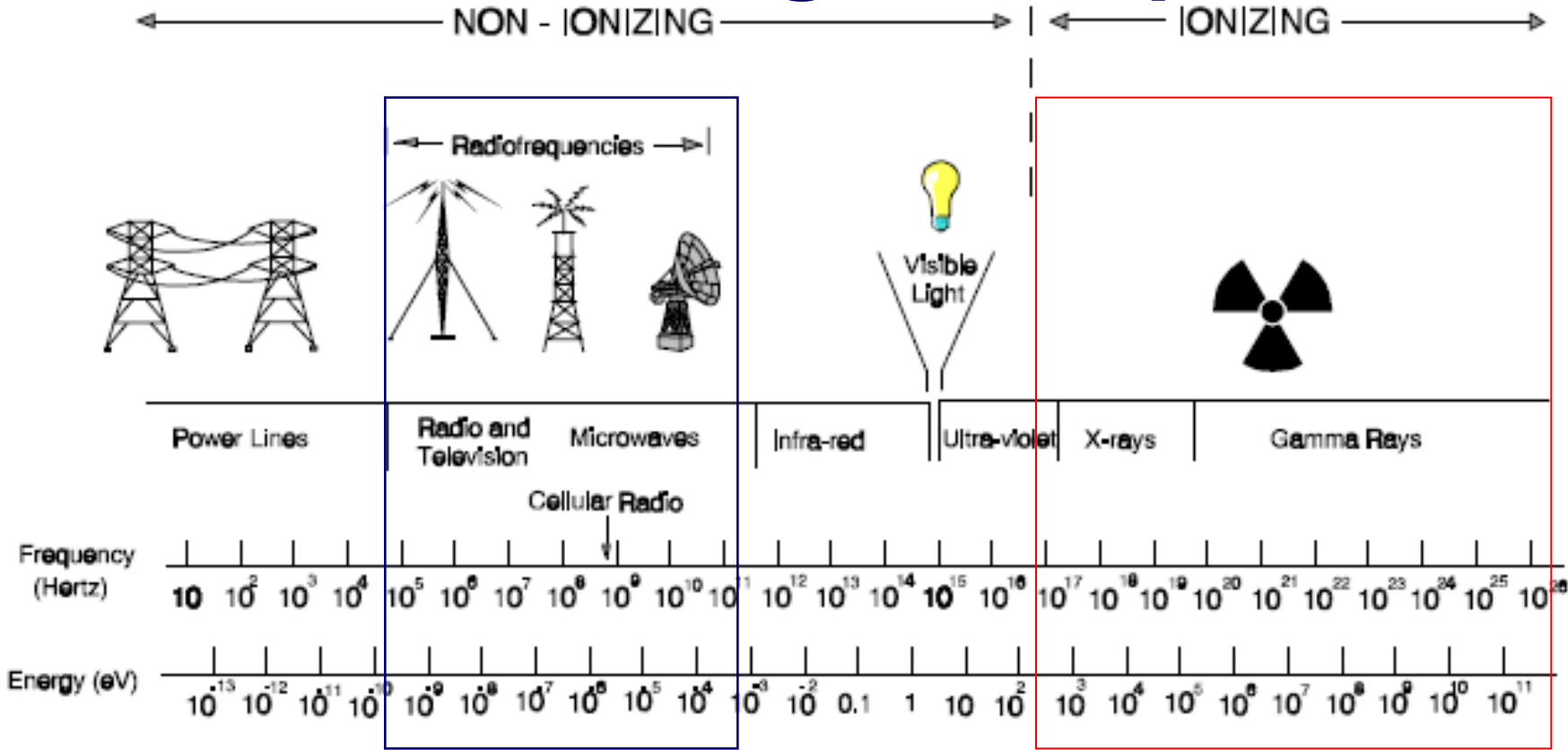
Radio Frequencies



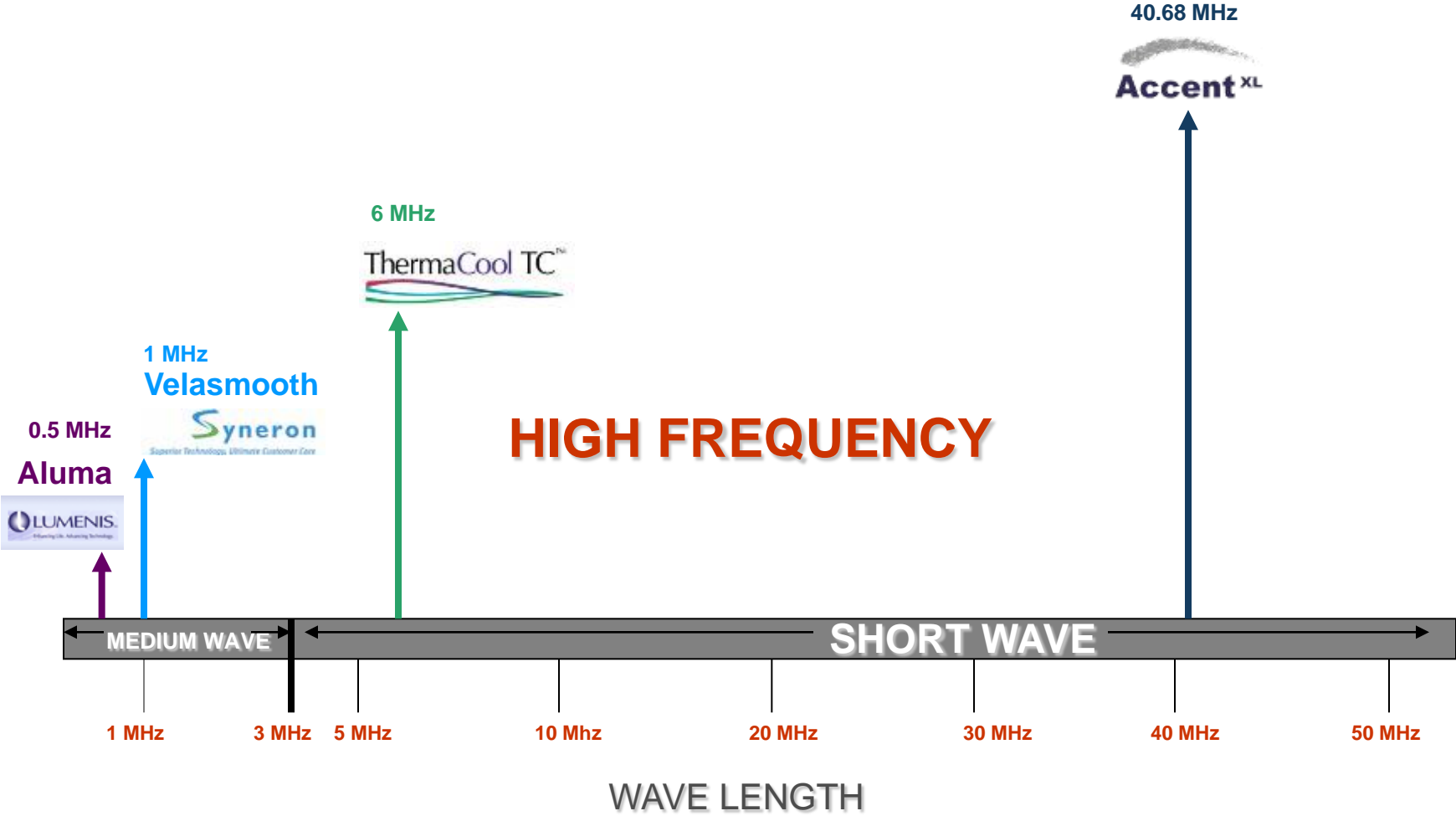
Ionizing radiation



The Electromagnetic Spectrum



RF Devices' Frequency

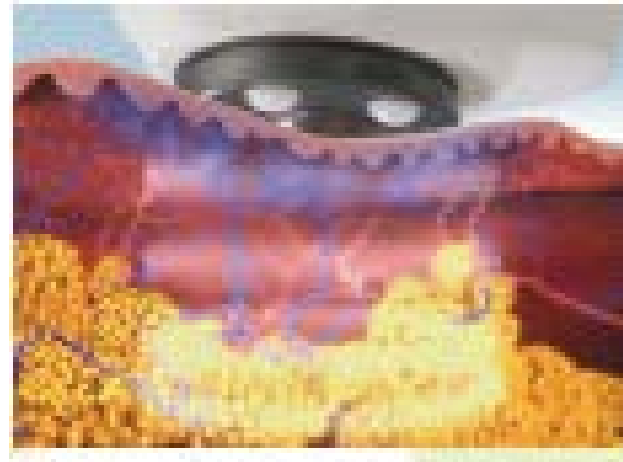


RF Thermal Concept

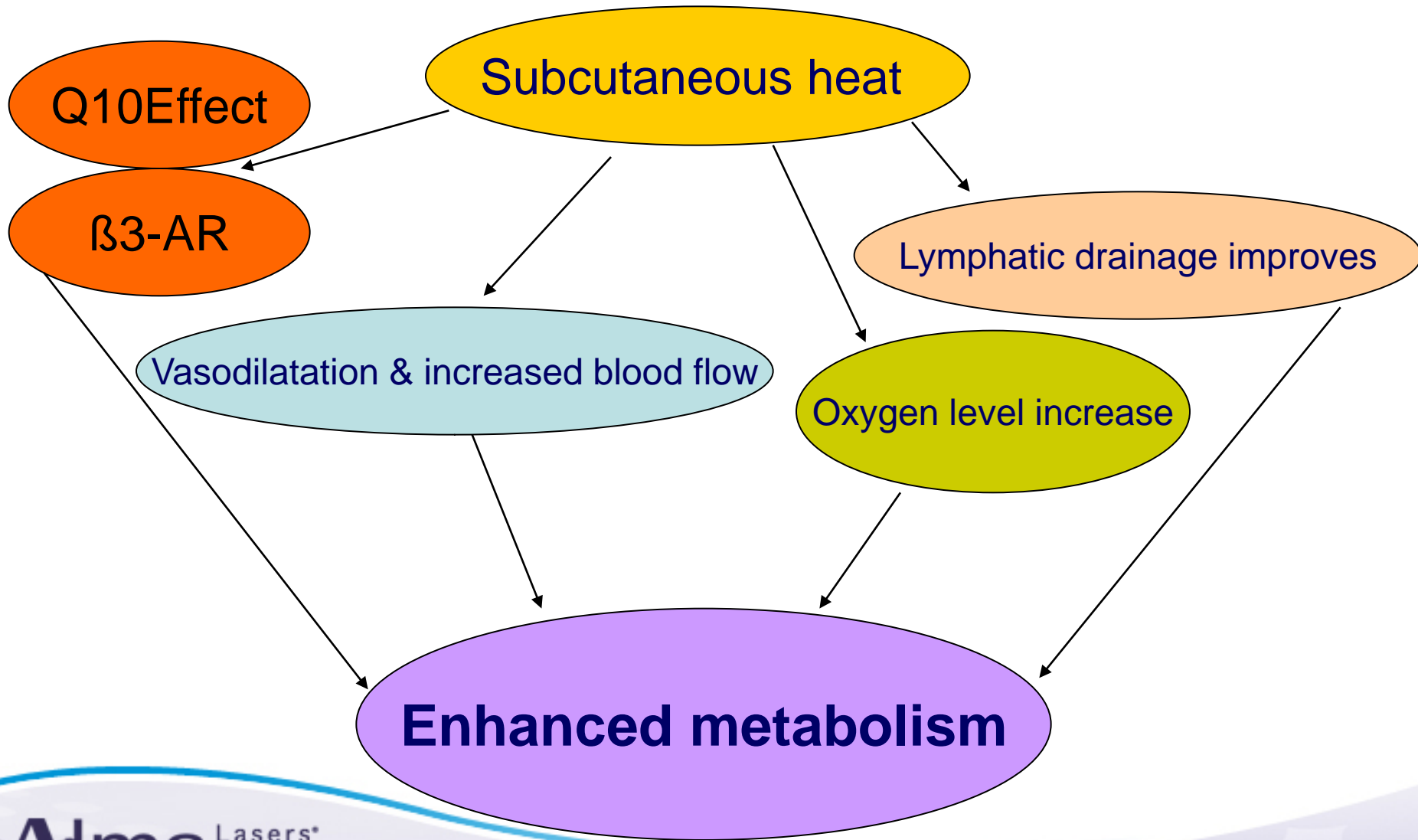
- To deliver RF energy to the dermis, deep dermis and sub-dermal layers while protecting the epidermis.
- To heat these areas causing microscopic changes and collagen contraction, with subsequent collagen remodeling and micro-structural changes in adipocytes (lipolysis).

RF + Mechanical Effect

- Contraction of collagen fibers; firming and improving laxity;
- Deep heat reaches adipocytes; hypermetabolism
- Improves blood and lymphatic circulation and drainage
- Smoother skin appearance
- Shrinkage of the subcutaneous layer and overall skin



RF + Massager



RF Heat MOA

- Evacuating, enhancing, and augmenting the natural egress of triglyceride out of the fat cell, resulting in a diminishment of the convex distension.
- Release of dermal fibroblasts to stimulate and promote neocollagenesis.
- Increase vascular perfusion, which further enhances lipid turn over owing to the increase in oxygen content.
- Lymphatic circulation & drainage contribute to lipid turnover and fat cell redistribution

Heat and Catecholamines

- Elevation of catecholamines
 - Induce lipolysis in fat via β -adrenergic receptors

β -ARs Adipocytes' Receptors

Sub type	Ratio
β_1	1:3
β_2	1:1
β_3-AR	1:150

β_3 -adrenergic receptors (β_3 -AR)

- β_3 -AR receptor is key regulator of lipid metabolism in adipose tissue
- β_3 -AR mediates agonist-induced lipolysis in adipocytes

β 3-ARs Mediated Lipolysis

- Ligand bound β 3-AR activates G proteins and induces cAMP accumulation
- Increase level of cAMP leads to activation of protein kinase A (PKA).
- cAMP-dependent PKA phosphorylates and activates hormone sensitive lipase (HSL)
- HSL catalyzes the breakdown of triglyceride (TG) to FAA and glycerol.

Non- β -ARs mediators in Lipolysis

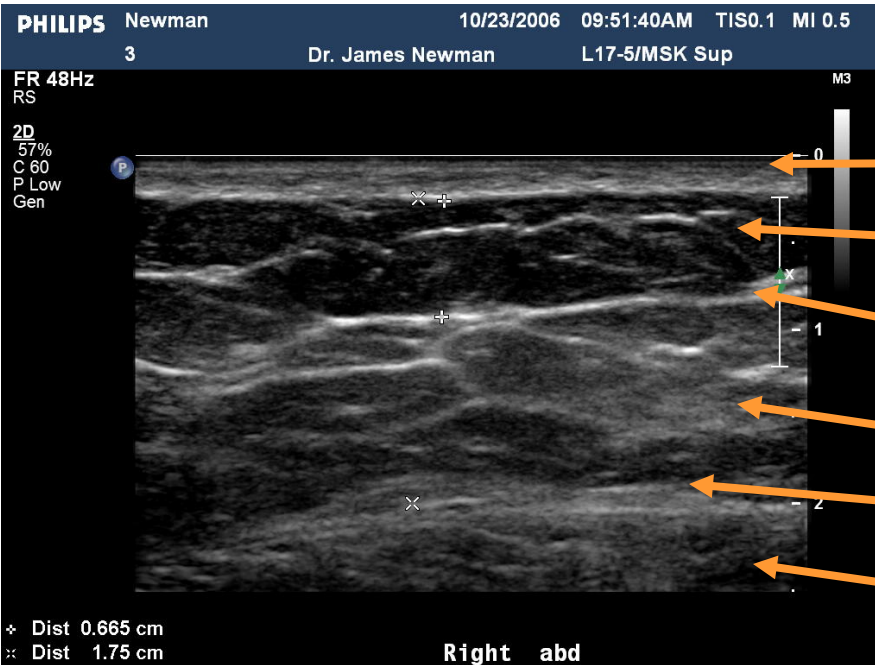
- Tumor necrosis factor (TNF)
- Interleukin-1 (IL-1)
- Interferon α
- Interferon γ

Decrease activity of lipoprotein lipase (LPL) and increase lipolysis in adipocytes

Skin Lymphatics

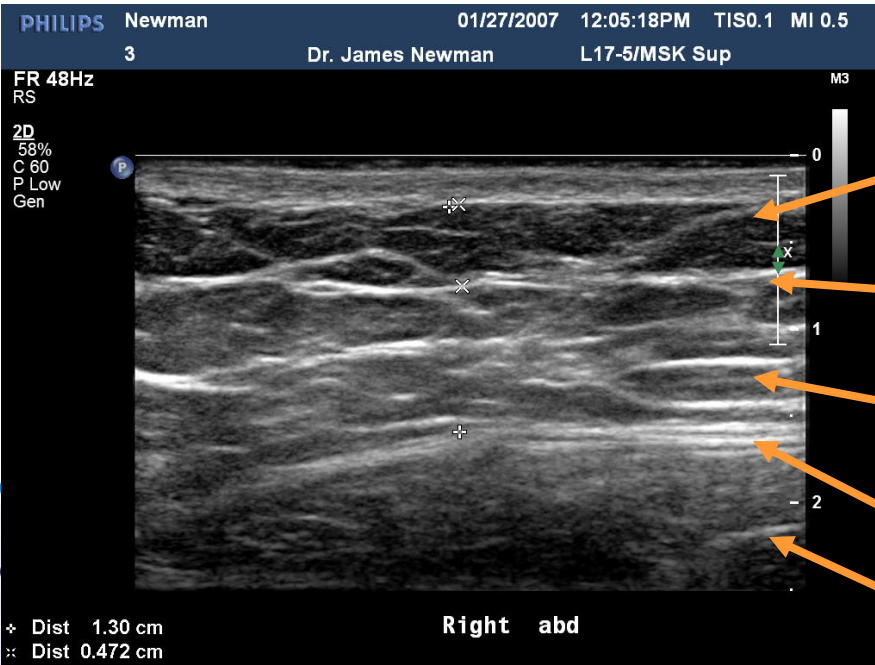
- Skin lymphatics parallel the blood supply and function to conserve plasma proteins and scavenge foreign material, antigenic substances, and bacteria.
- Blind-ended lymphatic capillaries arise within the interstitial spaces of the dermal papillae.
- These unvalved, superficial dermal vessels drain into valved deep dermal and subdermal plexuses.
- These then coalesce to form larger lymphatic channels, which course through numerous filtering lymph nodes on their way to join the venous circulation near the subclavian vein – internal jugular vein junction bilaterally.

RF Accent - Abdomen



Pre Treatment

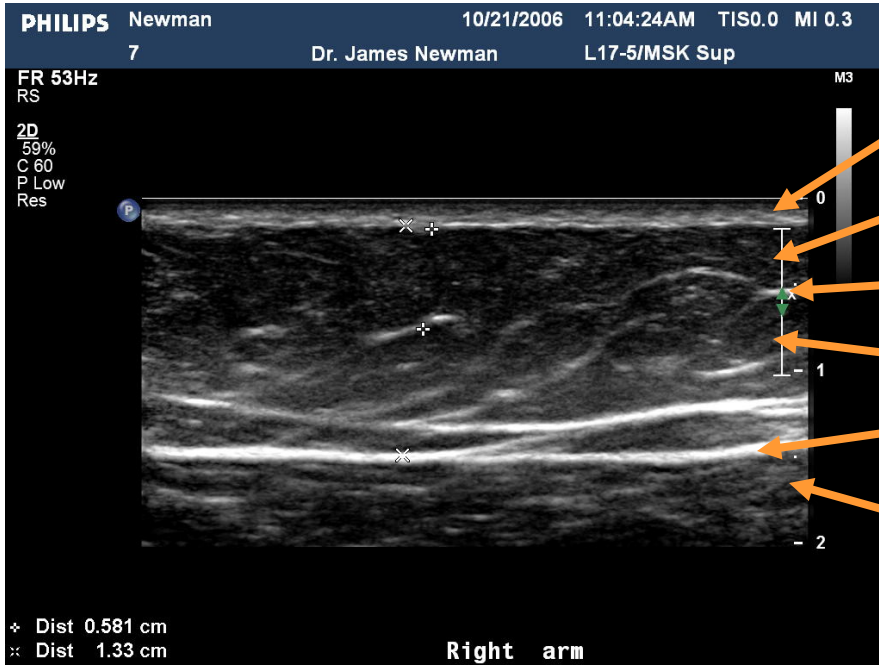
- Dermis
- Superficial Fat- 0.665 cm, hypoechoic
- Connective Tissue- sparse, spread apart, not organized
- Deep Fat- 1.085 cm
- Fiber Septum- 1.75cm
- Muscle



Post Treatment

- Superficial Fat- decreased in thickness to 0.472 cm, contracted, clear demarcation from deep fat.
- Connective Tissue- increase in collagen fibers, uniform, linear and horizontally oriented.
- Deep Fat- compacted to 0.828, homogeneous, and organized subcutaneous fatty globules.
- Fiber Septum- 1.30 cm
- Muscle

Accent through ULS – Arm



Pre Treatment

- Dermis
- Superficial Fat- 0.581 cm, hypoechoic
- Connective Tissue- sparse, spread apart, not organized
- Deep Fat- 0.749 cm
- Fiber Septum- 1.33cm
- Muscle



Post Treatment

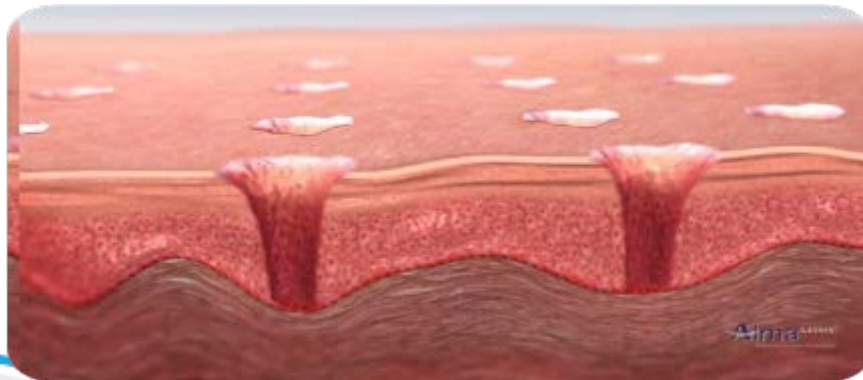
- Dermis
- Superficial Fat- decreased in thickness to 0.387 cm, contracted, clear demarcation from deep fat.
- Connective Tissue- increase in collagen fibers, uniform, linear and horizontally oriented.
- Deep Fat- more compact, homogeneous, and organized subcutaneous fatty globules.
- Fiber Septum- 1.15 cm
- Muscle

Accent-Ultra MOA Summary

- ULTRA: Shear wave ultrasound
 - Noninvasive selective fat cell deformation & destruction & compacting fat layers.
- RF: UniLarge radiofrequency + Massager
 - Contraction of collagen fibers
 - Deep heat reaches adipocytes; hypermetabolism
 - Improves blood and lymphatic circulation and drainage
 - Shrinkage of the subcutaneous layer and overall skin firming...Smoother skin appearance

RF Micro-Plasma Technology

iPIXEL^{RF}



Plasma 1

- In physical sciences, “plasma” refers to the fourth state of matter next to solids, liquids and gases; while in medicine and biology “plasma” is known as the non-cellular fluid component of blood.
- The term “plasma” itself comes from Greek (“something molded”).

Plasma 2

- Plasma denotes a partially ionized gas that consists to a large extent of charged particles such as ions and electrons, free radicals, molecules and also of neutral atoms.

Plasma 3

- In all plasmas supported by electric field, electrons receive the external energy much faster than the much heavier ions and have the opportunity to heat up to several thousands of degrees before their environment heats up.



solid



liquid



gas



plasma



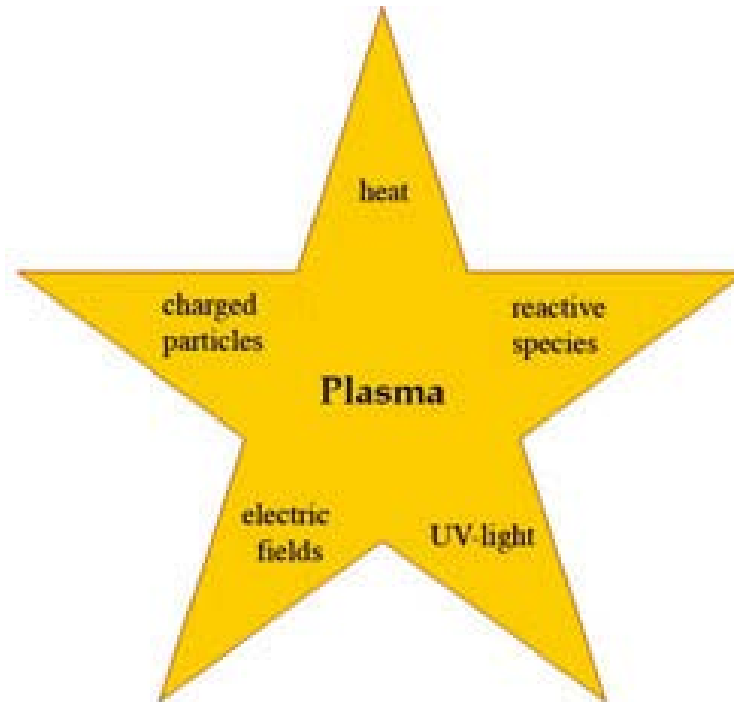
- Plasma is a state of matter in which electrons are tripped from atoms to form an ionized gas.

Plasma Classes

- It is important to differentiate between hot (thermal) and cold (nonthermal or low-temperature) plasma depending on the relative temperatures of electrons, ions and neutral gas.

Plasma Applications

- Heat and high temperature have been exploited in medicine for a long time for the purpose of tissue removal, sterilization and cauterization (cessation of bleeding).
- The thermal properties of plasmas ($> 80^{\circ}\text{C}$) is utilized for cauterization, sterilization of heat-resistant, instruments or for cosmetic, reconstructive procedures.



Plasma – MOA 1

- When adding energy to a gas, the electrons separate from the nucleus and move around freely.
- Plasma is thus a (partially) ionized gas, which shows, as an electroconductive gas.
- Plasmas generate reactive species and radicals, such as atomic oxygen, hydroxyl, nitric oxide (NO), superoxides, etc.
- It is these short lived chemical species that play a major role in the plasma interaction with biological cells.

Plasma – MOA 2

- Decisive for the action is the flow of active, charged particles (electrons, positive and negative ions, e. g. Ar^+ , Ag^-) and uncharged atoms and molecules (such as O_3 , OH , H_2O_2 , NO , OH radicals etc.).

Thermal Plasma

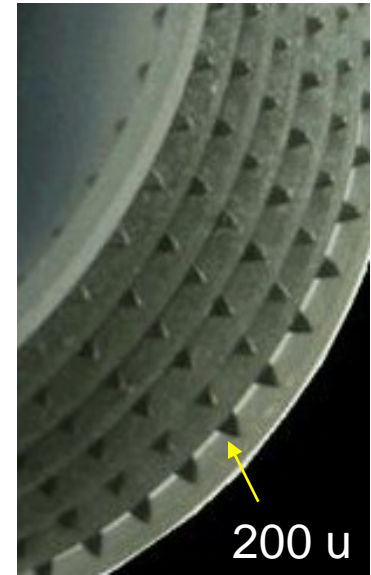
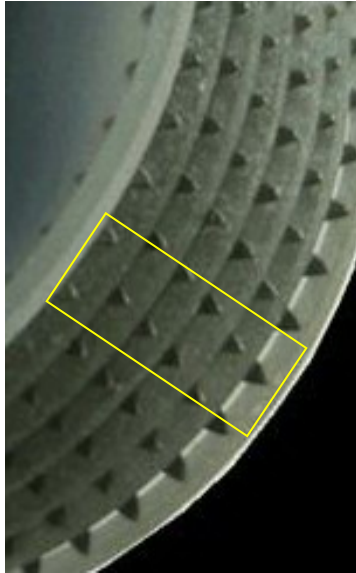
- In thermal plasma, energy flux from electrons to heavy particles equilibrates the energy flux from heavy particles to the environment only when temperature of heavy particles becomes almost equal to the electron temperature.

MOA 1

- The principle of operation of the Pixel RF roller tips relies on the formation of micro-plasma ('sparks') at the surface of the skin leading to the ablation and coagulation of the skin at the contact/treatment site.
- The ablative effects occur in the immediate vicinity of the interaction between the 'micro sparks' from each 'pin' of the Pixel RF roller and the surface of the skin in the treatment area when the pins come into close proximity to the skin.

MOA 2

- The electromagnetic RF energy stimulates micro-sparks between the skin surface and the RF electrode.
- These sparks ablate and perforate the skin.
- This produced micro-channels, their depth and diameter depend on duration of pulse of RF-energy and RF-power.
- The micro-channels pores produce holes of 100-150 μm in depth with diameter of 80-120 μm .



2 rows x 6 pins = 12 pins

50 W/12 = 4.75 W per pin

RF Pixilation

- Formation of multiple micro-ablative channels at the surface of the skin.
- The ablative/evaporative effects occur in the immediate interaction of the RF Pixel with the skin.
- Each of these small micor-channels is surrounded by untreated/unaffected tissue.
- The thermal effects include the zone of vaporization as well as the residual lateral coagulative damage.

Background

- The pixel RF hand piece is a Unipolar RF-based technology.
- The pixel RF applicator delivers electromagnetic energy that is creating multiple controlled, micro-perforations (channels) surrounded by thermally injured zone, into the skin layers depth.
- The hand piece can be used in stationary and in-motion modes.

▪

Basics in RF Fractional Ablation

Fractional ablative RF is similar to fractional ablative lasers in that both have a pattern of microscopic ablated/coagulated tissue channels.

RF Pixilation

- Formation of multiple micro-ablative channels at the surface of the skin.
- The ablative/evaporative effects occur in the immediate interaction of the RF Pixel with the skin.
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- The thermal effects include the zone of vaporization as well as the residual lat coagulative damage.



Advantages of RF Pixel

- **Ablative effect:** Micro-injury stimulate tissue regeneration → Improve skin color and texture.
 - Thermal effect: RF micro-plasma technology reaches dermis stimulates fibroblast and causes collagen regeneration → Scar improvement.
- **Very efficient procedure**
 - Only 10 minutes to treat the entire face with unique roller design
 - No extra supplies, no nitrogen refills required, NO Limitations.
 - Short healing time
 - Low complications rate.

Mechanism

- The principle of operation of the Pixel RF roller tips relies on the formation of micro-plasma ('sparks') at the surface of the skin leading to the ablation and coagulation of the skin at the contact/treatment site.
- The ablative effects occur in the immediate vicinity of the interaction between the 'micro sparks' from each 'pin' of the Pixel RF roller and the surface of the skin in the treatment area when the pins come into close proximity to the skin.

Clinical Applications

- Post-Acne Scars
- Stretch Marks
- Inflammatory Acne
- Pore reducing
- Skin Rejuvenation
- Tightening, firming skin
- Reducing rhytides

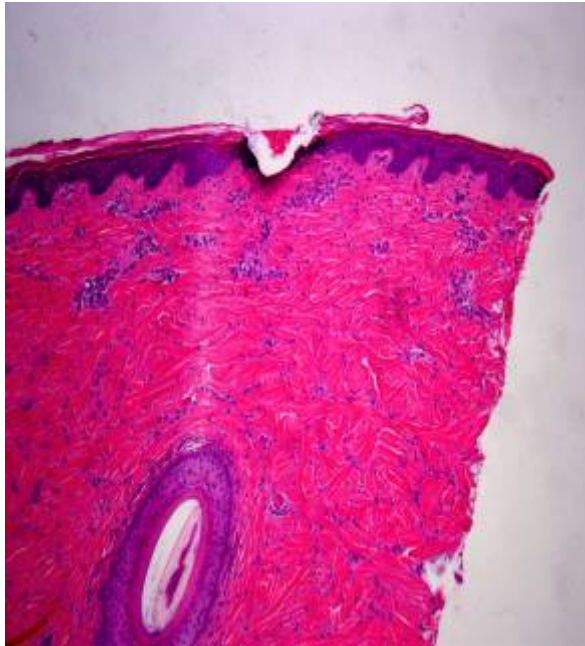
Pre-Clinical Study

Histology

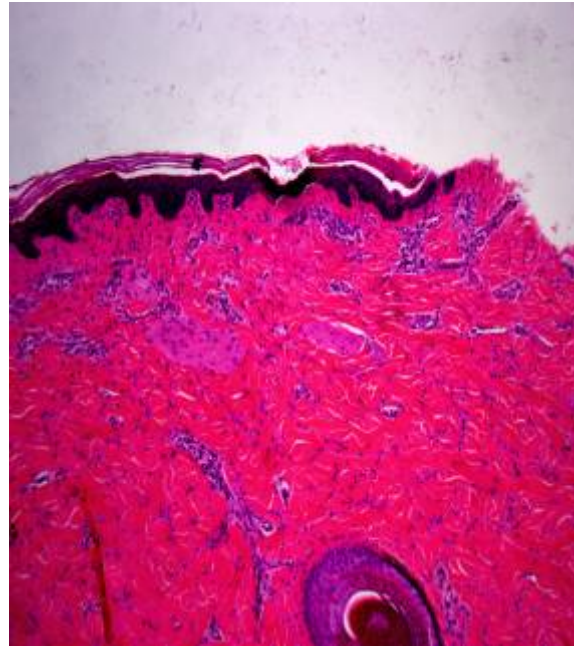


Histology

Day 0



Day 3



Day 14



A crater caused by the ablative effect of single Pixel RF spike at 45 Watts

Re-epithelialization of the Crater

closer of the Crater and healing /rearrangement

Plasma Skin Interaction

- When plasma effect is induced in-vivo, various effects can be achieved from vaporization to local tissue heating as well as compressional waves.
- Just as with lasers, longer exposure times at lower energies allow for more thermal diffusion and tissue heating, while shorter exposures at high energies can produce vaporization or ablation, and less coagulation.

Clinical Application



Application technique

- The treatment technique involves moving the RF pixel handapplicator on the skin surface
- Two types of technique :
 1. In-motion with a rotative tip
 2. Stationary technique
non-gauged & gauged tip



Tip Applicators



Stationary



Roller

Pixel RF Tips



Technique – Roller Tip

- The Pixel ^{RF} should be moved with brief roll-up and down strokes on the treatment area. This in-motion technique requires fine touch of the RF pixel on treatment area (skin)
- The Pixel ^{RF} tip should be in a non-tight contact with the skin in order to achieve an ablative effect along with the thermal effect.

Settings – Roller Tip

Skin Type	Tip Size	Energy (Watts)	Exposure Time (sec)	Number of Passes*
I-III	Narrow	45-60	Up to 30 (multiple strokes)	2-3
IV-VI	Narrow	40-50	Up to 30 (Multiple strokes)	2-3

* The number of passes depends on the desired level of penetration i.e., the greater the number of passes the greater the penetration.

Technique – Stationary Tip

1. Perpendicular position of the tip and contact between the pixel RF tip and the surface of the skin.
2. RF energy in one point; useful in the periorbital area.
3. The tip should be in a non-tight contact with the skin, to achieve an ablative effect along with the thermal effect.
4. Alma's new stationary tip

Settings - Stationary

Skin Type	Tip Size	Energy (Watts)	Exposure Time (sec)	Number of Stacks**
I-III	Small diameter; Medium grate	45-60	0.1	2-3
IV-VI	Small diameter; Medium grate	40-55	0.1	1-2

*The tip with the smaller diameter and lower number of pins (larger grate) is used for a more aggressive effect.

** The number of stacks depends on the desired level of penetration i.e., the greater the number of stacks the greater the penetration.

Advantages of RF Pixel

- **Ablative effect:** Micro-injury stimulate tissue regeneration → Improve skin color and texture.
 - Thermal effect: RF micro-plasma technology reaches dermis stimulates fibroblast and causes collagen regeneration → Scar improvement.
- **Very efficient procedure**
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Clinical Applications

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- Stretch Marks
- Inflammatory Acne
- Pore reducing
- Skin Rejuvenation
- Tightening, firming skin
- Reducing rhytides

Contraindications

- bacterial and viral infections
- impaired immune system
- isotretinoin in the past 6-9 months
- skin type VI
- cancer
- active collagen and vascular disease
- diabetes
- pregnancy
- metal implants near the treatment area
- pacemaker and defibrillator

Pre-Treatment Considerations

- **Anesthesia**
 - sedation
 - zimmer
 - analgetics
 - EMLA
 - ice pack

Treatment Considerations

- Adjust the energy parameters and recommended exposure time
- The down time: 12-24 hours until 3- 5 days with some flaking
- After the treatment the skin becomes red or appears sunburned

Patient Preparation

- **Emla cream with occlusion for thirty minutes**
- **Nerve blocks**
- **Infiltration anaesthesia**

Acute Post Op Care

- Ice packs, zimmer
- Local corticosteroids
- Analgetics
- Open wound technique with emollients or
- Soak the skin and gently clean the skin to remove the skin fragments
- Avoidance of sun exposure with regular use of sun protection creams
- Discontinue local retinoids and peelings 7 to 10 days after the treatment

Treatment Sequale - Acute

- Erythema (up to 24 hours)
- Itching/tickling
- Mild-moderate burn sensation

Post Treatment Sequelae

For 5-7 Days

- Redness
- Swelling
- Crusting

Prolonged Erythema following aggressive treatments (> 60W < 100W)

General Post Treatment Care

1. Antiviral Medication: Valciclovir 1gm every 12 hours for one day
2. Topical Antibiotics: Fucidic acid (Fucidin) cream twice daily for two days
3. Topical Steroid:
 - 1% Hydrocortisone cream twice a day
 - Or
 - 0.1% Hydrocortisone butyrate twice a day
4. Depigmenting and Vitamin C cream as of Day 4 for four weeks in all cases

Precautions

- Do not use the Micro Plasma Technology technology over Botox or Restylane for two weeks post injection.
- Use an antiviral before treatments if there is a history of cold sores.
- Make sure skin is clean and dry before treatment.

Treatments & Intervals

- Number of treatments: 4 - 6
- Intervals: 2-4 weeks
 - Face 3-4 wks
 - Body 2-3 wks

Clinical Studies



Clinical Studies



Dr. Halachmi Shlomot & Dr. Lapidot Moshe

Journal of Cosmetic and Laser Therapy, 2010; 12: 208–212

info
notice

ORIGINAL ARTICLE

A novel fractional micro-plasma radio-frequency technology for the treatment of facial scars and rhytids: A pilot study

SHLOMIT HALACHMI¹, ARIE ORENSTEIN², TANIA MENEGHIEL³ & MOSHE LAPIDOT⁴

¹Laser Unit, D Chain Staff, Grand Avon

Abstract
Introduction: The due to their off or non-ablative nature of fractional RF. Their consist of 12 months after treatment results by all participants effectiveness of and facial rhytids.

Key Words: A

Introduction
Fractional skin and carbon an effective efficacy-to-do to a grid of energies can surrounding of for rapid re- been applied rhytids with has also been applied in a nation, affect for pain com. More recent allow the treat frequency (RF) a grid of high

© International of
DOI: 10.1080/15458172.2010.519120

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Figure 1. The RF tip, showing the grids that form the grid of energy with the size of the micro-needles (20) and the range from 100 to 120 mm in depth and from 0.5 to 1.0 mm in diameter (Figure 2). The technology improves upon conventional RF by lowering the potential of plasma to generate freely higher energy

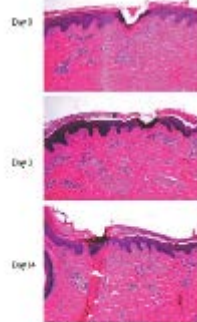


Figure 2. Histological changes following fractional RF application in patients with scars and rhytids. The 12-month post-treatment of some patients treated by the equipment and picture shown by a single pulse of 12 mm RF. The 12-month post-treatment of the patients, acute dermal collagen. They are examples of healing.

effectively and thereby triggering micro-epithelial and high temperature to reduce fold.
It is upon how the initial appearance of treating facial scars and rhytids.

Materials and methods
All participants signed an informed consent prior to treatment. Indications included facial scars and facial rhytids. Contraindications for treatment were Fitzpatrick skin type V–VI, active bacterial or viral infections, use of isotretinoin within the prior 12 months, untreated herpes simplex, active cold, herpes zoster, active disease, malignancy, diabetes, pregnancy, a pacemaker or defibrillator, metal implants near the treatment area, and an unstable skin procedure within the prior 3 months. At our study site (EMU), patients who were known to be susceptible to RF treatment received prophylactic oral antibiotic medication on the day before treatment (azithromycin 500 mg orally on Sunday and 250 mg twice daily). At the same time, all patients had to be at least 18 years of age. The treatment, based on physician assessment, were performed with hydroquinone starting 1 month prior to treatment.
After pre-treatment with a topical antibiotic gel, the fractional RF device was applied using a 12 mm diameter, 1200 µm depth (12) and 1200 µm depth (12) with a 1000 µm depth (12) for the medial pulse at 10–20 watts, 12–20 mm. It was followed by the pulse of the other tip at 10–20 watts over the entire affected facial skin. The patient IV site was started with the 12 mm pulse of the medial tip only at 10–20 watts. For facial rhytids, all skin types were treated with the 12 mm stationary for the lower treated points at 10–20 watts, 12–20 mm. For the upper treated points at 10–20 watts, 12–20 mm. The treatment was repeated at intervals of 4–6 weeks. The treatment and skin care instructions of treatment was the treatment of anti-healing clinical results.

After pre-treatment with a topical antibiotic gel, the fractional RF device was applied using a 12 mm diameter, 1200 µm depth (12) and 1200 µm depth (12) with a 1000 µm depth (12) for the medial pulse at 10–20 watts, 12–20 mm. It was followed by the pulse of the other tip at 10–20 watts over the entire affected facial skin. The patient IV site was started with the 12 mm pulse of the medial tip only at 10–20 watts. For facial rhytids, all skin types were treated with the 12 mm stationary for the lower treated points at 10–20 watts, 12–20 mm. For the upper treated points at 10–20 watts, 12–20 mm. The treatment was repeated at intervals of 4–6 weeks. The treatment and skin care instructions of treatment was the treatment of anti-healing clinical results.

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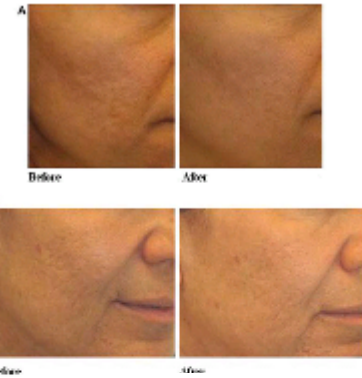


Figure 3. Treatment of acne scars. (A) Acne scars before and after treatment.

Results

A total of 16 patients were treated (five female). The clinical endpoint for acne treatment was moderate erythema. One rapid motion of the roller tip over large areas poses over the face were swift and well tolerated treatment time for the full-face was mainly 10 minutes. All facial treatments tolerated with no adverse events. Mild erythema was present for 1 day after treatment. Moderate cumulative improvement was evident for 3–6 background of fine collagenase.

Eight patients with acne scars were treated over 10–15 sessions (range 24–30). Patients were one to four treatments (mean 3.1). Acne demonstrated cumulative improvement was evident after three treatments (Figure 3B). The effect was maintained at 6 months (Figure 3B). Of interest, patients with mild acne demonstrated a reduction in active acne during the treatment and follow-up period.

Eight patients underwent treatment for rhytids. The mean age was 58.8 years (range 54–64). Patients underwent two to four treatments (mean 2.5). Wrinkles were visibly reduced after two to four treatments with moderate improvement in visible appearance after four treatments (Figure 4).



Figure 4. Treatment of rhytids. (A) Rhytids before and after treatment. (B) Rhytids before and after treatment.

Clinical Studies

Pixel^{RF} - Fractional Micro-Plasma Radio-Frequency Technology for Ablative and Non-Ablative Skin Resurfacing, Skin Remodeling and Acne Scars

Joseph Lepselter, PhD¹, Alexander Dverin, M.Sc.²

*¹Clinical Department & ²RF Research & Development Laboratory
Alma Lasers Ltd. Caesarea, Israel*

ABSTRACT

Various techniques and devices are known for medical treatment of skin layers by application of electromagnetic energy, and in particular radio-frequency (RF) energy. Recently, fractional ablative technology using ER:YAG, CO₂, or radiofrequency (RF) ablative technologies became commercially available and are gaining clinical recognition and popularity in procedural dermatology.

The Accent^{XL} (Alma Lasers Ltd., Caesarea, Israel) is a Unipolar- based, RF-energy delivery device with novel Fractional Micro-Plasma Radio-Frequency (Pixel^{RF}) technology. The Pixel^{RF} technology of the Accent^{XL} creates microscopic treatment zones included controllable depth perforations with small volumes of thermal damage or within the skin to produce focal resurfacing micro-wound patterns over the background of largely unaffected surrounding healthy skin. The Accent^{XL} Pixel^{RF} with the indications are skin tightening; skin resurfacing; treatment of fine lines and wrinkles; improvement of acne scars; stretch marks; chicken pox scars, rejuvenation (photoaged skin); combinations with other ablative procedures and photorejuvenation procedures.

INTRODUCTION

temperature substantially higher than when they are in the ground state. When plasma interacts with a th

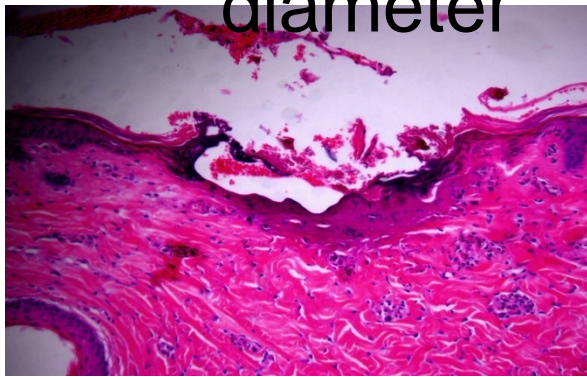
Pre-Clinical Study

Histology

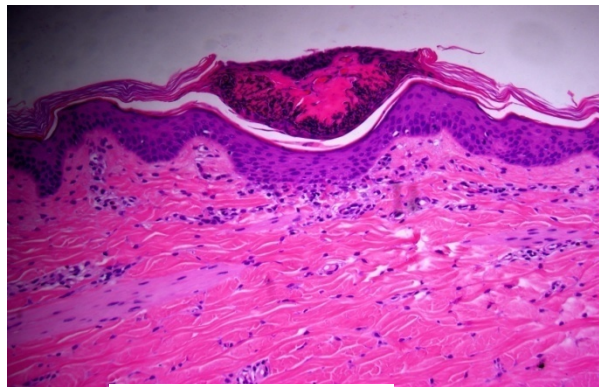


Pre-Clinical Studies

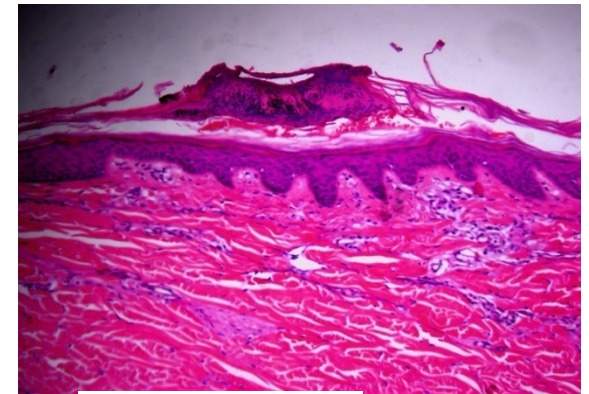
- Procine Skin
- Depth and diameter depend on Power and Pulse duration
 - 100-150 μm in depth and 80-120 μm in diameter



Day 0



Day 3



Day 14

Acute

The histology shows a crater caused by ablative effect of a single Pixel RF spike @56Watts

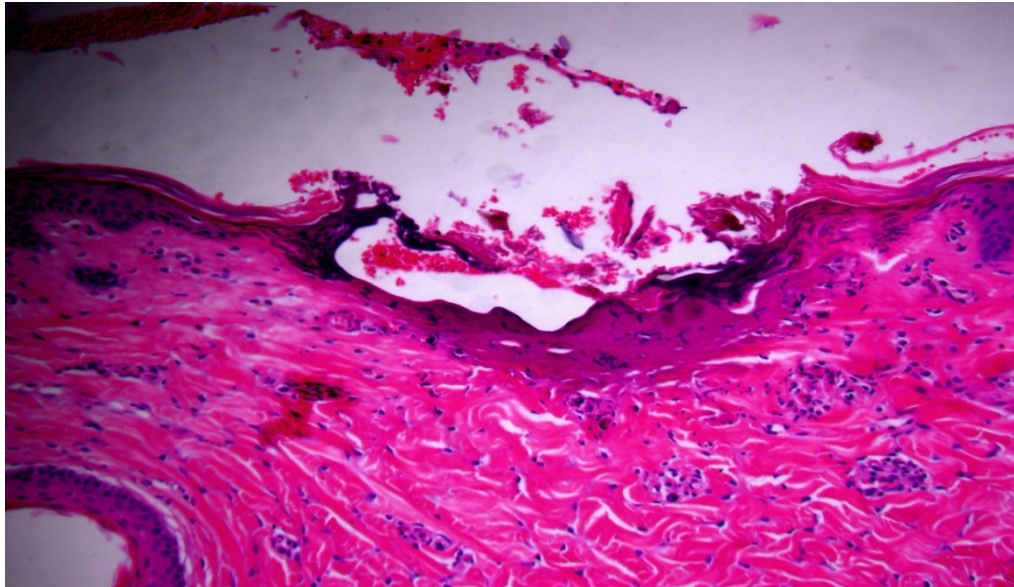


Photo Courtesy: Arie Orenshtein, M.D, Department of Plastic and Reconstructive Surgery, Sheba Medical Center, Tel Hashomer, Israel

3 days

The histology shows re-epithelialization of the crater 3 days after Pixel RF

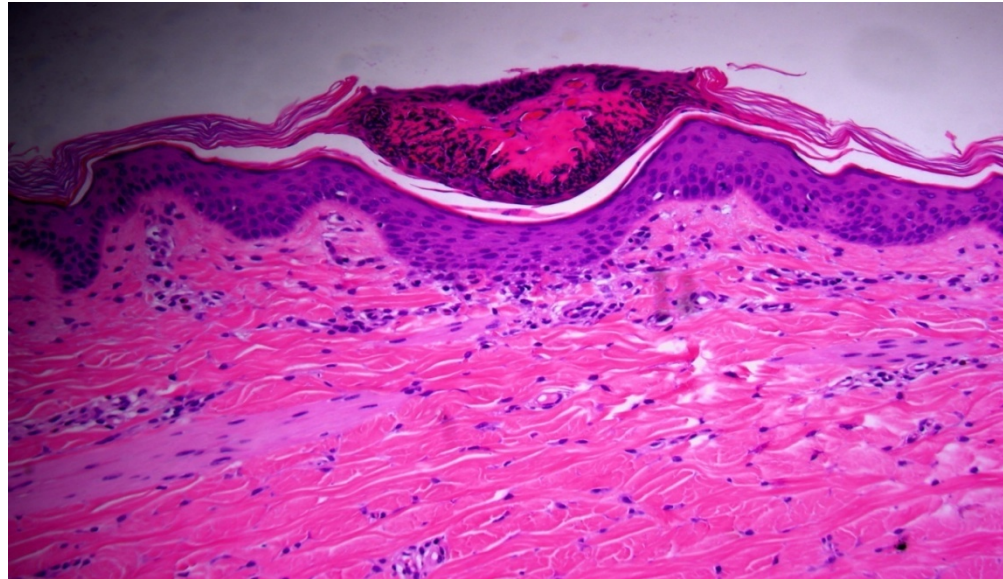


Photo Courtesy: Arie Orenshtein, M.D, Department of Plastic and Reconstructive Surgery, Sheba Medical Center, Tel Hashomer, Israel

14 days

The histology shows closure of the crater and healing/rearrangement of the rade ridges area 14 days after Pixel RF.

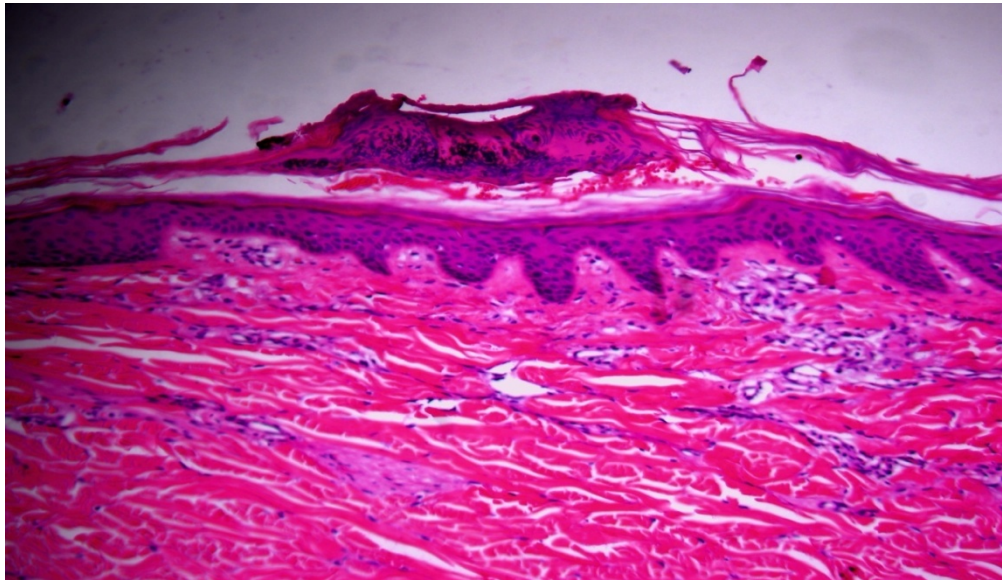


Photo Courtesy: Arie Orenshtein, M.D, Department of Plastic and Reconstructive Surgery, Sheba Medical Center, Tel Hashomer, Israel

Clinical Results



Acne



Before



1.5 months After
3 Treatments

Acne



Before



3 months After
3 treatments

Wrinkles



Before



1 month after
2 treatments

Wrinkles



Before



1 month after
4 treatments

Wrinkles



Before



3 month After
3 treatments

Wrinkles



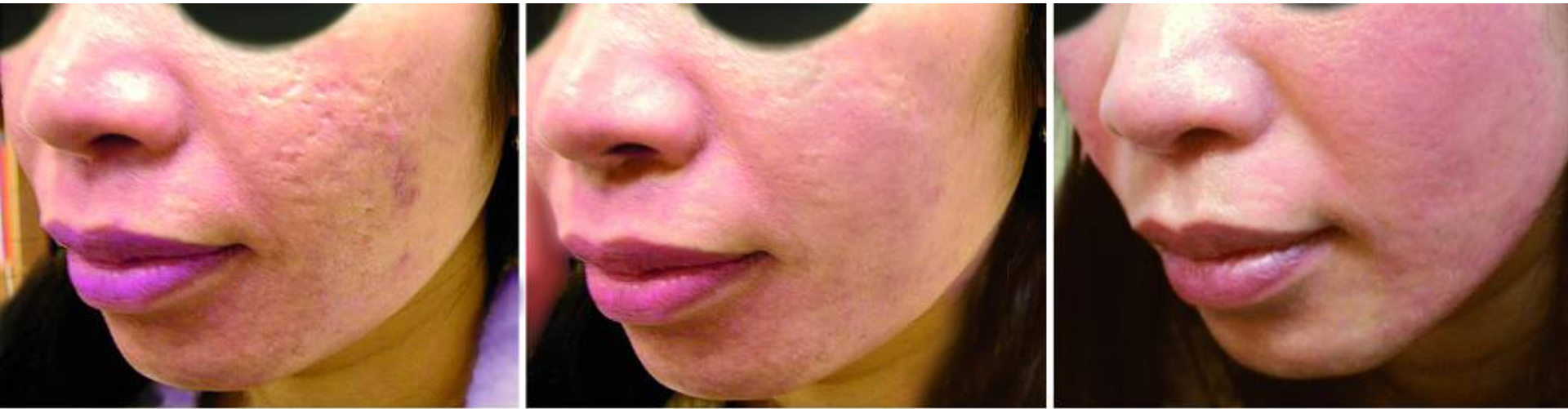
Before

3 month After
3 treatments

Atrophic Scars



Post-Acne Scars



Asian skin treated with RF Pixel 2wks interval, total 6 txs

Post-Acne Scars



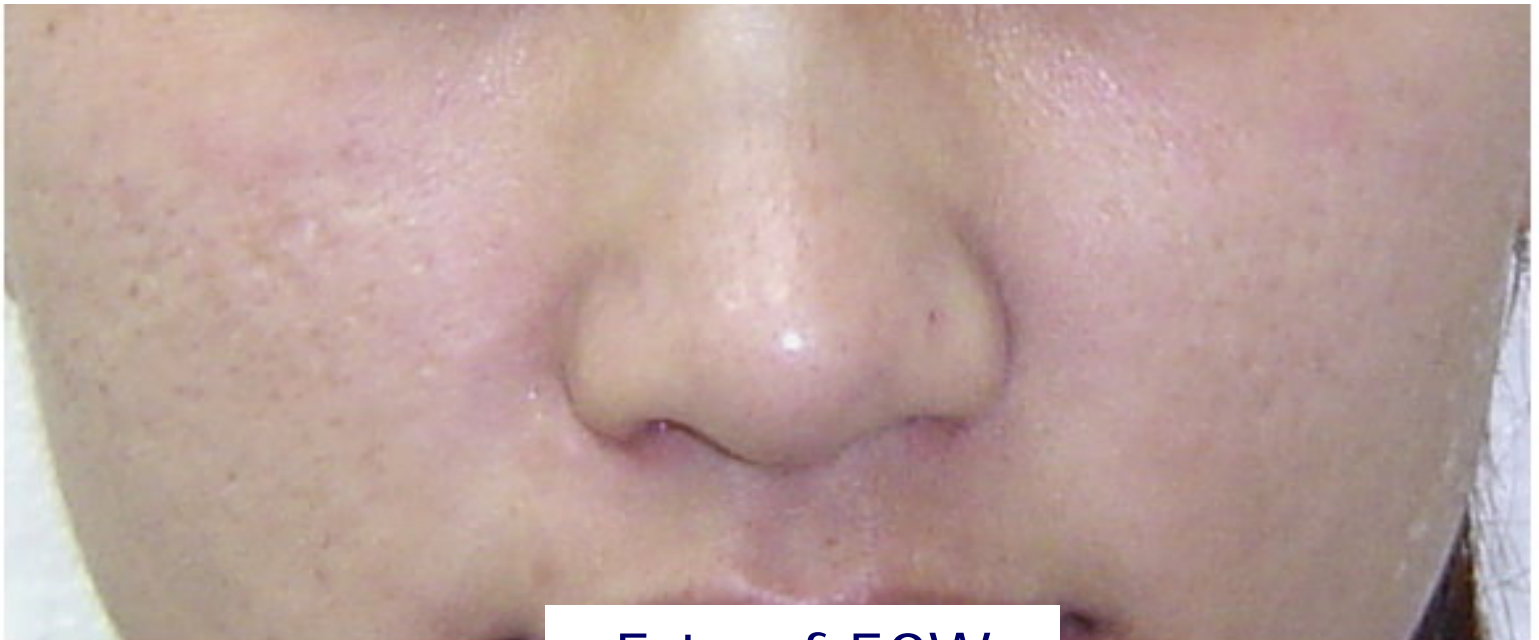
Before



After 6 tx



Before



5 tx of 50W



Before



5 tx of 50W



Before



2 tx of 40W



Before



3 tx of 55W



Before



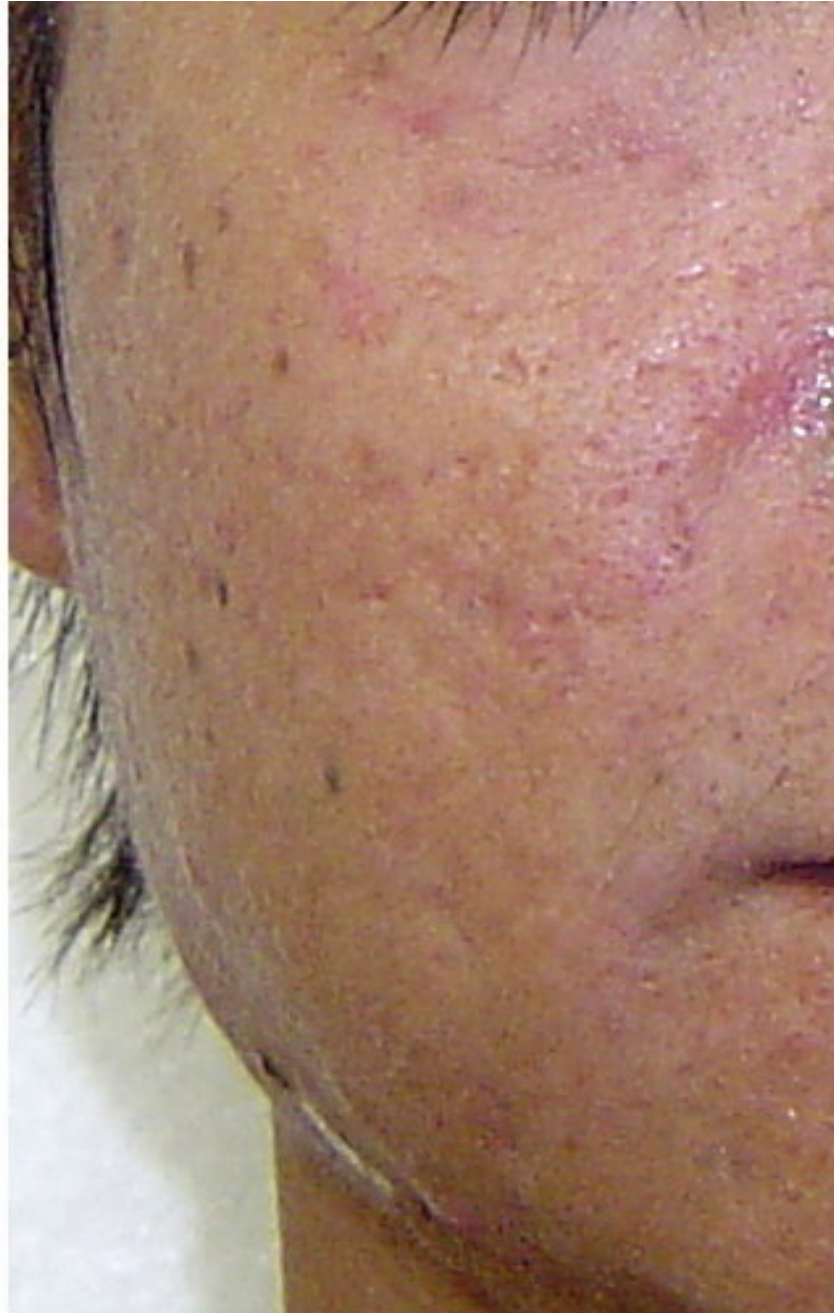
4 tx of 50W



Before



3 tx of 45W



Before



5 tx of 50W



Before



3 tx of 45W



Before



3 tx of 45w



Before

2 tx of 45W

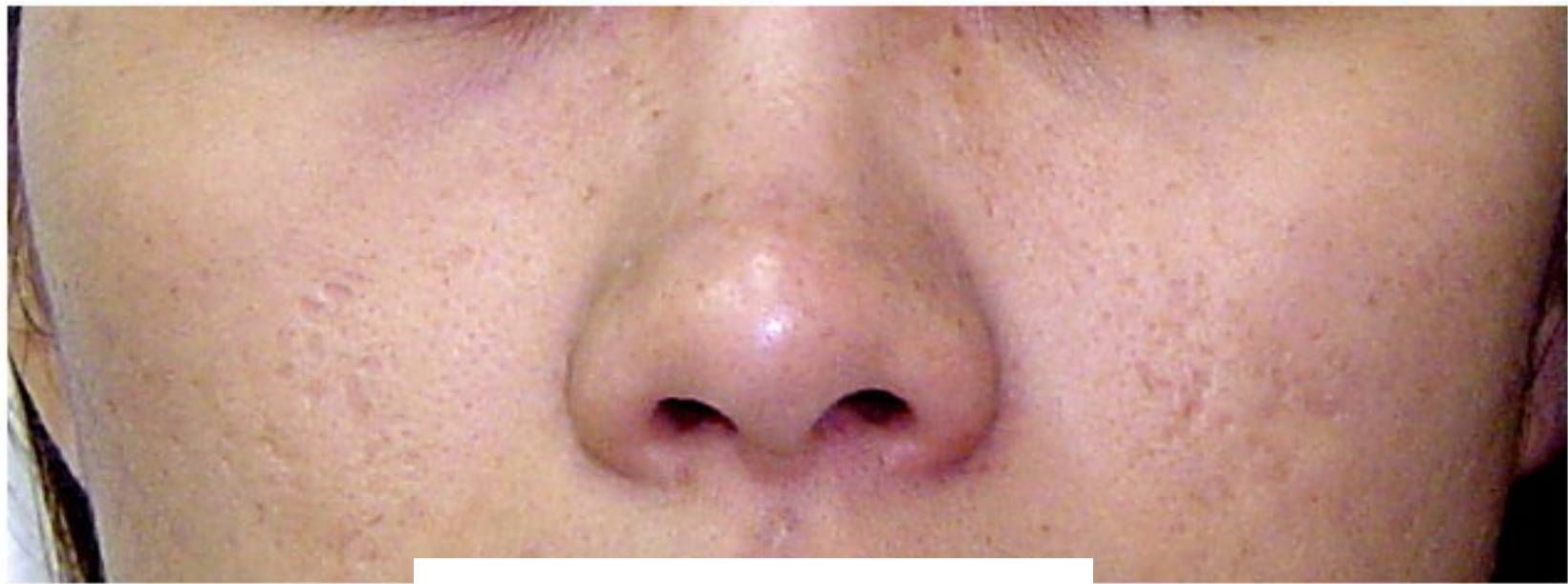




Before



5 tx of 50w



Before



5 tx of 45W



Before



5 tx of 45W

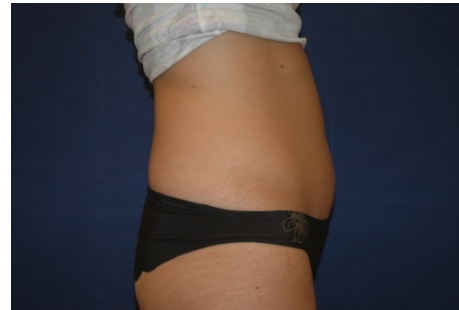
Treatment Practice

Patients Selection

- Motivated patients with realistic expectations
- Normal-moderately overweight:
 - BMI <30kg/m²
 - Localized fat deposits
 - At least 1.5 cm of fat thickness as determined by a skin caliper

Treatment Areas

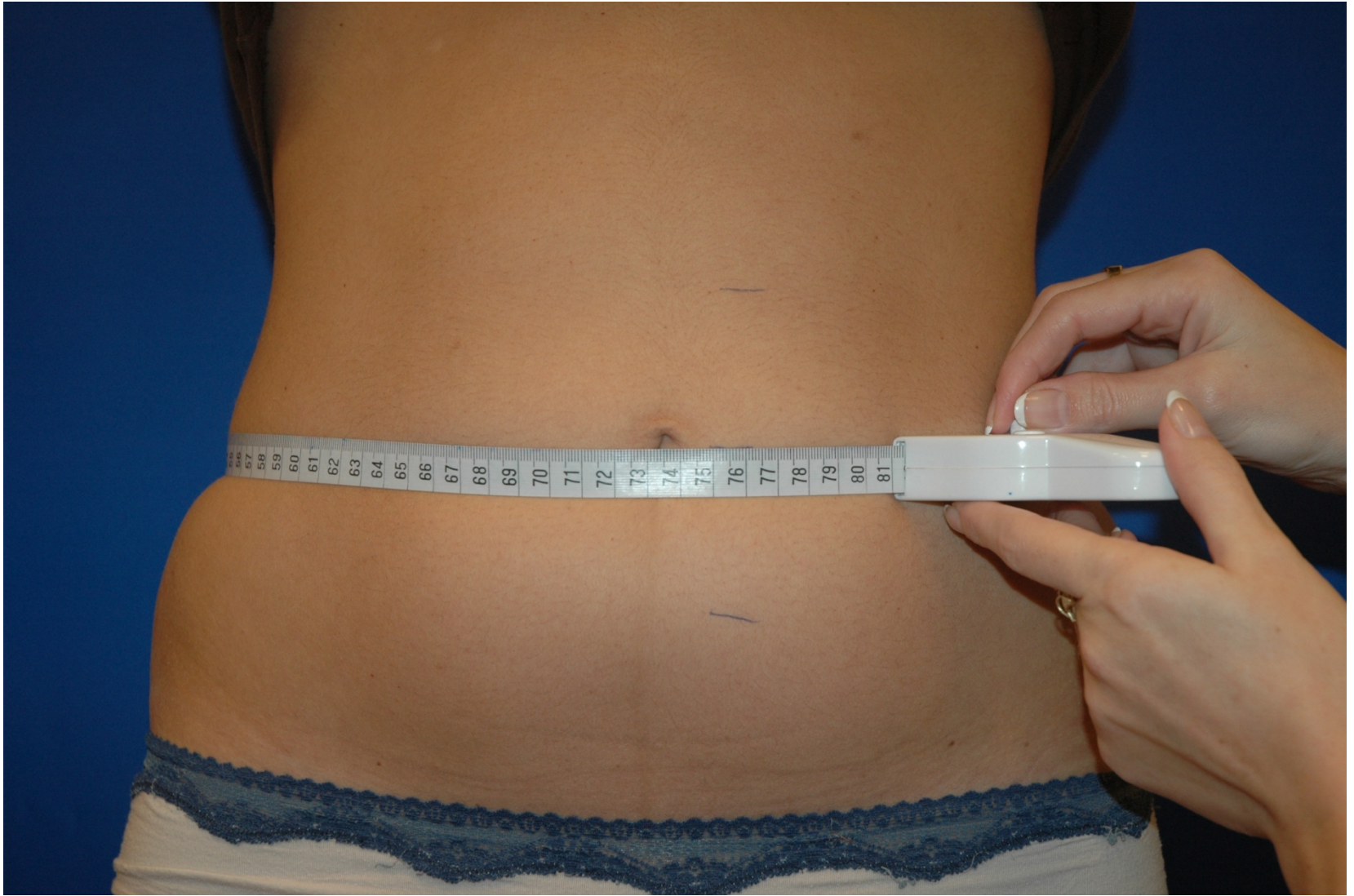
- **Abdomen**
- **Flanks**
- **Thighs**
- Knees
- Arms
- Face
- Calves

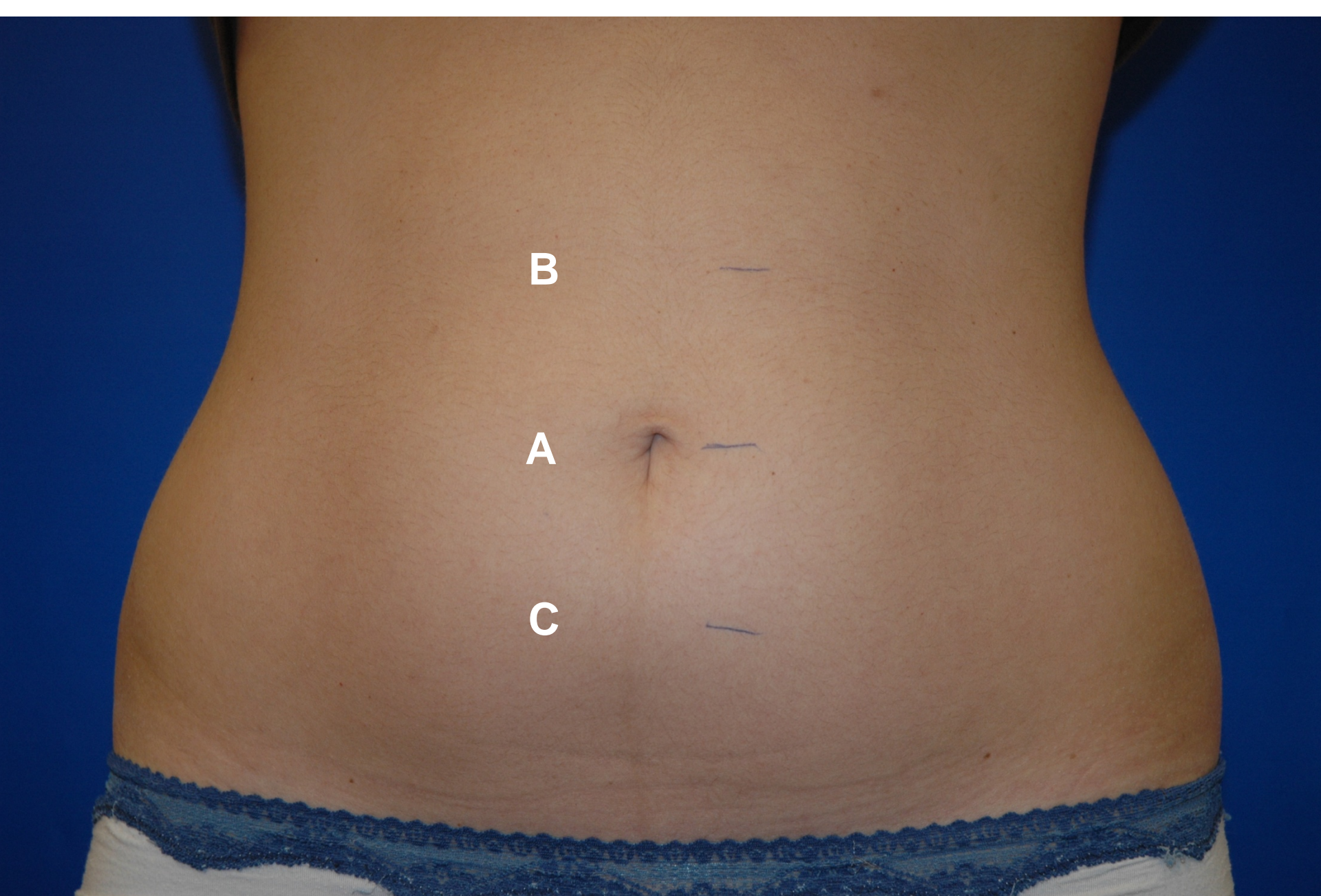


Biometric Measurements

Measurements

- Circumference (abdomen)
- Skin fold (“pinch test”)
- Photography



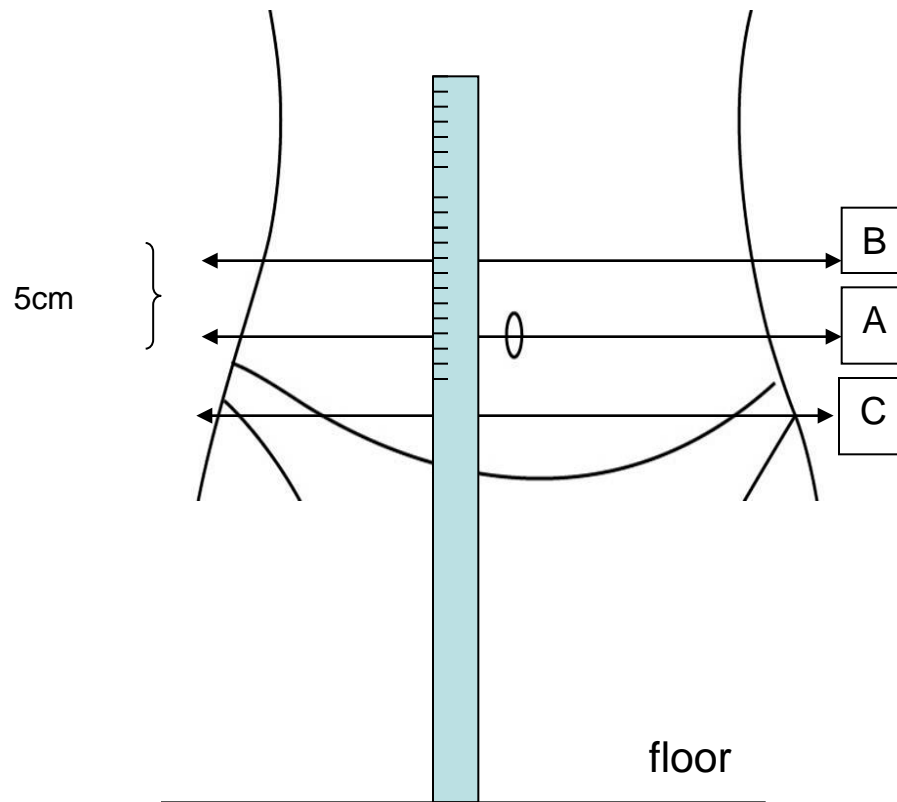


B

A

C

Circumference Measurements











Skin-Fold (Caliper)



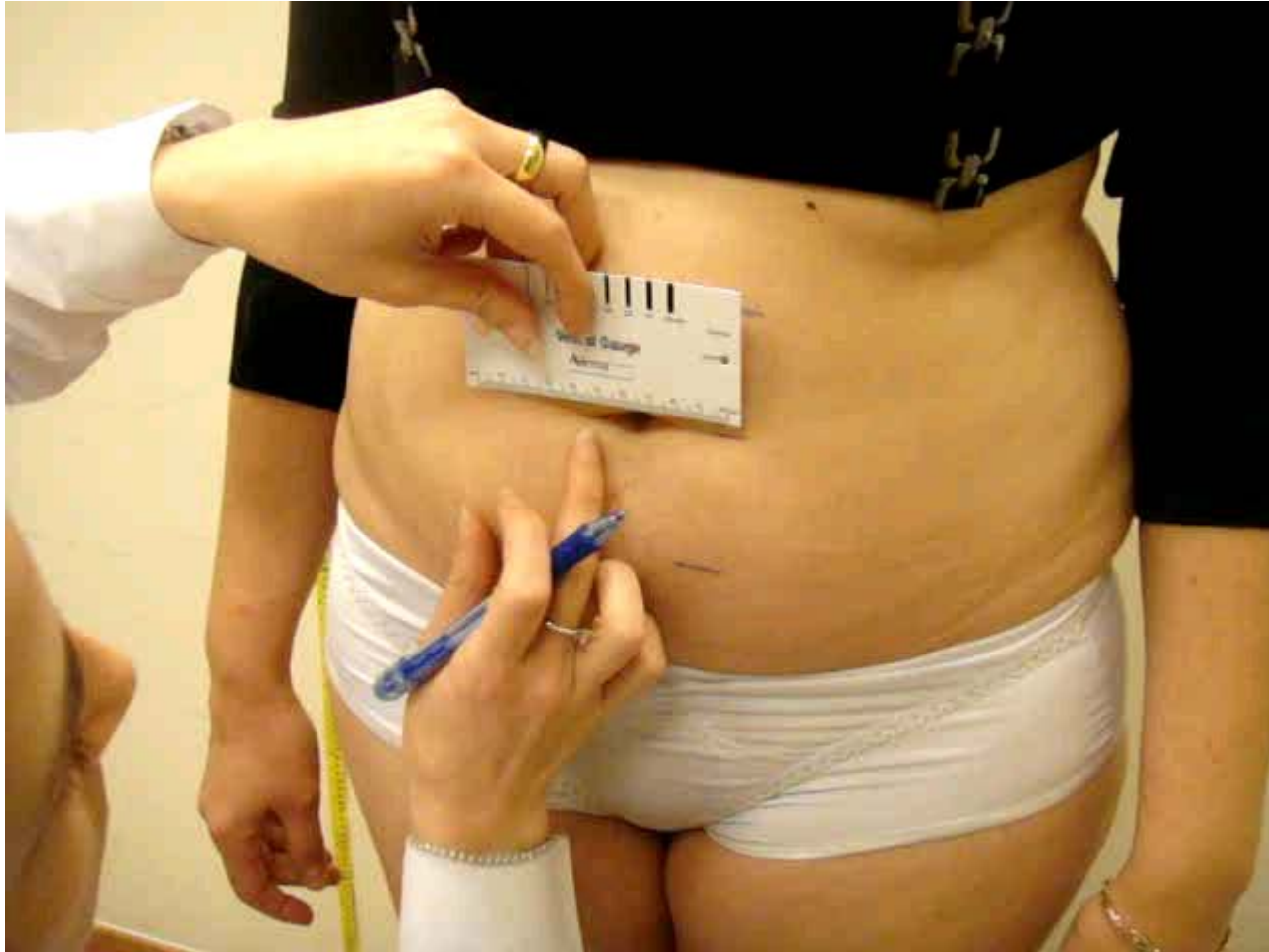
Abd Landmark



a mark is made 5 cm adjacent to the umbilicus (belly-button), to the right side.

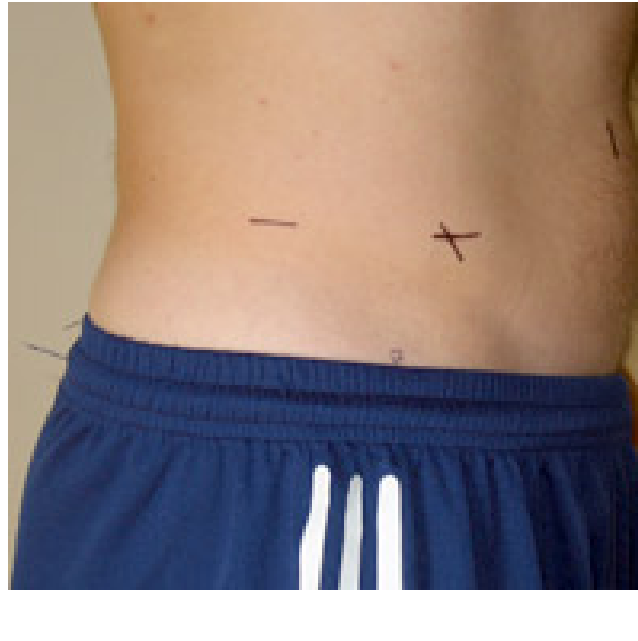
Abd Pinch







Iliac Crest Landmark



Iliac Crest Landmark



Photography





“Hands-On”

Ultra Handpieces

- Output acoustic frequency matched to resonance frequency of fat
- Operative modes
 - “Hot” mode – compression wave
 - “Cold” mode – transverse/shear wave



UltraFace



- A non invasive Selective Ultrasound, using shear wave technology
- Indications: for **volume reduction** (facial adiposis), pronounced jaw line and **Face Contouring**

UniFace

- Unipolar technology with eight focused lymphatic rings, to lift and tighten loose skin on the cheeks, and neck to give a younger slimmer look.
- Indications: wrinkles reduction, skin tightening, collagen remodeling and improvement of skin texture.



Hand Pieces

Clinically proven Impact sonotrode

Acoustic waves and air pressure
Push and pull effect within the microchannels

Variable energy settings
Quick makeover
Single-use tips



Impact

Treatment Areas

- **Abdomen**
- **Flanks**
- **Thighs**
- **Knees**
- **Arms**
- **Face**
- **Calves**

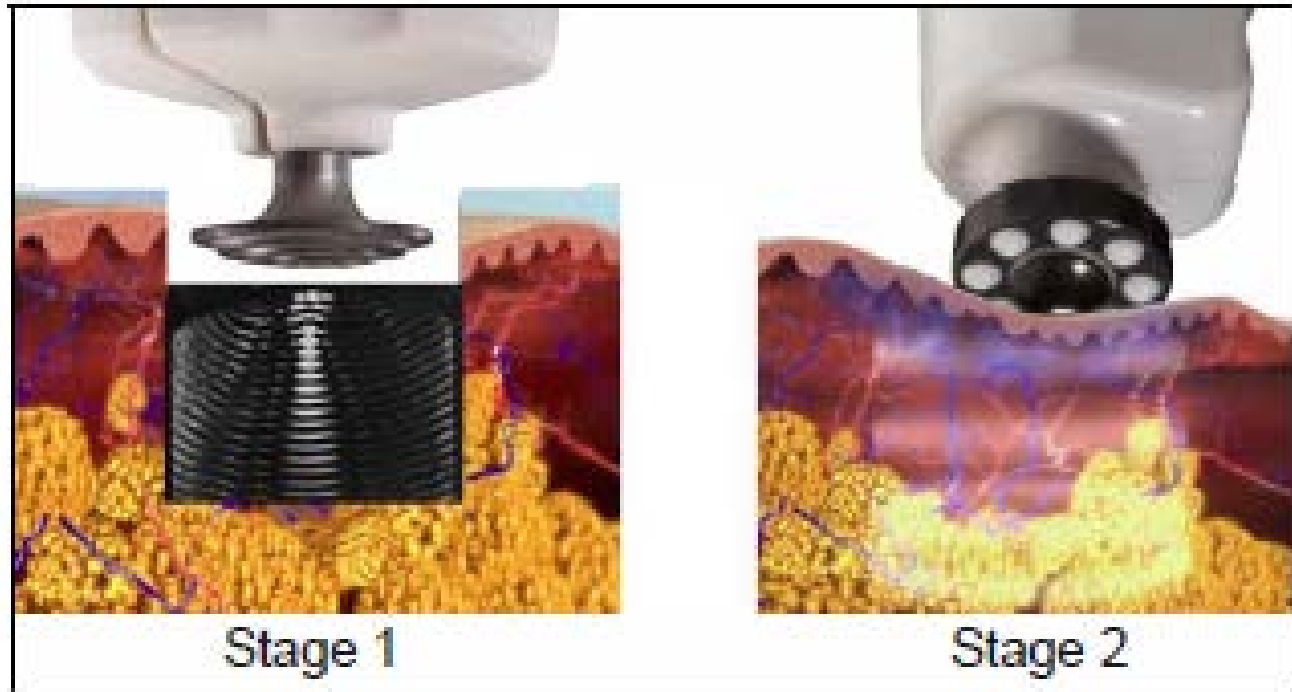


Treatment Areas (Face)

- Mandibles
- Jaw line
- Submental
- Chin
- Cheeks

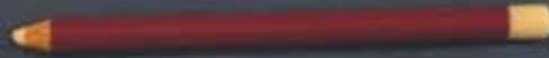


Treatment Regimen



Vaseline

Marker



Water-free oil

Template

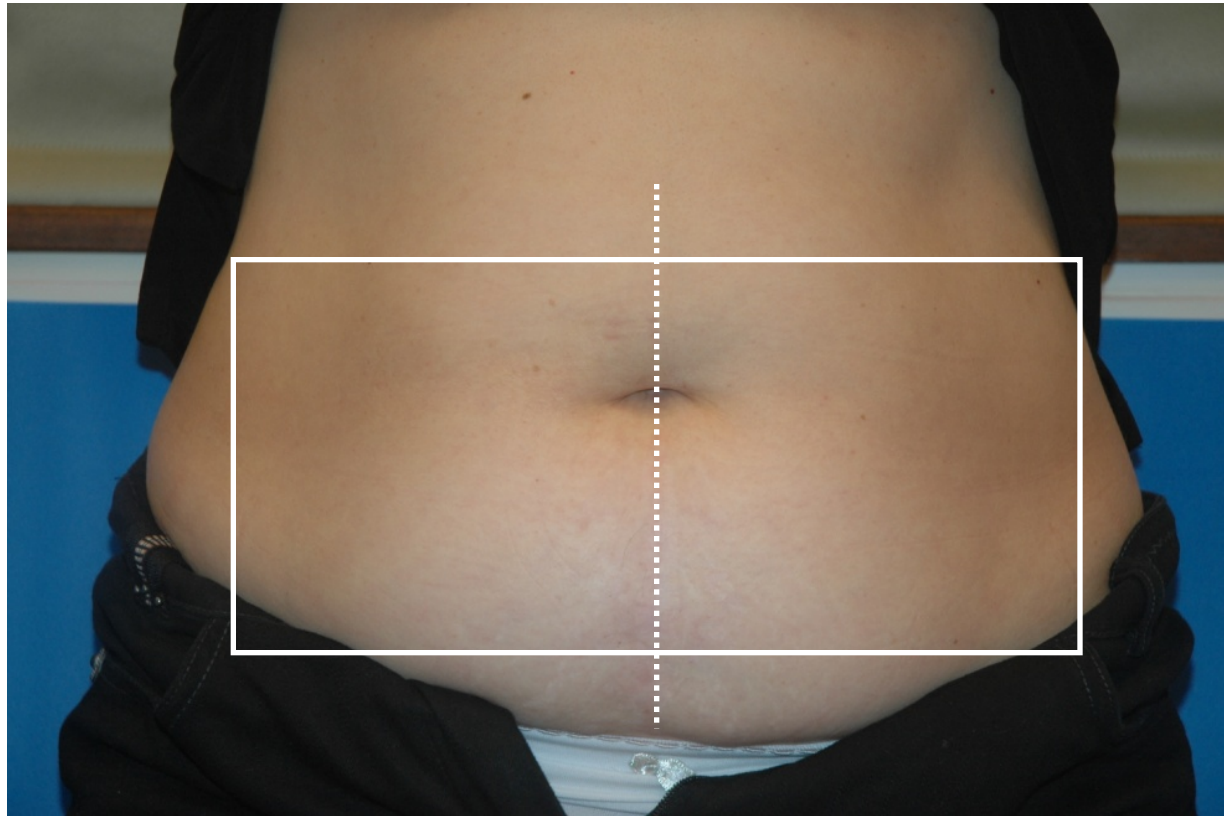


Spatula

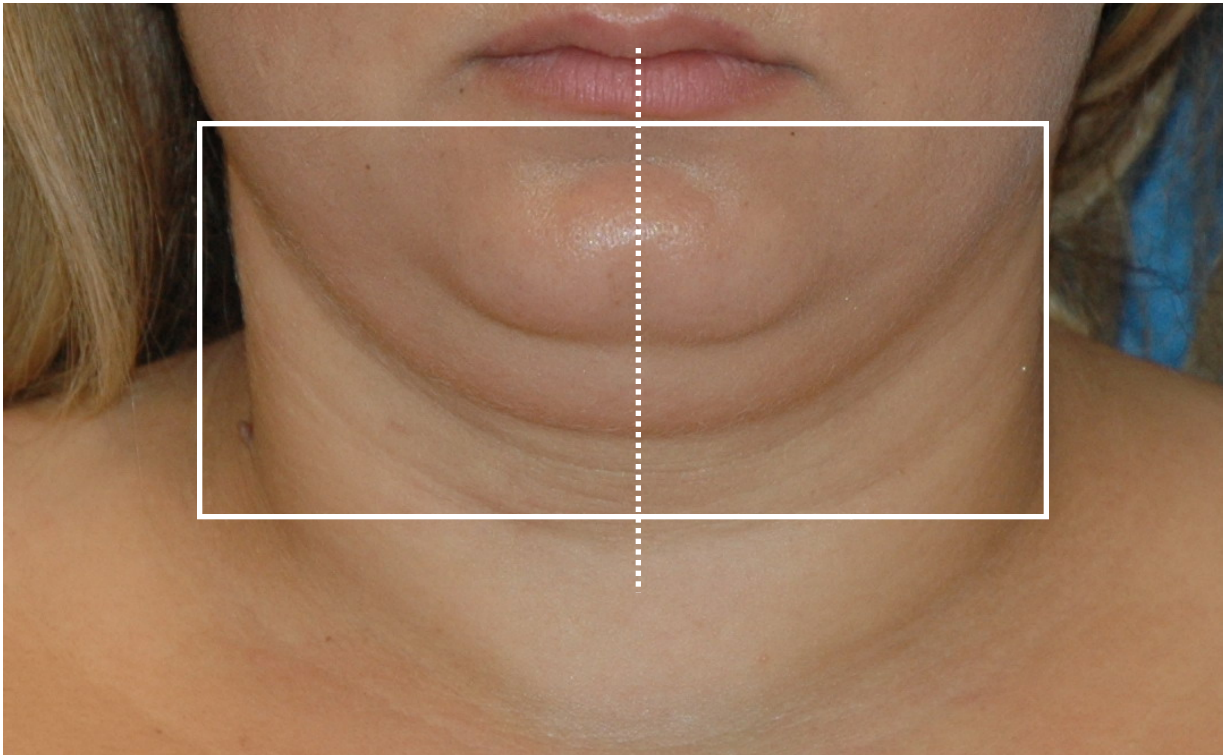


Laser Thermometer

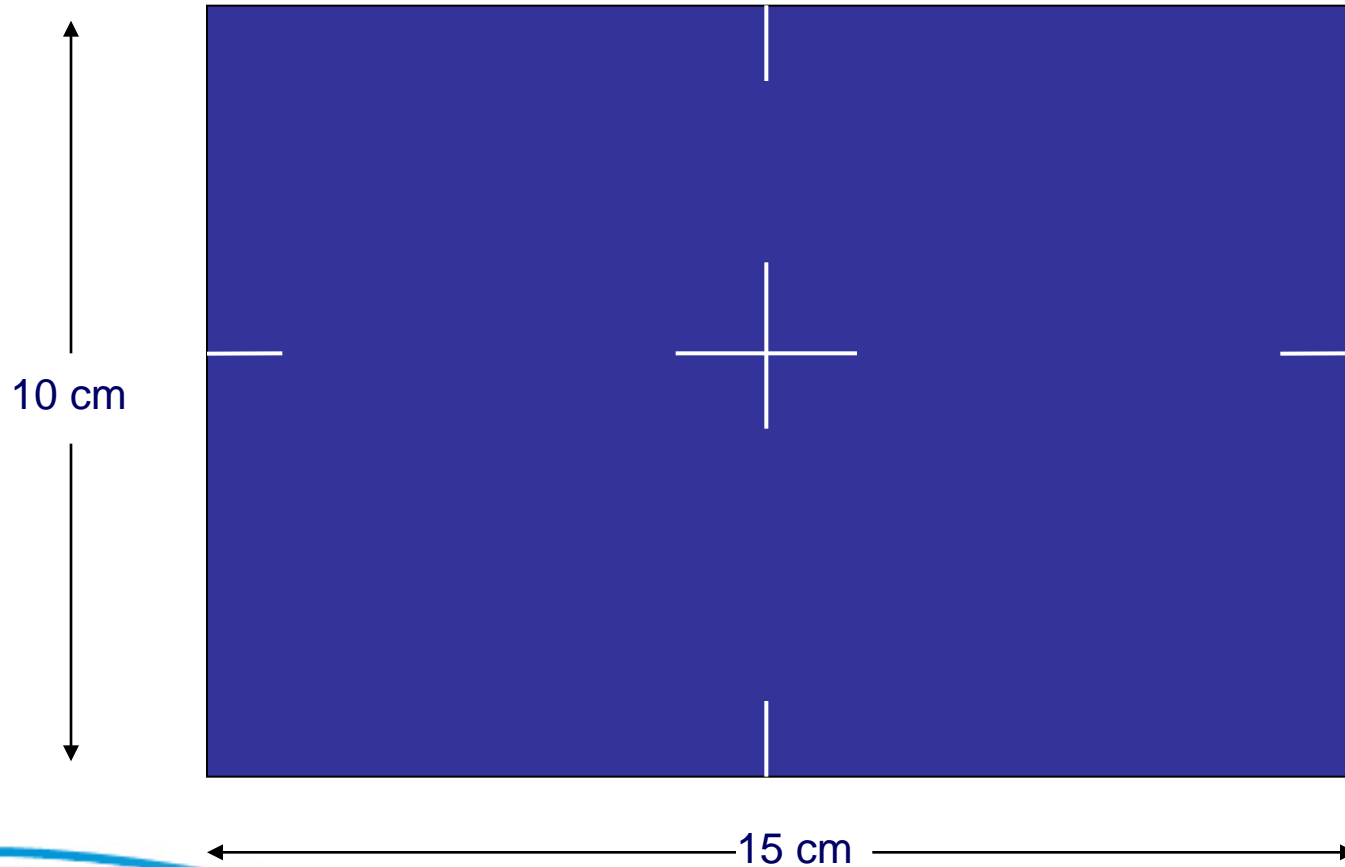
Treatment Area



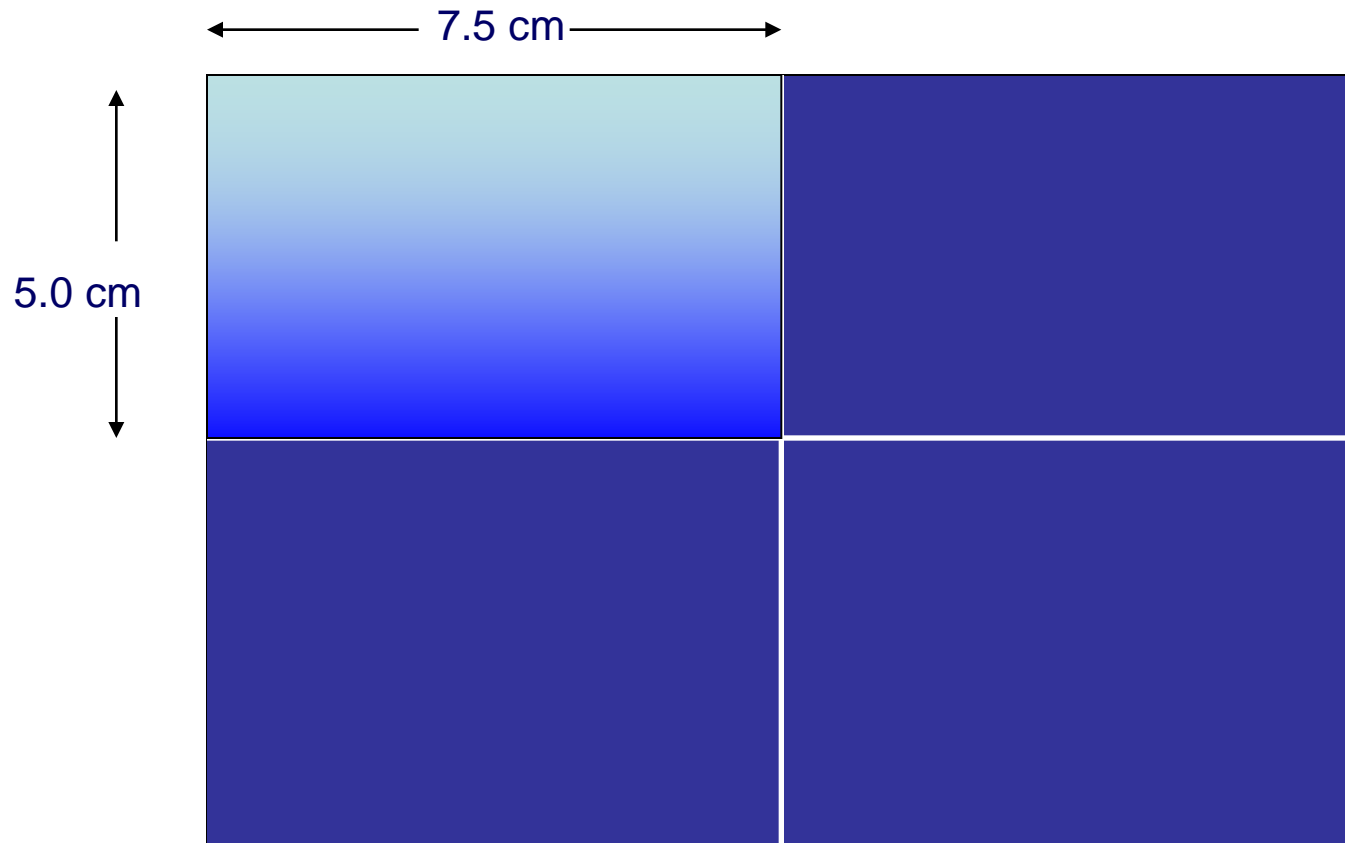
Treatment Area



Template



Grids



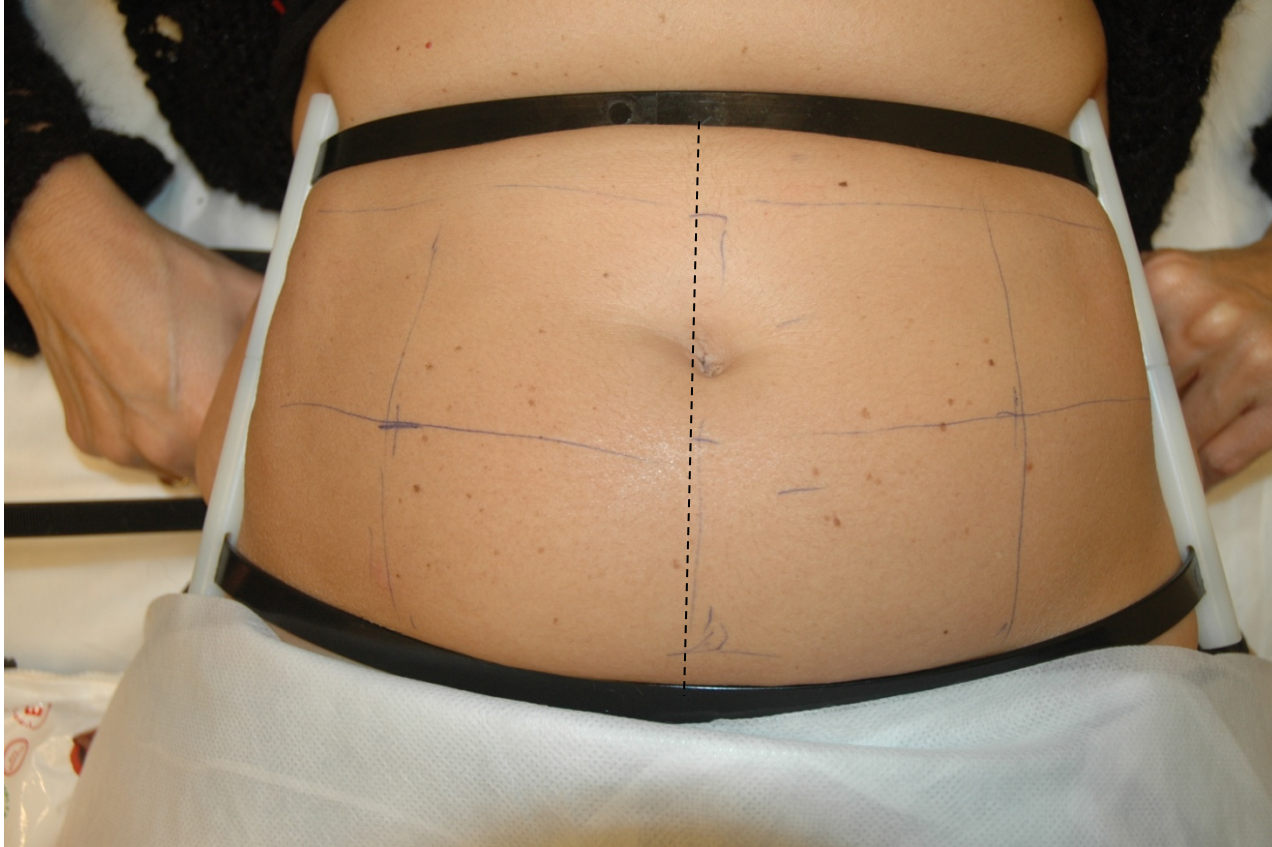
Treatment Time

8 min	8 min
8 min	8 min



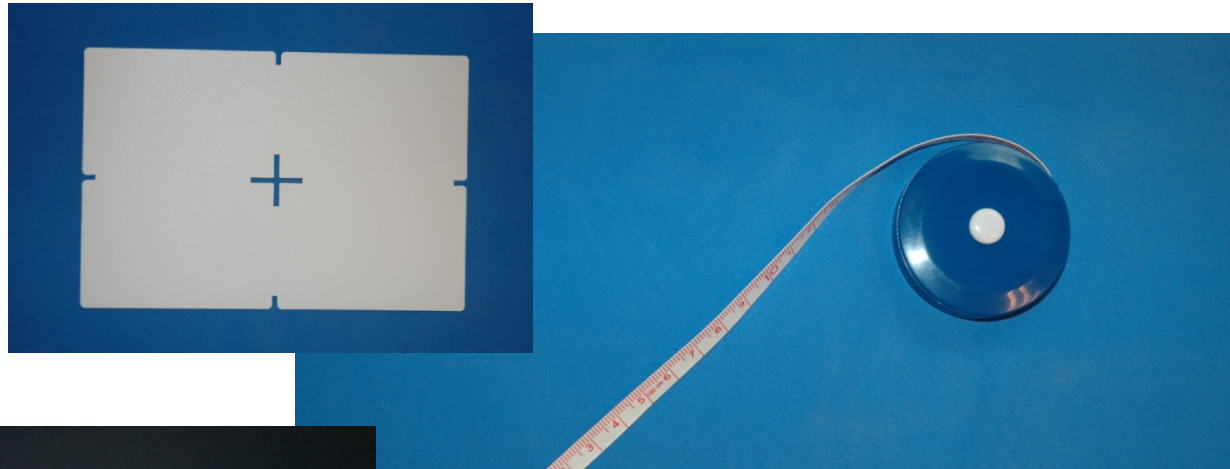


Treatment Area





Accessories - Ultra

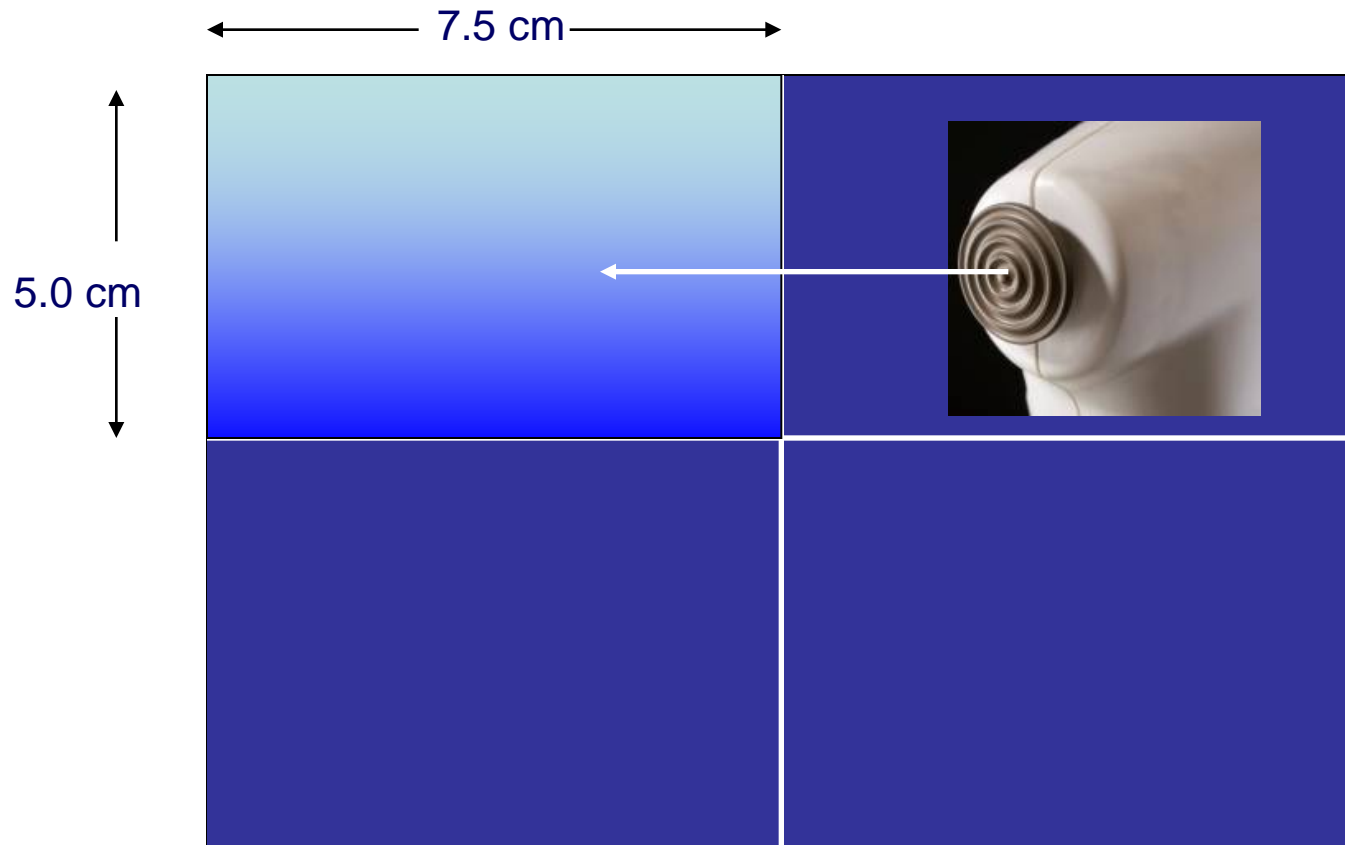


U/S Treatment

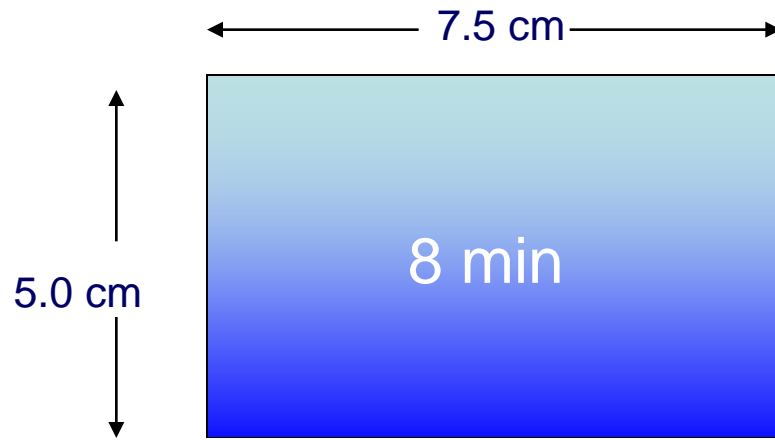
Ultra



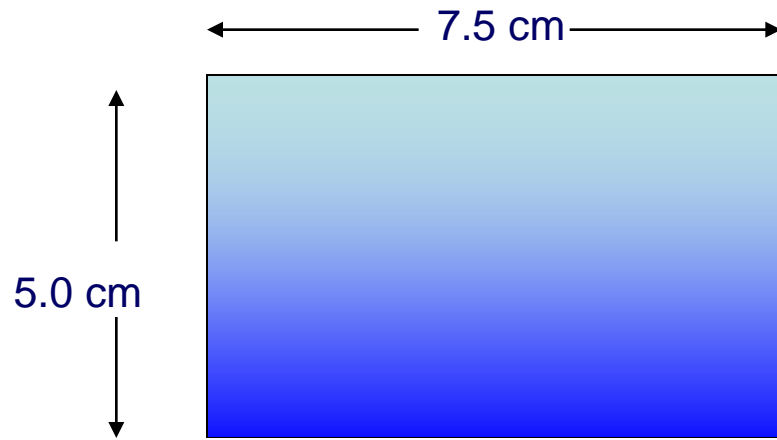
Treatment Areas



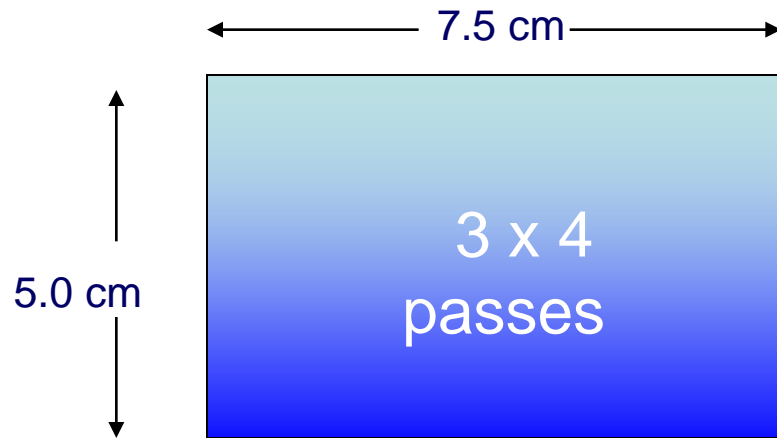
Single Area



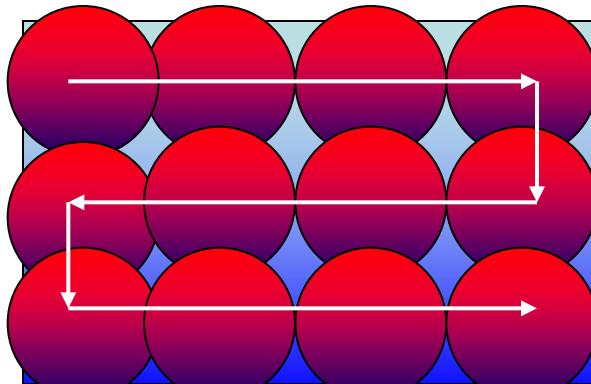
Single Area



Handpiece Movement

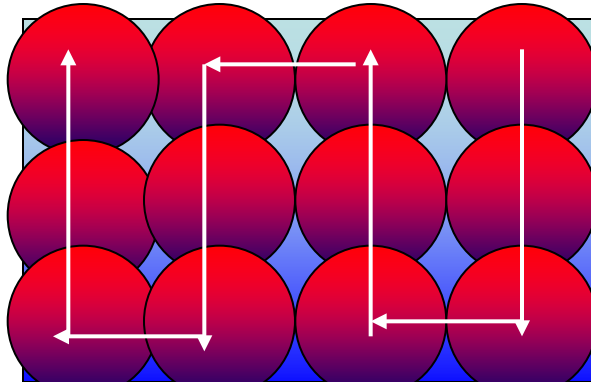


Handpiece Movement



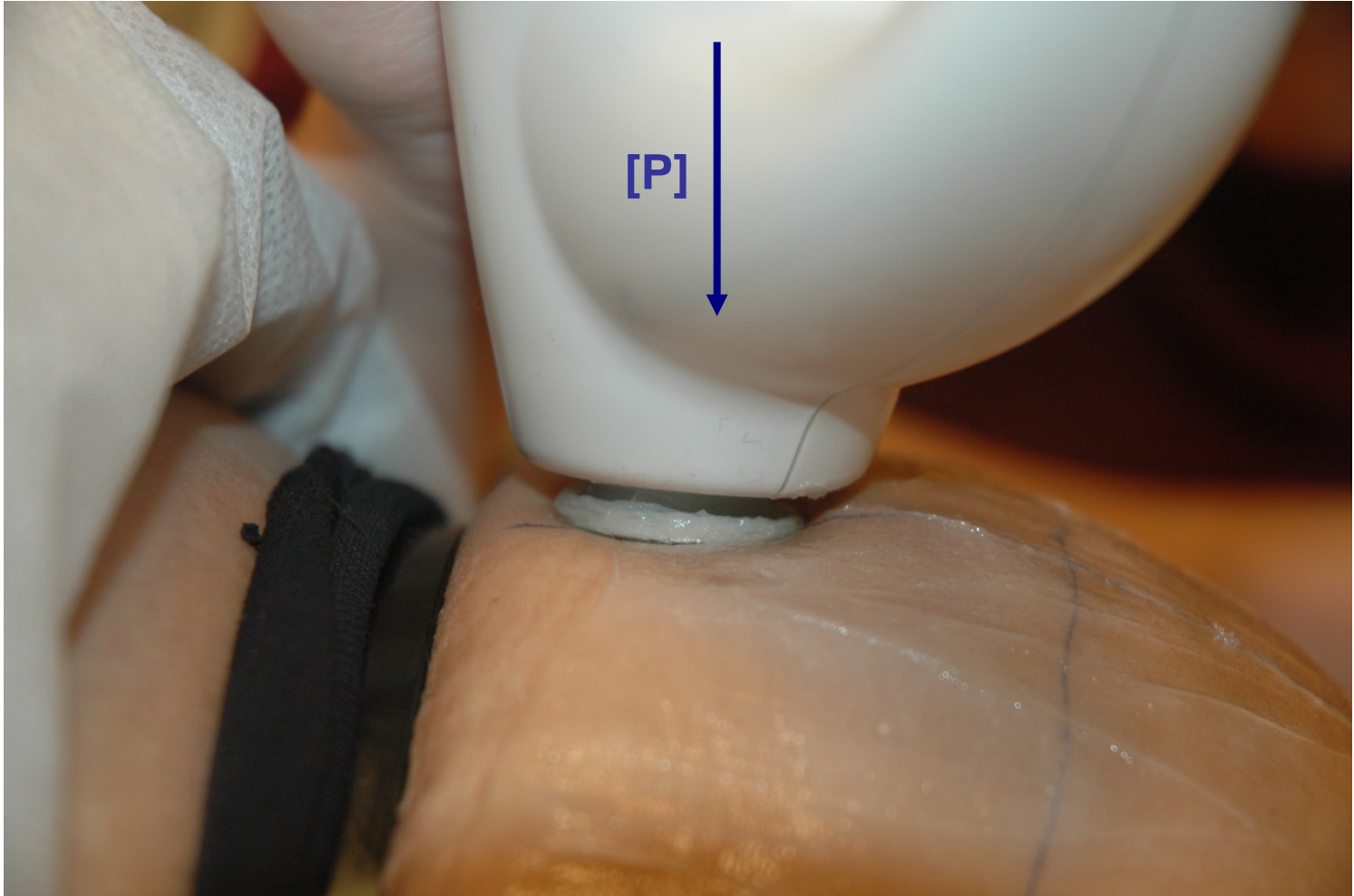
- Horizontal passes (3)
- “In-Motion” technique
- Slow-moderate pace

Handpiece Movement



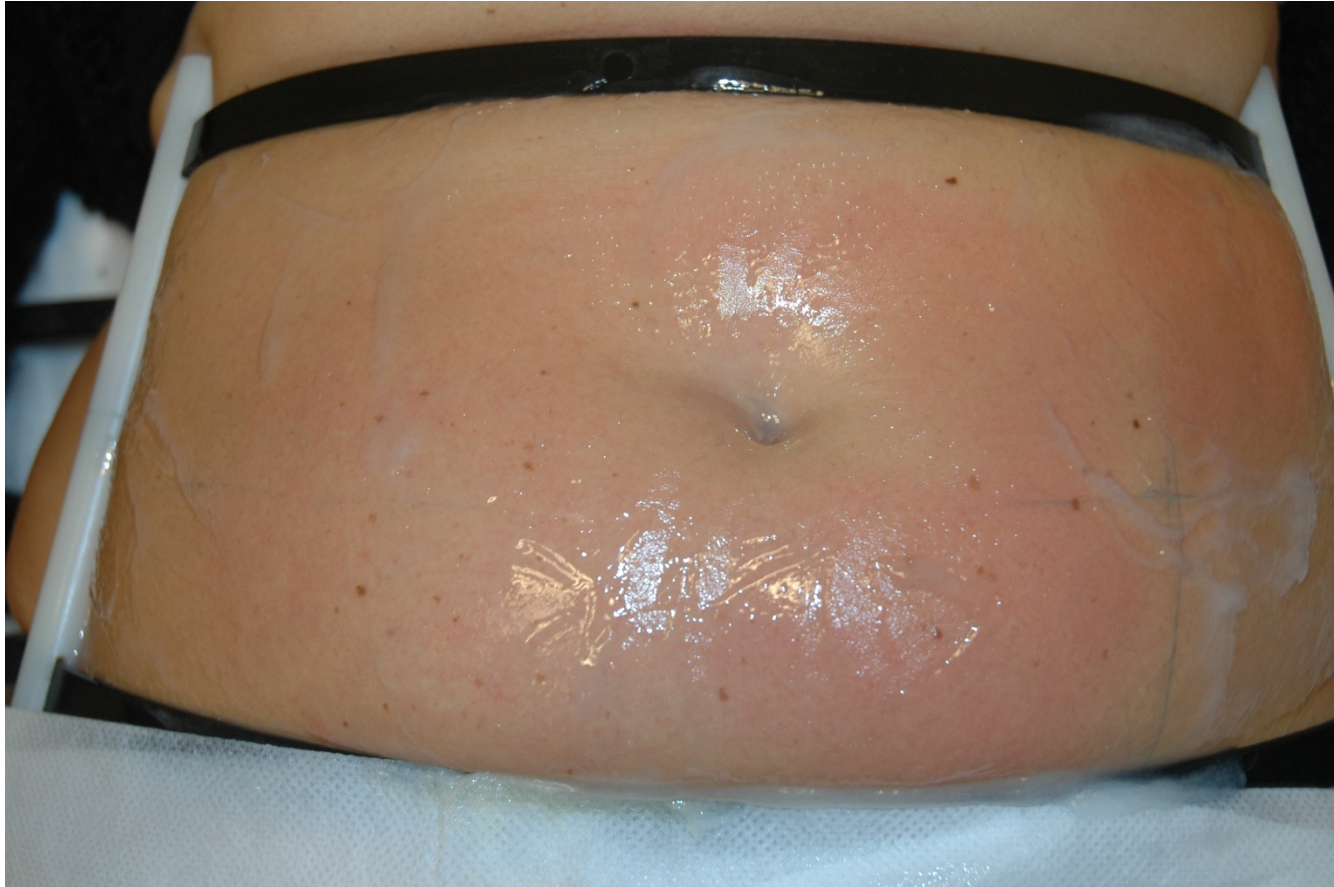
- Vertical passes (4)
- “In-Motion” technique
- Slow-moderate pace



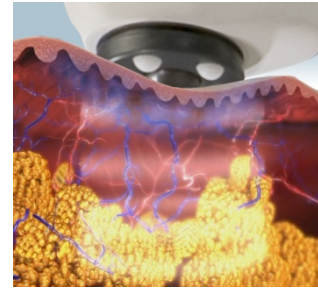
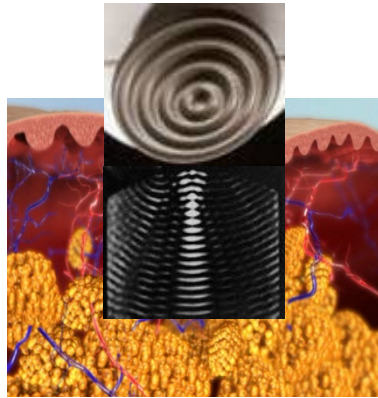




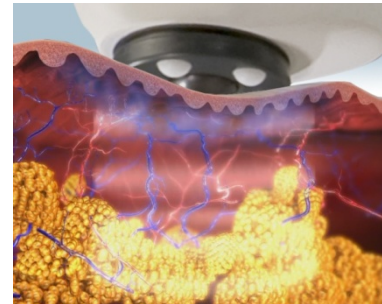
End-Points



Number of Treatments



4

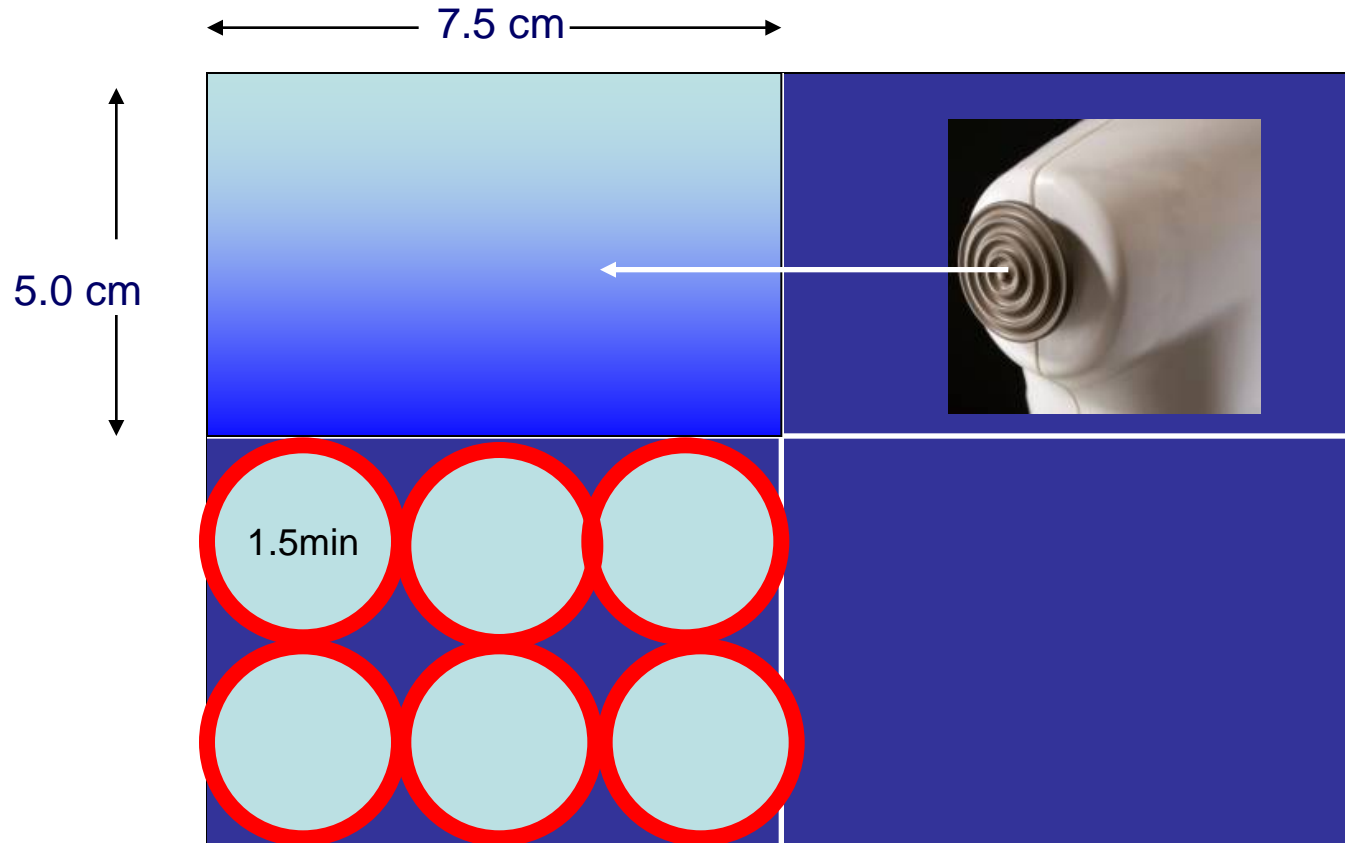


2

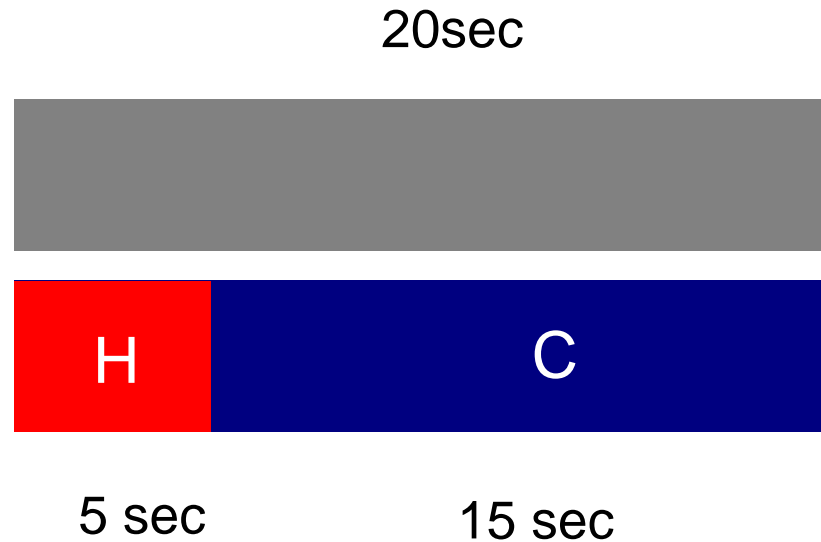
Treatment Intervals



US Module Treatment Areas

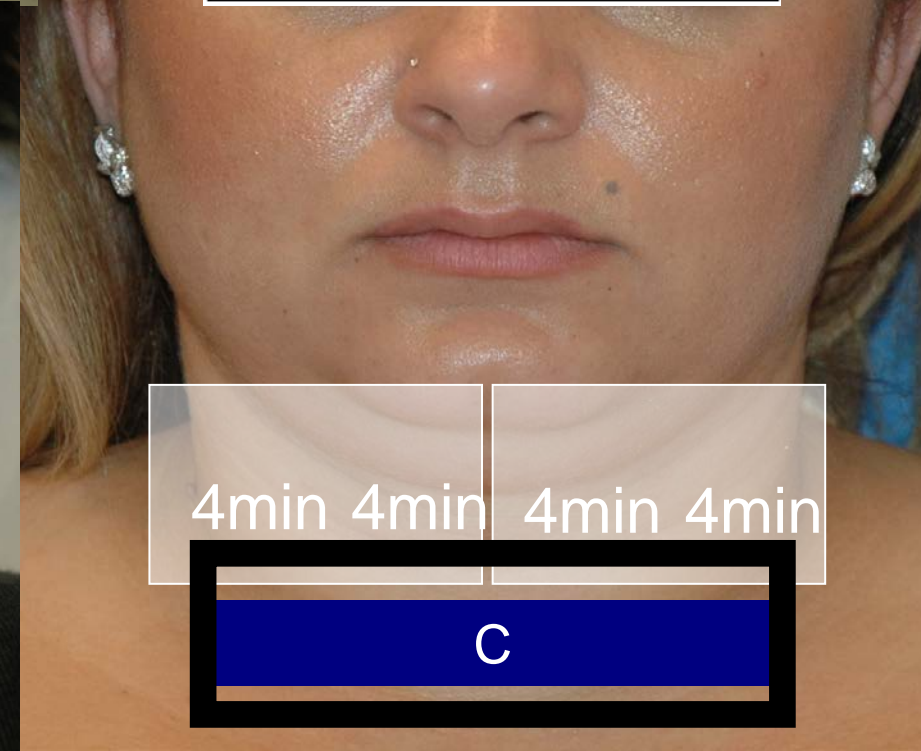


U/S Operation Cycle









4min 4min 4min 4min

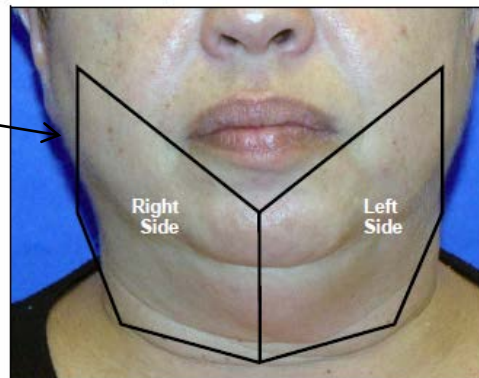
C

Treatment Protocol

- **UltraFace (Ultrasound) Module**

1. Mark the treatment grids (approximately 7.5 x 10 cm) on each unilateral side of the area to be treated (see Figure 1).
2. Cover the entire area with a coat (1-2mm) of Vaseline using a wooden spatula.
3. Turn the system on and select the UltraFace module from the control panel.
4. Inspect the entire module, giving special attention to the tip to identify any damage, and clean off any leftover Vaseline or other materials.
5. Adjust the timer to 8 minutes. This time interval should be applied on each and every unilateral grid (approximately 7.5 x 10 cm).

1 grid= unilateral 7.5 x 10 cm



Treatment Objectives

UltraFace (Ultrasound) Module

To ultrasonically irradiate each area for a fixed amount of time/energy in **Cold mode**.

UniFace (RF) Module

To maintain the treatment area temperature at 104-111.2°F (40-44°C) until the recommended total energy (expressed in **kJ**) **is invested in the treatment area**.

RF + Massager Handpiece









A close-up photograph of a person's face and neck. The person has light skin and is wearing a blue top. A white text box is overlaid on the left side of the image, partially covering the person's face and neck. The text box contains the following text:

Right
Single Area

70-90 W
30kJ

70-90 W
30kJ

A close-up photograph of a person's face and neck. The person has light skin and is wearing a diamond earring. A white, semi-transparent overlay box is positioned on the right side of the face and neck. The text 'Left Single Area' is written in black on the upper part of the box, and '70-90 W 30kJ' is written in black on the lower part of the box.

Left
Single Area

70-90 W
30kJ



SCAN

°C

42

.0

End-Point

erythema



41°-43°C

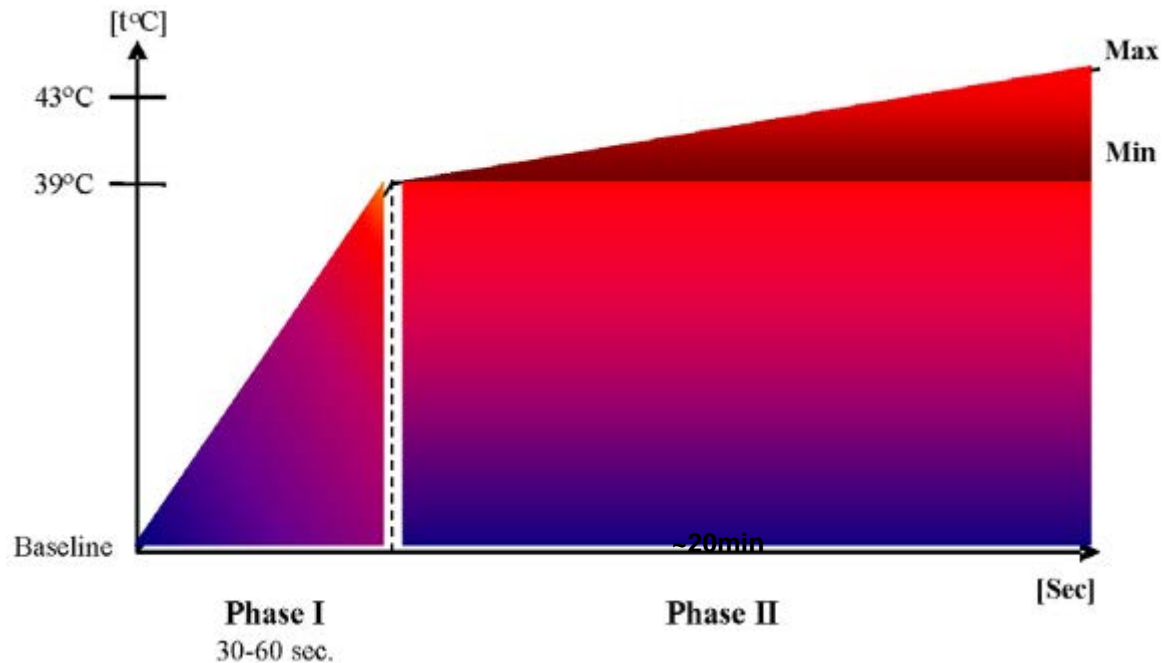
Ultra Handpiece



Vaseline



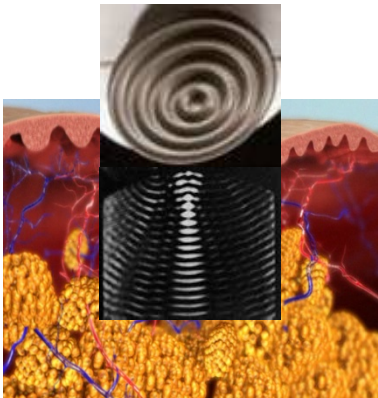
RF + Massager



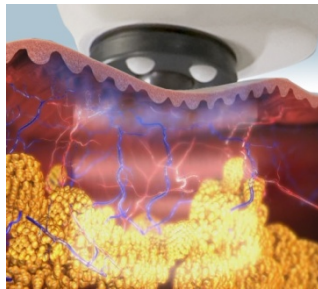
Recommended Total RF Energy - UniFace

<i>Treatment Area</i>	<i>Power [W]</i>	<i>Total Energy [kJ] *</i>
Rt./Lf. Cheek	70 – 90	15 – 30
Rt./Lf. Jaw Line	70 – 90	15 – 30
Rt./Lf. Submental (Chin)	70 – 90	15 – 30

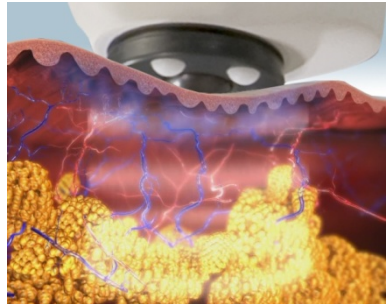
Number of Treatments



+



4



2

Pre Treatment considerations- **UltraFace**

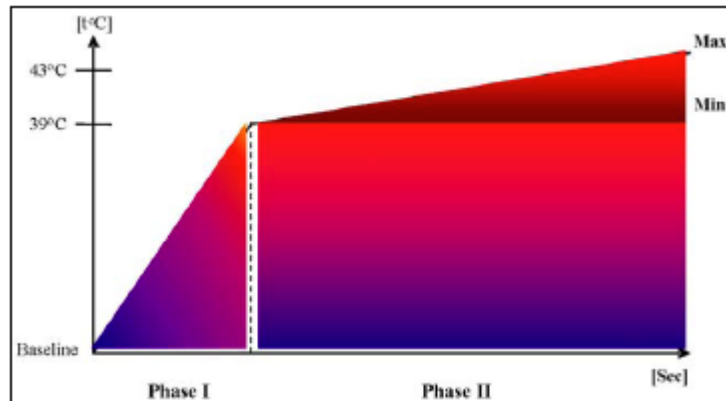
- Before commencing the ultrasound treatment, set the "Hot" mode duration (displayed on the system's screen) to 1-3 seconds in the Combo mode, depending on the patient's sensitivity to heat. The system will automatically complete the 20 seconds cycle with the "Cold" mode (i.e. 2 sec "Hot" with 18 sec "Cold", or 3 sec "Hot" with 17 sec "Cold"). The option of working only with Cold mode also available (full cycle of 20 sec Cold) .

Pre-Treatment Considerations- **UltraFace**

- The ultrasonic tuning occurs automatically every 180 seconds and also when the system transitions from Standby to Ready mode (the tuning phase will take about 25-30 seconds). That will result in some heat sensation, moving the UltraFace handpiece faster at the tuning phase will help to reduce the patient heat sensation.

Pre Treatment considerations- UniFace

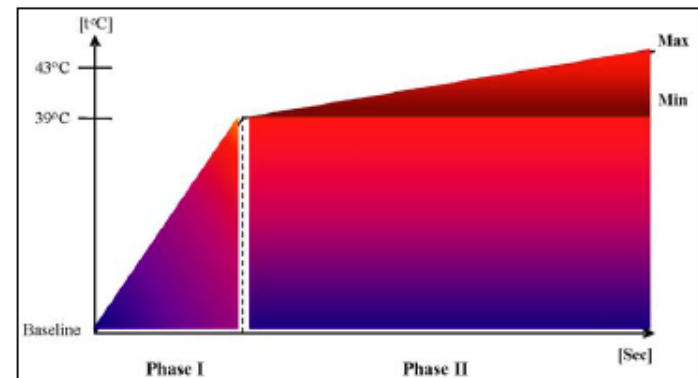
- The RF treatment includes two distinct phases: pre-therapeutic (Phase I) and therapeutic (Phase II); the goal of the pre-therapeutic phase is to raise the basal (ambient) skin temperature from $\sim 88-89.5^{\circ}\text{F}$ ($\sim 31-32^{\circ}\text{C}$) to $102-104^{\circ}\text{F}$ ($39-40^{\circ}\text{C}$) within 60 seconds (max).



Pre-Treatment Considerations

UniFace

- Once reaching to the desired temperature, the overall goal of the treatment is to maintain the skin temperature in the therapeutic temperature range of 104-111.2°F (40-44°C). The goal of the therapeutic phase (Phase II) is to increase and maintain the skin temperature of 104-111.2°F (40-44°C), without causing any patient discomfort. The therapeutic phase (Phase II) may last 20-30 minutes per treatment area.



Treatment Protocol

Number of Treatments and Intervals:

Recommended number of treatments is 4-6 at 14-day intervals (one treatment every 14 days).

Treatment Protocol

- **UltraFace (Ultrasound) Module - continue**

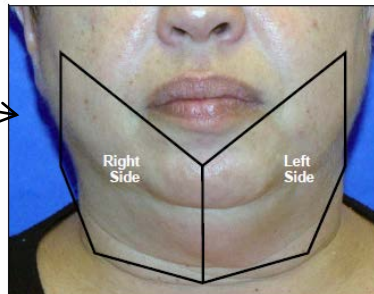
6. Press Stby (green) and activate Ready mode (red).
7. Allow the system to conduct its Resonance Tuning routine (this will take about 25 seconds).
8. Apply the transducer on the first treatment side (marked grid); the module/tip should be perpendicular to the surface of the skin and slightly pressed into the skin.
9. Press the footswitch once to enable the transmission of ultrasound energy. Press it again to stop transmission.
10. Treat in 20 sec COLD mode: move the module continuously (In-Motion) in slow, small circular movements inside the entire grid area.
11. Repeat the above protocol for each and every grid.
12. Upon completion of the first treatment side (7.5 x 10 cm grid), move to the second adjacent side (adjacent marked grid) and repeat the protocol as above.

Treatment Protocol

- **UniFace (RF) Module**

1. Thoroughly wipe clean and dry the area from the Vaseline used during the Ultrasound treatment.
2. The treatment with the UniFace RF module should be used and applied on the same bilateral 7.5 x 10 cm grid areas treated previously with the UltraFace module.
3. Cover the entire area with a coat of mineral oil.
4. Select the UniFace option from the control panel.
5. Check the tip of the UniFace module to ensure that the cooling mode is on (this might take 2-3 minutes; touch the tip with your hand).
6. Set the power.
7. Press the Ready softkey; this will activate the module's massager component.
8. Position the module in the intended treatment area and start the module's movement prior to pressing the foot

1 grid= unilateral 7.5 x 10 cm



Treatment Protocol

- **UniFace Module - continue**

9. Press the footswitch to emit RF energy; this should be done only after the module is initially applied to the skin and while the tip is moving on the skin (In-Motion).
10. The motion should be circular within the enclosed area of the grid for the duration of the preset exposure time.
11. Use the infrared thermometer to measure and record the baseline temperature of the area to be treated by applying three (3) random measuring points inside the grid.
12. Monitor the temperature of the treated area using the IR thermometer at the end of every 30 seconds.
13. If the therapeutic temperature is not achieved within 30-60 seconds, increase the power by 5-10%.
14. Once the therapeutic temperature is achieved, start the recommended total KJ counting. The power level can be decreased by 5-10% (since less power is now required to maintain the temperature).

Protocol

- 3-4 treatments
- 2 wks intervals



Lipo 980

Mechanism of Action

- 980 diode laser converts light to heat delivered through an optical fiber
- Heat is absorbed by the tissue
- Thermal chemical denaturization of the tissue composition
- Destruction of the fat cells without damaging the surrounding tissue (depth of penetration in fat is 2-3 mm)
- Causing simultaneous collagen stimulation for skin tightening and contouring

Clinical Manifestations

Thermal energy rising in the dermis leads to:

- Stimulation of fibroblasts
- Production of collagen
- Tightening of tissue
- The adipose tissue concentrates the thermal effect caused by the laser due to its high absorption coefficient.

Advantages of Adding Laser to Liposuction

- Procedure done under local anesthetic
 - Increases procedure safety
 - Greater patient appeal
- Improved collagen stimulation for skin tightening
 - Tuck and lift is less necessary after laser lipo
- Faster and less traumatic aspiration process
 - Requiring less physician exertion
 - Less downtime and bruising for a quick recovery (up and around in 24-48 hrs)
- Patients are asking for laser lipo
- Fuels other laser procedures
- Procedure produces high revenue

Accent 980 Specs

- Wavelength: 980 nm
- Power: up to 20 Watts
- Pulse length: 1 ms to cw
- Pulse interval: 2 ms to 1 sec
- Fiber size: 400 microns
- Aiming beam: 640 nm, 2 mW

Supplies and Medication

- Oral medication- pre treatment
- Patient forms
- Photography equipment
- Surgical pen, scalpel, wound dressing
- Tumescant fluid
- Aspiration/suction equipment
- Compression garment
- Pain medication- post treatment
- Antibiotics

Treatment Protocol & Parameters

- Patient selection
- Clinical history
- Patient consent form
- Pre-treatment picture
- Pre-treatment preparation:
 - Medication
 - Marking the treatment site
 - Preparing the sterile table
 - Tumescant fluid
 - 150 cc to 500 cc for a 10 x 10 cm area
- Incision at several access points
- Fiber and cannula use in fat
- Aspiration of fat

Treatment Energy and Time

- Plan to employ approximately 3000 Jules per 5 x 5 cm area or until the laser passes through all areas will no resistance.
- The treatment time at 10 watts in the continuous wave setting is approximately 8-13 minutes to treat a medium sized body part.

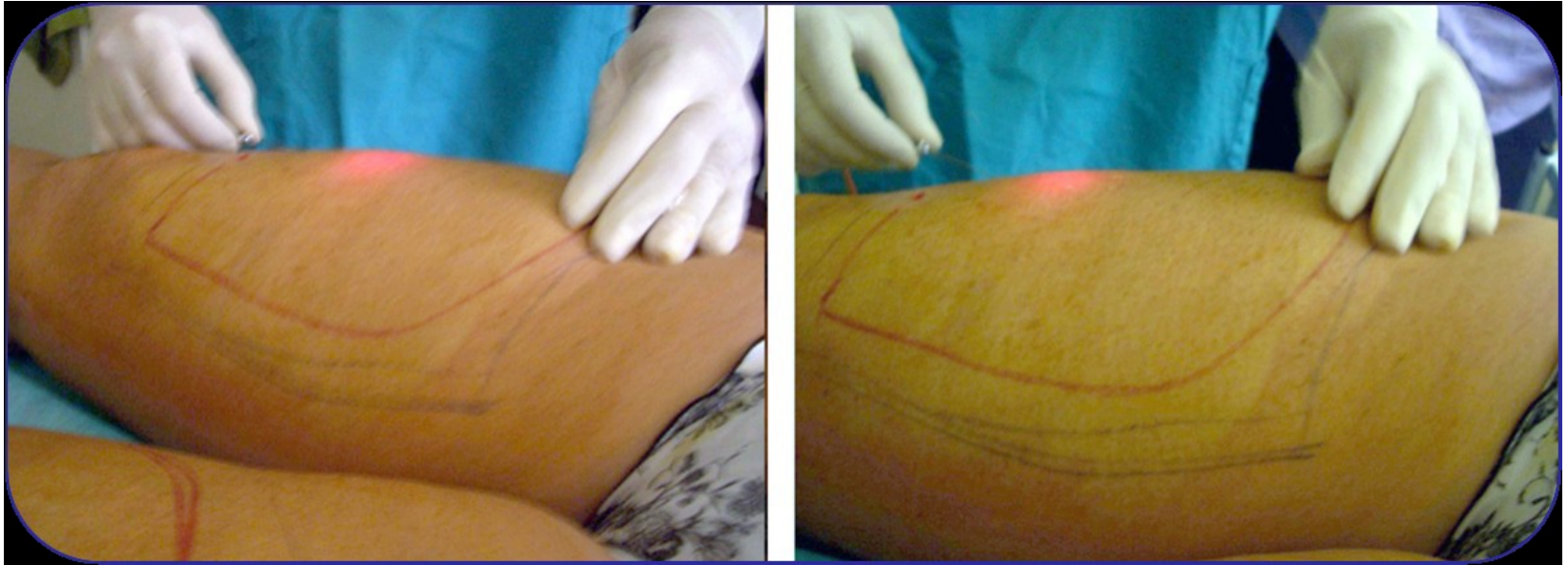
Prep Treatment Site



Inject Tumescent Fluid



Insert and Move Fiber



Fiber in Abdomen



Aspiration



Suction



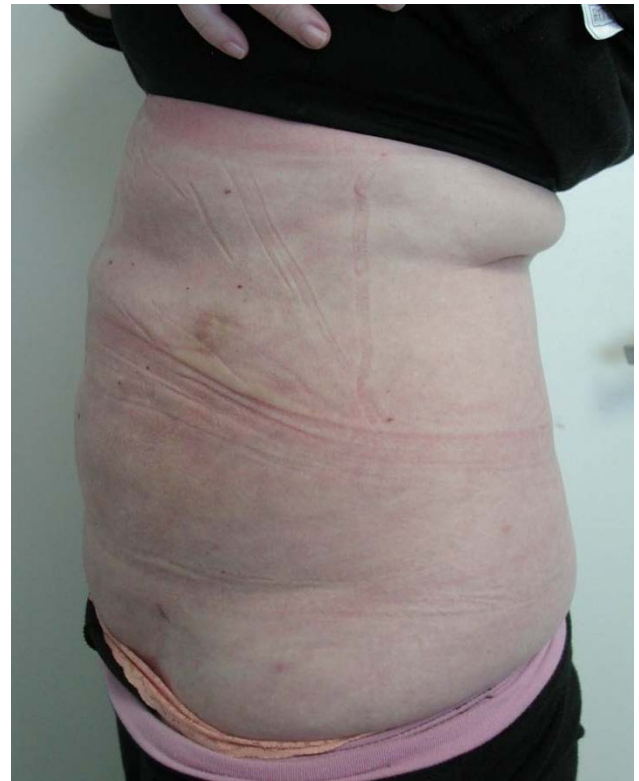
Post Treatment Protocol

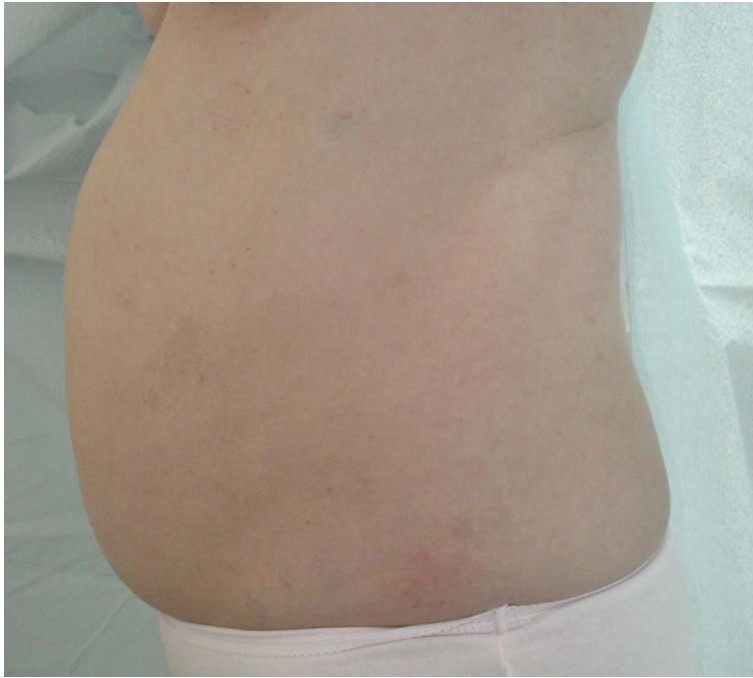
- Wound dressing
- Relative hemostasis
- Compression garments
 - Wear continuously for 1 week and regularly for 2nd week
- Medication

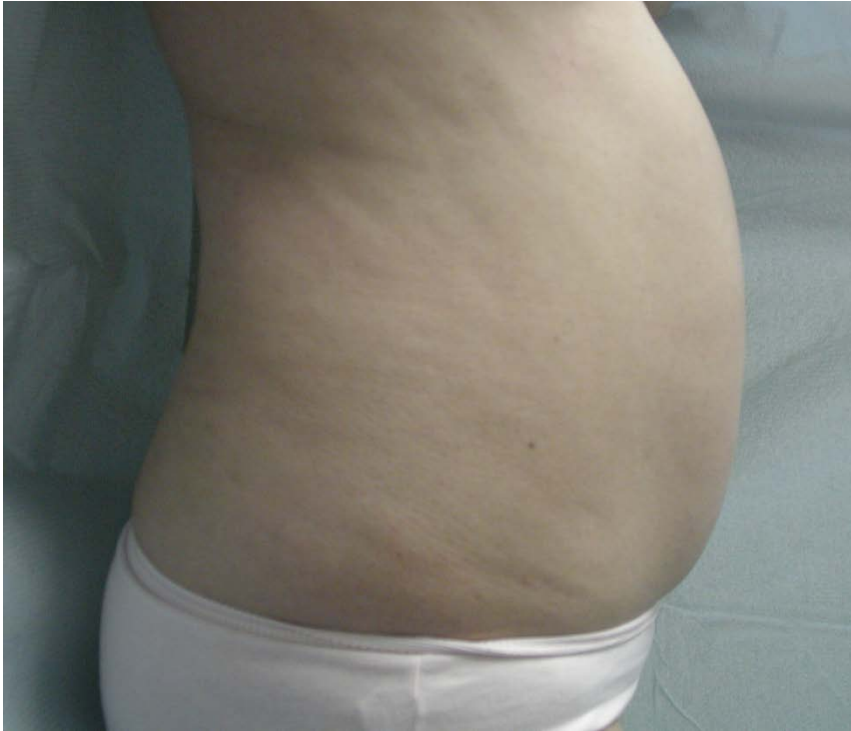




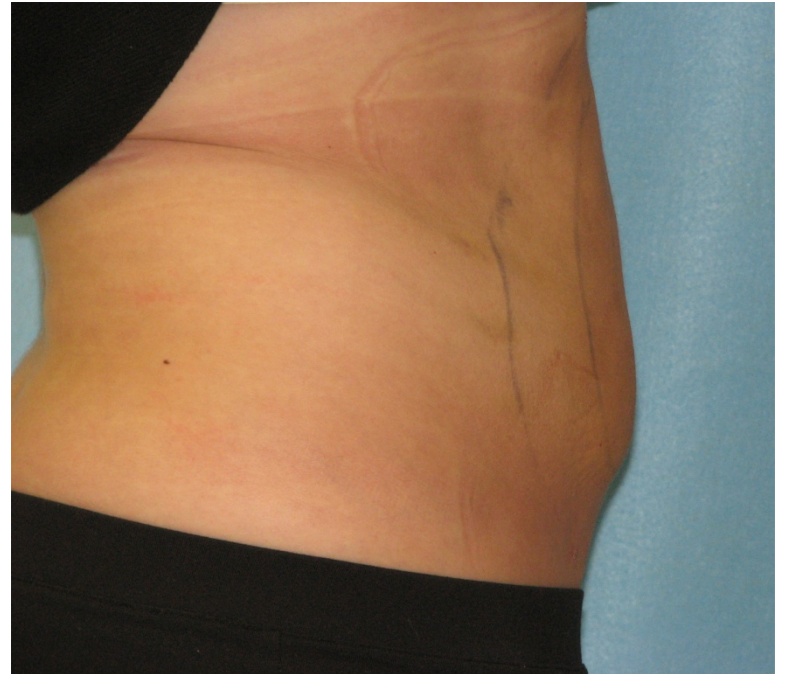






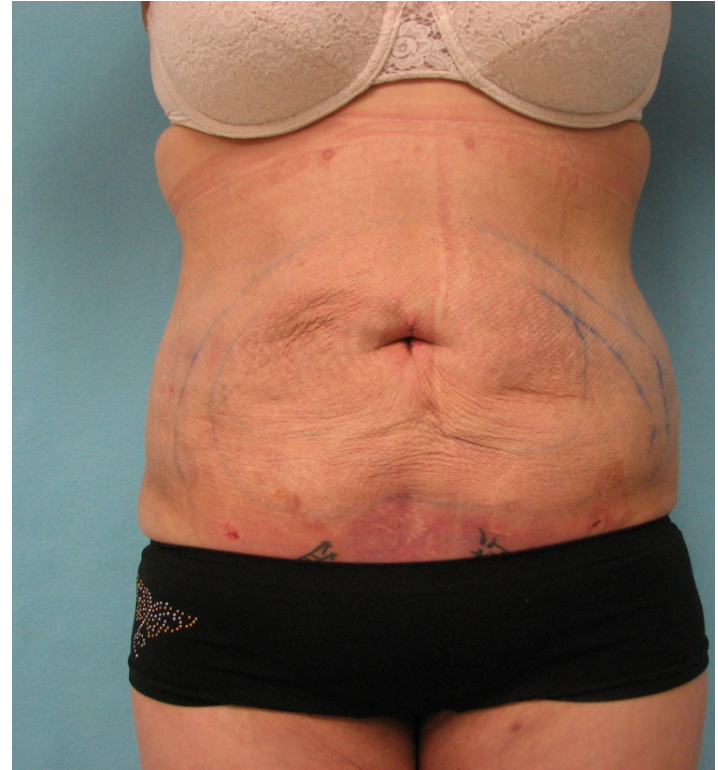














Summary

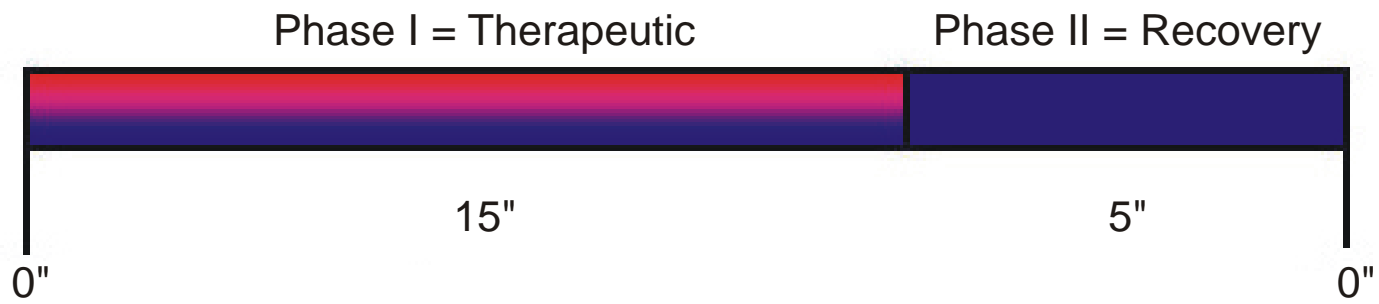
- Single session treatment
- Internal tightening of tissue
- Less traumatic procedure with fast hemostasis
- Can be done with or without suction
- Very safe procedure when properly performed
- Popular treatment areas: abdomen, inner and outer thighs, arms, flank and chin/jowls
- May combine with Accent-Ultra package, 3 weeks post treatment

Periorbital

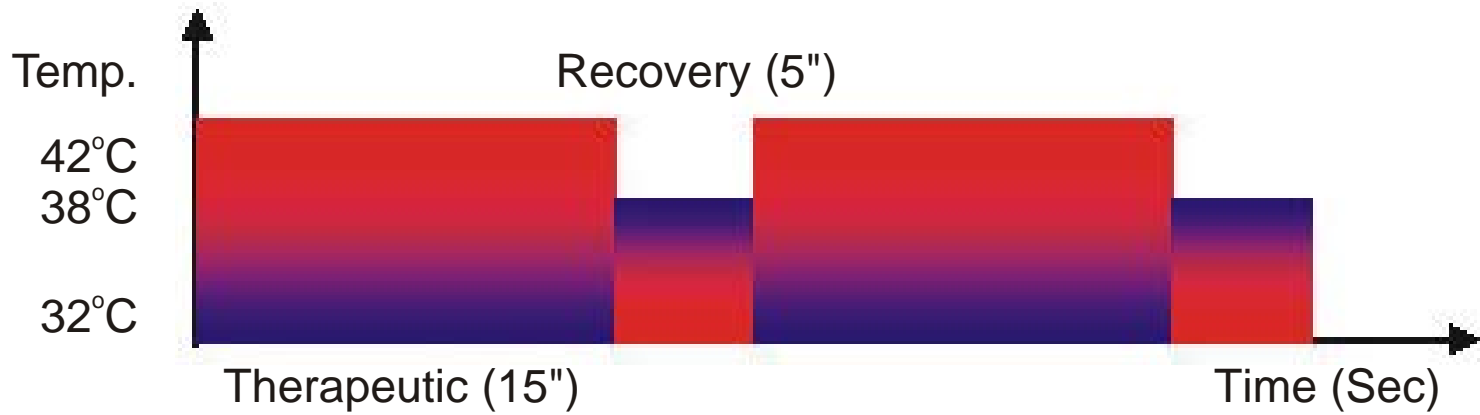
Periorbital Handpiece

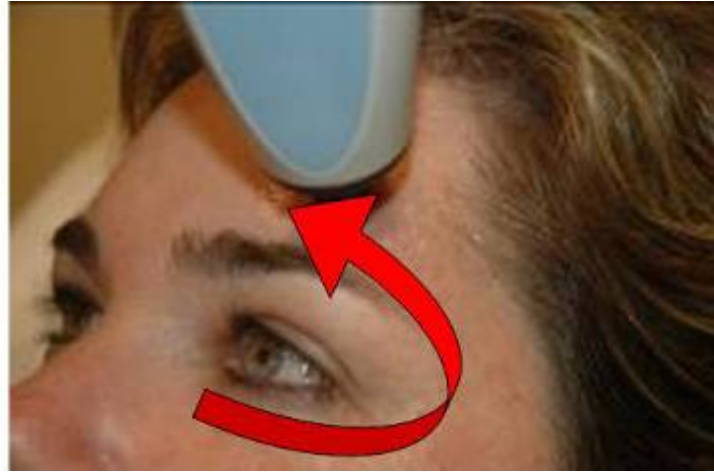
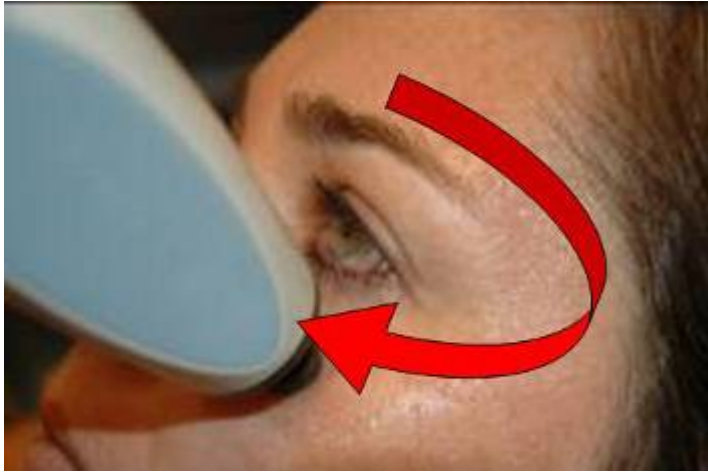


Each cycle = 20 seconds



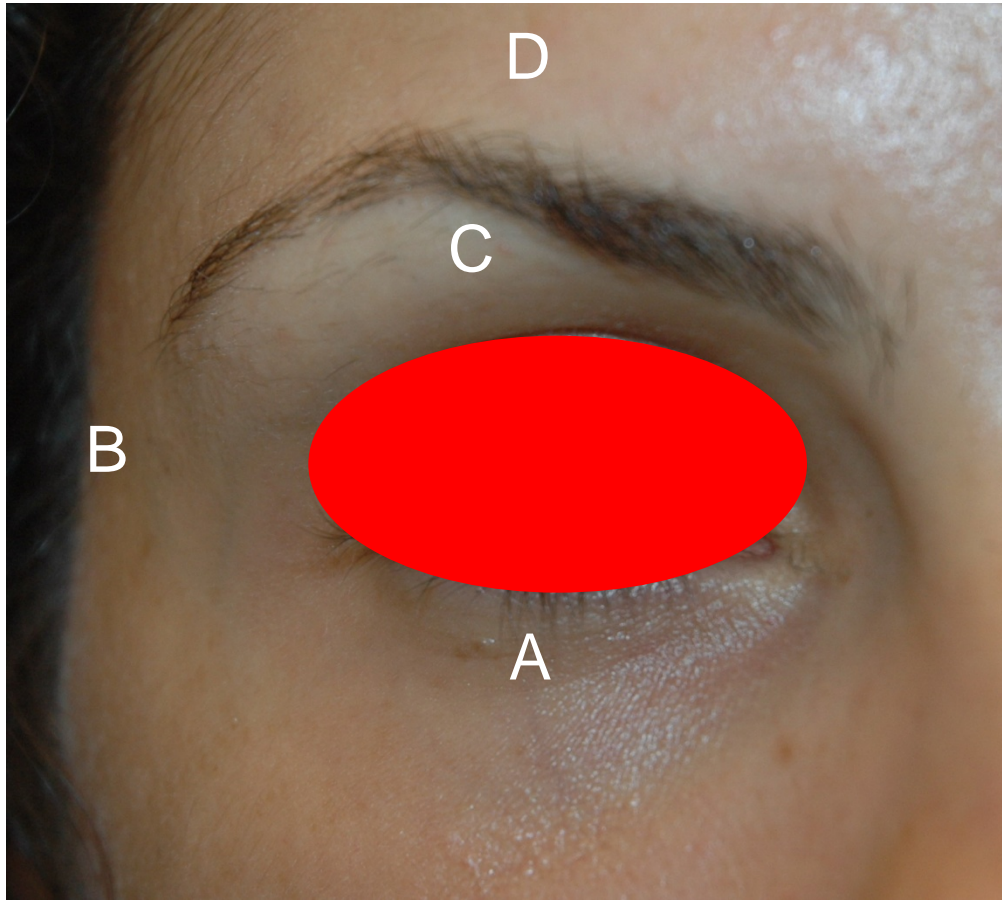
15 sec of heating followed by 5 sec of cooling

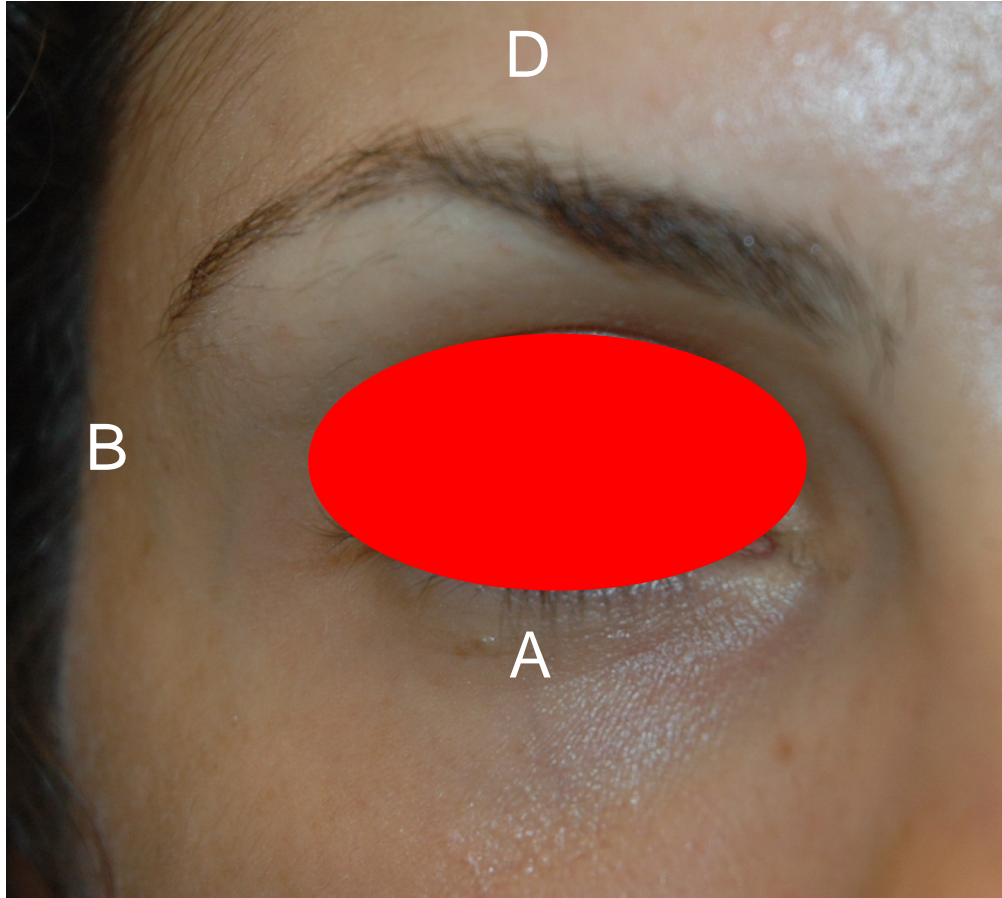






Do not Treat in the Red Area!

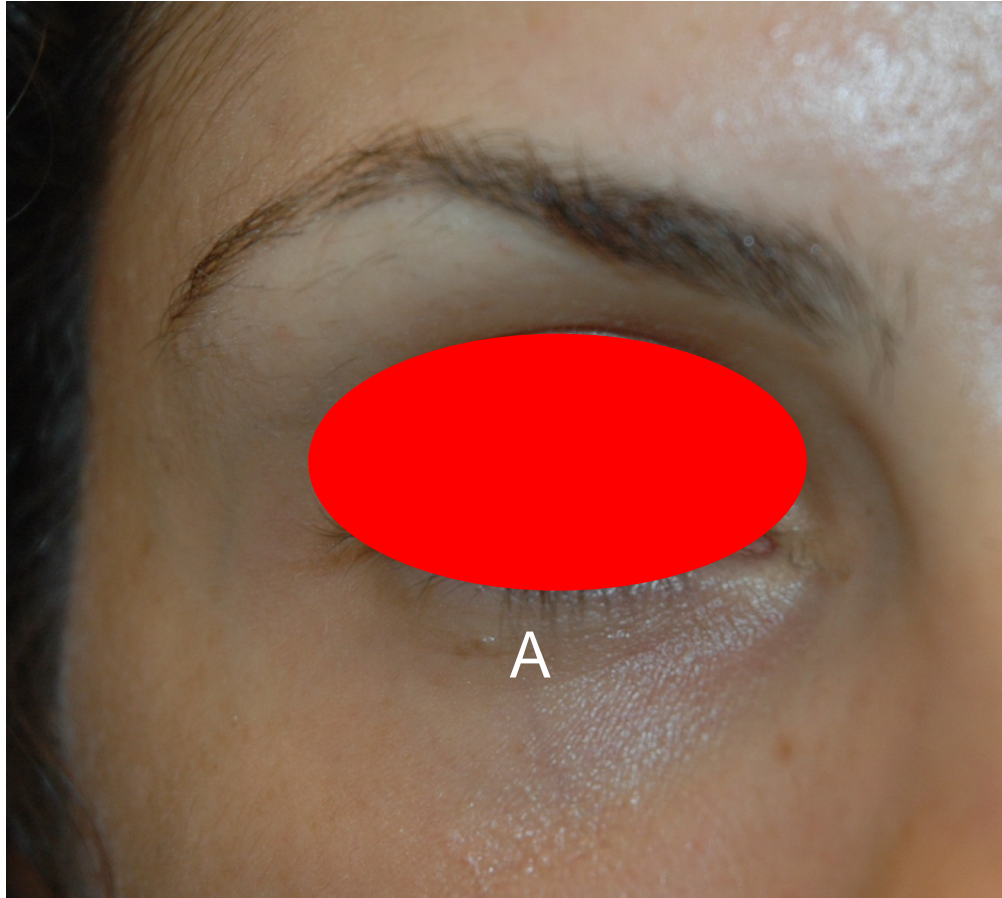




Periorbital Area

<i>Energy [Watts]</i>	<i>Exposure Time [Sec]</i>	<i>Number of Passes</i>	<i>Total Energy [kJ] *</i>
45 - 55	20	10 -15	10 - 12

Areas A,B,D

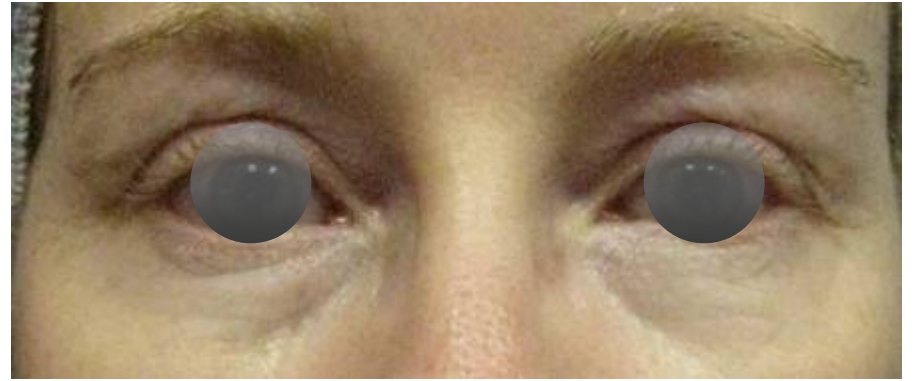
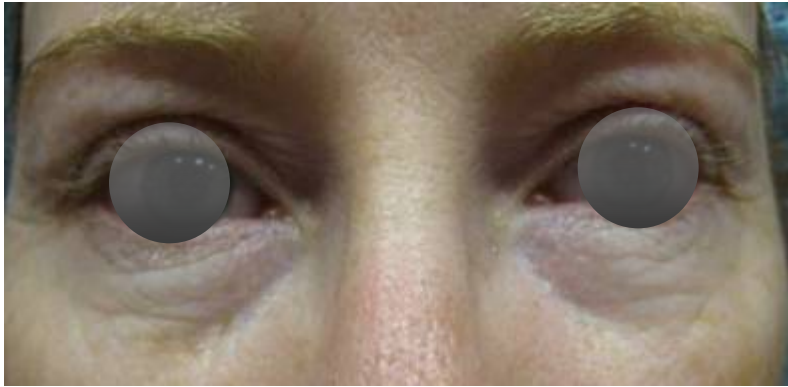


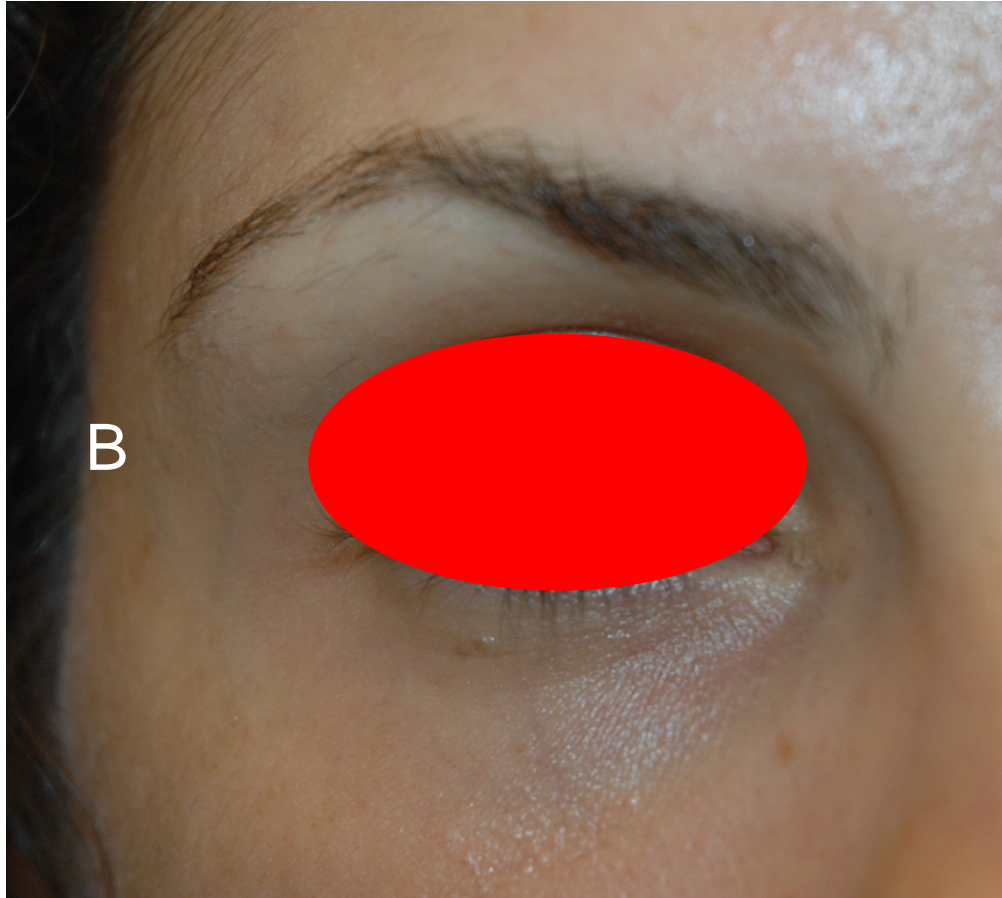
A = Infraorbital/lower eye lid

Lower Eye Lid/Infraorbital Area

<i>Energy [Watts]</i>	<i>Exposure Time [Sec]</i>	<i>Number of Passes</i>	<i>Total Energy [kJ] *</i>
40 - 50	20	6-8	4.0 - 6.0

Area A



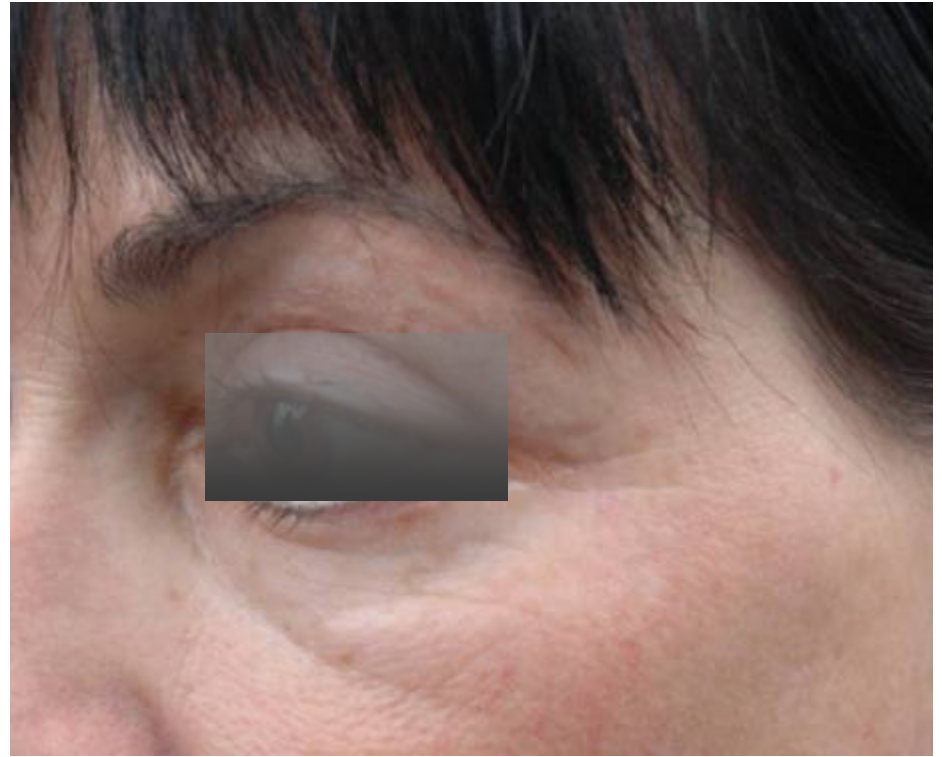
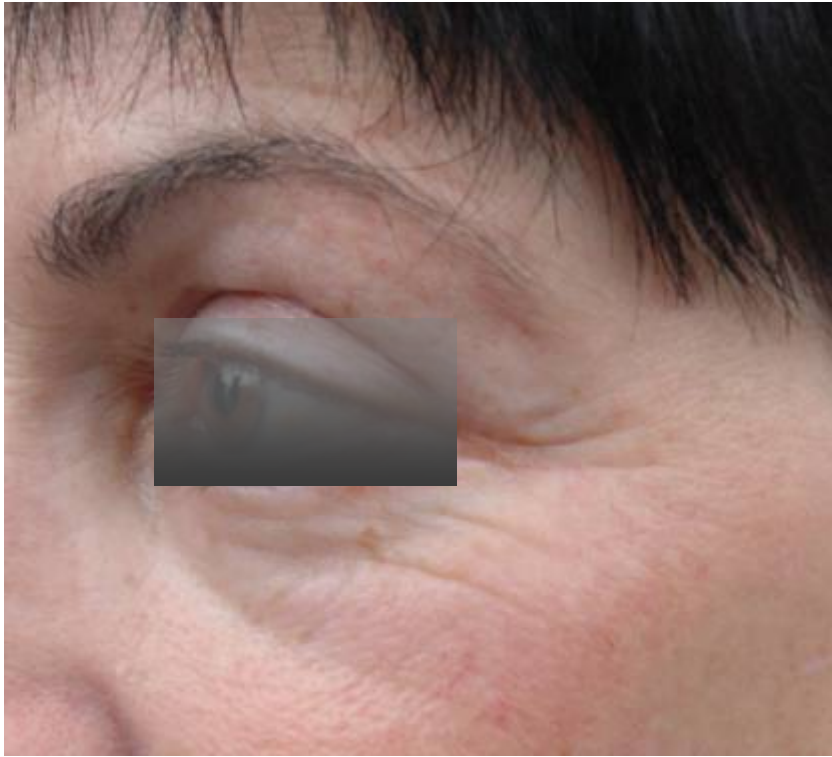


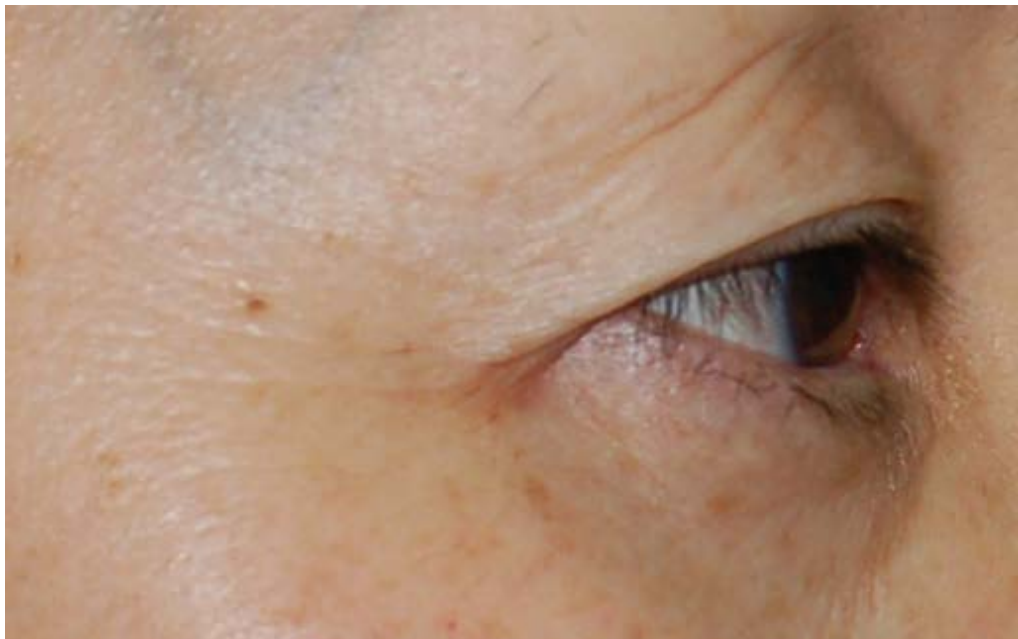
B = Lateral/Crow Feet

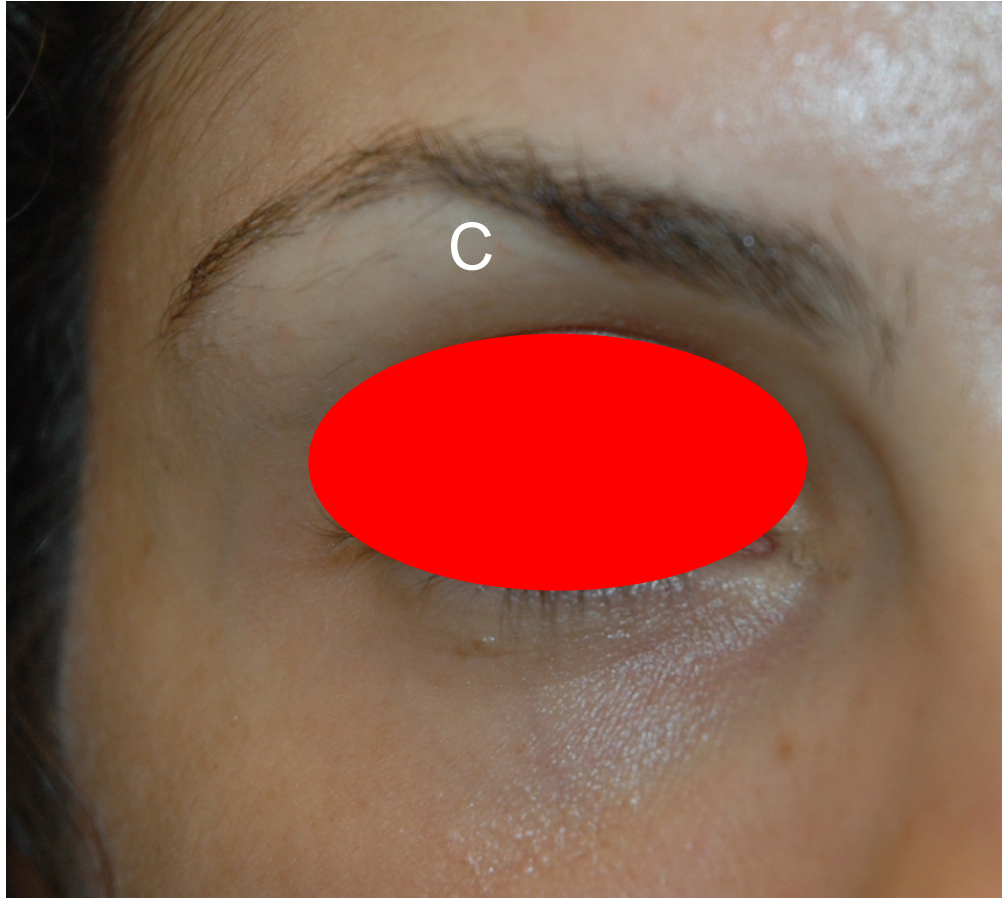
Crow's Feet Area

<i>Energy [Watts]</i>	<i>Exposure Time [Sec]</i>	<i>Number of Passes</i>	<i>Total Energy [kJ] *</i>
40 - 50	20	8 -10	6.0 - 8.0

Area B





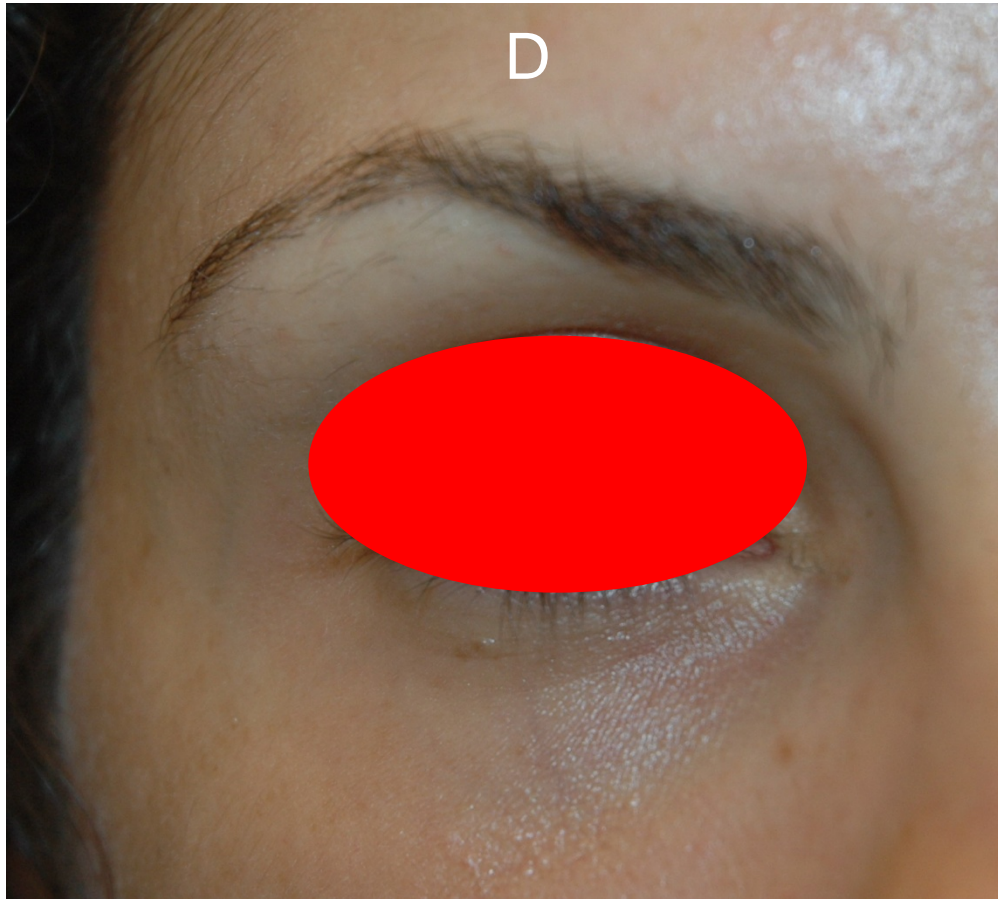


C= Upper eye lid

Upper Eyelid Area

<i>Energy [Watts]</i>	<i>Exposure Time [Sec]</i>	<i>Number of Passes</i>	<i>Total Energy [kJ] *</i>
40 - 50	20	8 -10	6.0 - 8.0

Area C



D = Upper eye brow

Upper Eye Brow Area

<i>Energy [Watts]</i>	<i>Exposure Time [Sec]</i>	<i>Number of Passes</i>	<i>Total Energy [kJ] *</i>
40 - 50	20	8 -10	6.0 - 8.0

Area D



Clinical Evidence - Face



Before



1 Month After 3 Treatments

Dr. J. Lepselter, Alma Lasers Clinical Department



before



after

29 y/o female

Nariaki Miyata M.D.
Miyata Plastic Surgery & Skin Clinic Tokyo, Japan



Before



After 4 Treatments



Before



After 3 Treatments



Before



After 4 Treatments

Ultraface + Uniface

- Age: 42 year-old
- 2 Tx with Ultraface + Uniface
- U/S COLD 8 minutes
- RF 90W 30kJ at each side
- 1 Tx with UniFace
- RF 90W 40kJ at each side



before



2 weeks after 3 Tx



before



2 weeks After 3 Tx

UniFace/UNILARGE+UltraFace

e

UltraFace COLD MODE ONLY-

8 min at each side (7.5x5cm)

UniFace/UNILARGE – 30KJ at each
side



Before



After 5 Tx

Scott Scherer, MD

Renaissance Clinic
Stockholm, Sweden

Case Report

- A general practitioner w/diabetes
- Patient has had nerve damage on her left side, where they did a fat transplant 10 years ago.
- Because of gravity the fat pocket fell.
- Treatment on left side of the face only; Ultra treatment (32min) with cold mode only to reduce the fat, and RF treatment 80-90 W temperature up to 45 to pull the face upwards.
- Diet and niacin.



before



2wks after 4 Tx



before



2wks after 4 Tx



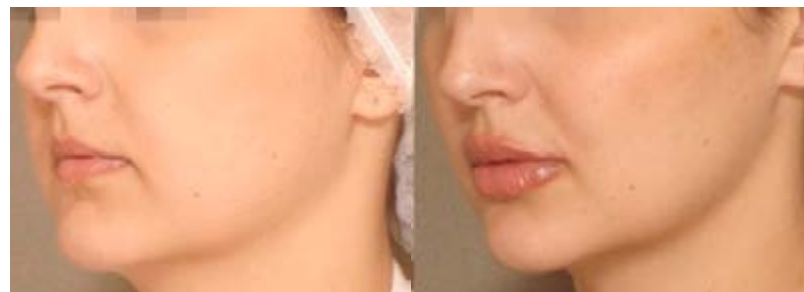
Courtesy of Dr. Scott Scherer, MD, Stockholm, Sweden



Courtesy of Dr. Tania Aparecida Meneghel, Dermatologist, Clínica Renaissance, São Paulo, Brazil



Courtesy of Dr. Fernando Urdiales, Aesthetic Medicine, Instituto Médico Miramar, Málaga, Spain



Courtesy of Maria Angelo-Khattar, PhD, Aesthetica Clinic, Dubai



Courtesy of Dr. Rafael Nunes , plastic surgeon, Slim Clinique, Rio De Janeiro, Brazil



Courtesy of Dr. Fernando Urdiales, Aesthetic Medicine, Instituto Médico Miramar, Málaga, Spain

Best indication

1. Motivated patient with realistic expectation: most important!!!
2. In their 20- early 30s preserving nice projection but chubby face ; for slimming by generalized fat reduction
3. In their late 30s- 50s with plump face & local adiposities ; for subregional contouring by isolated lipolysis such as medial cheek, jowl, lower mandibular border, submentum, etc

Clinical Evidence - Body

P

Before



After 2 Treatments



K

Before

After 5 Treatments



K



Before



After 5 Treatments

D



Before

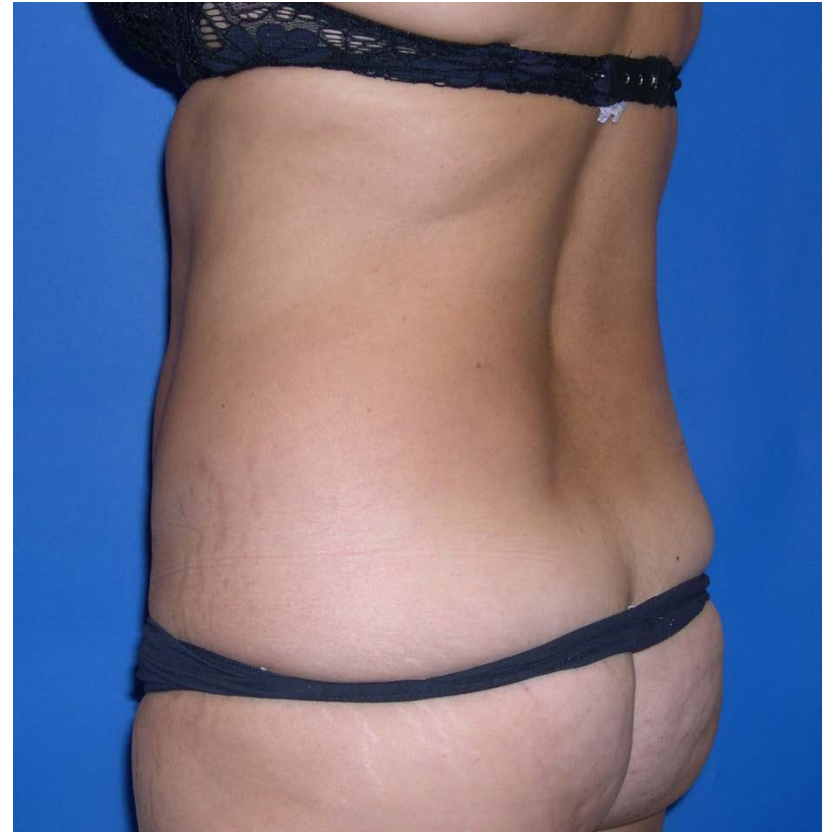
After 2 Treatments



D



Before



After 2 Treatments

D



[-4.0]



Before

After 5 Treatments

(2 wks)

L

before

after 5 treatments



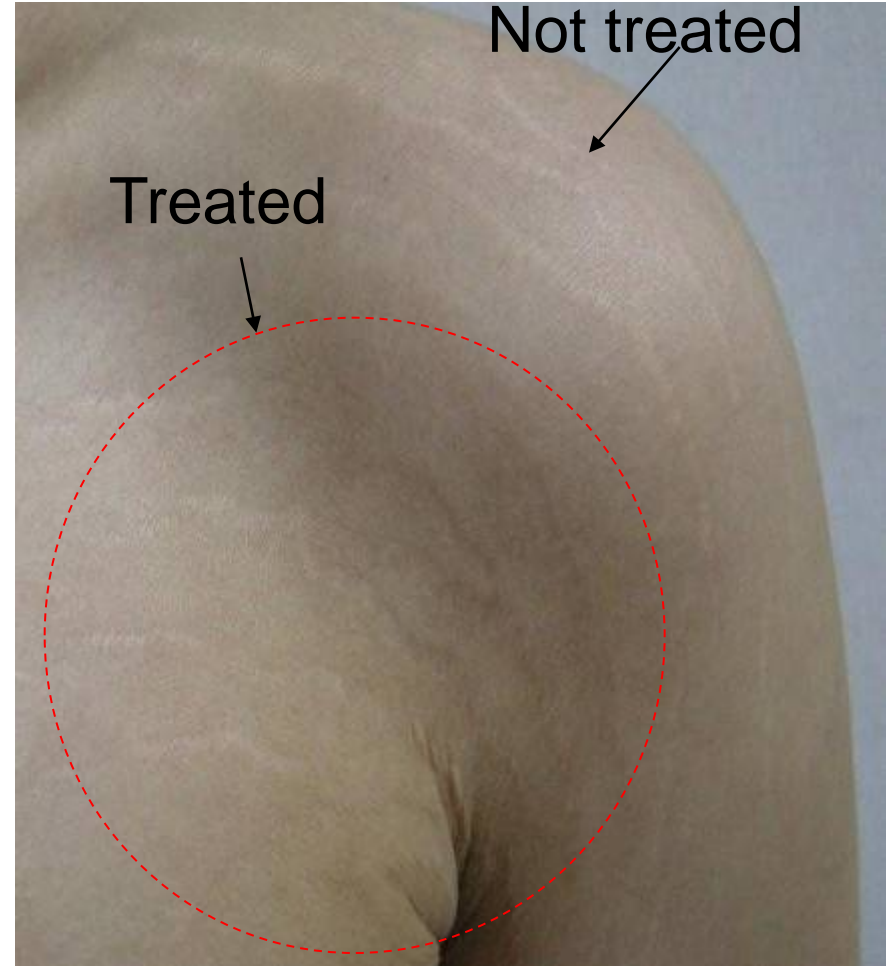
[-
7cm]

(2 wks)

Stretch Mark by RF Pixel

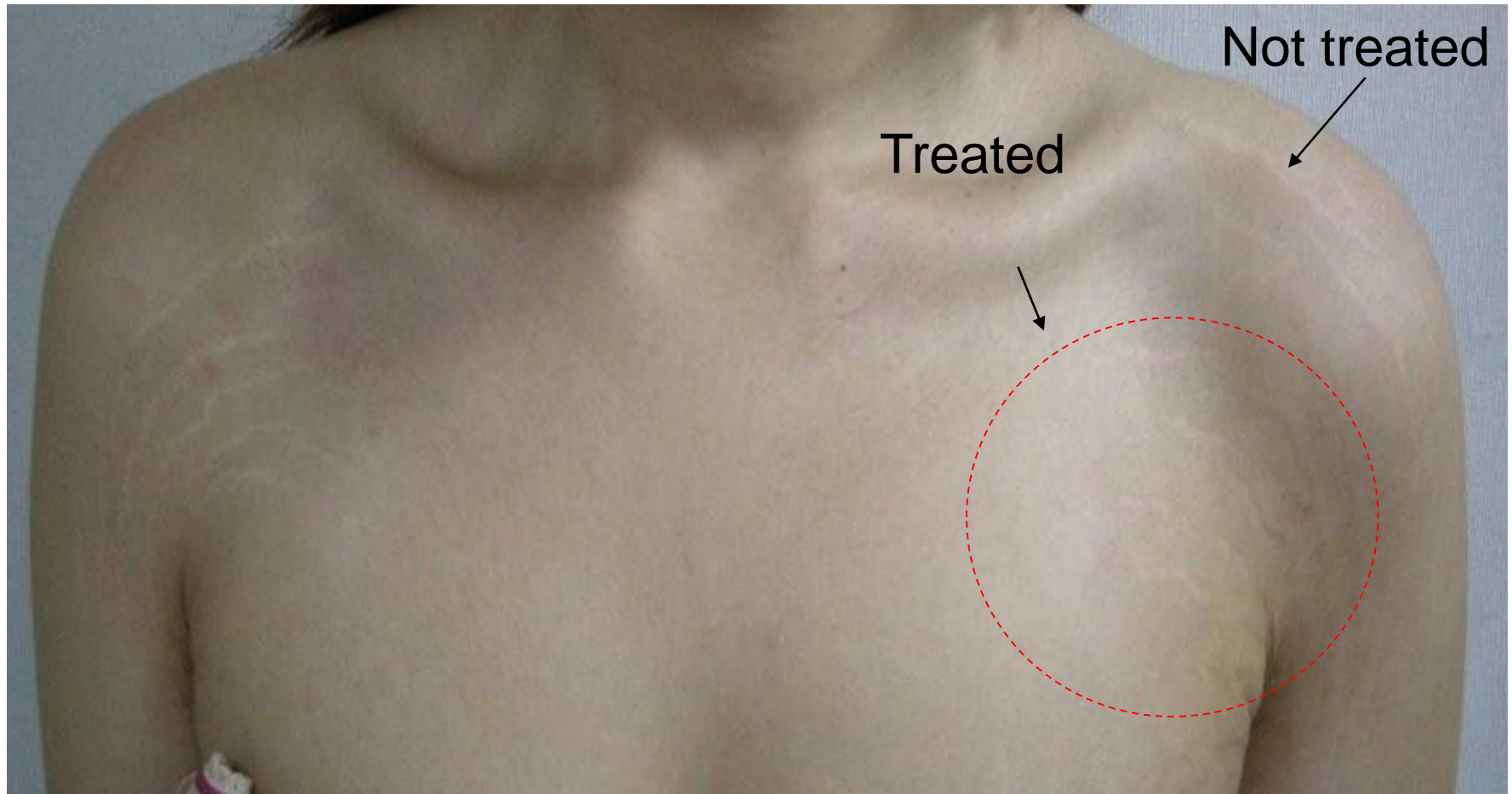


Right shoulder: Before Tx



4/1 L. shoulder: One month After 1st Tx; 25W x 2 pass

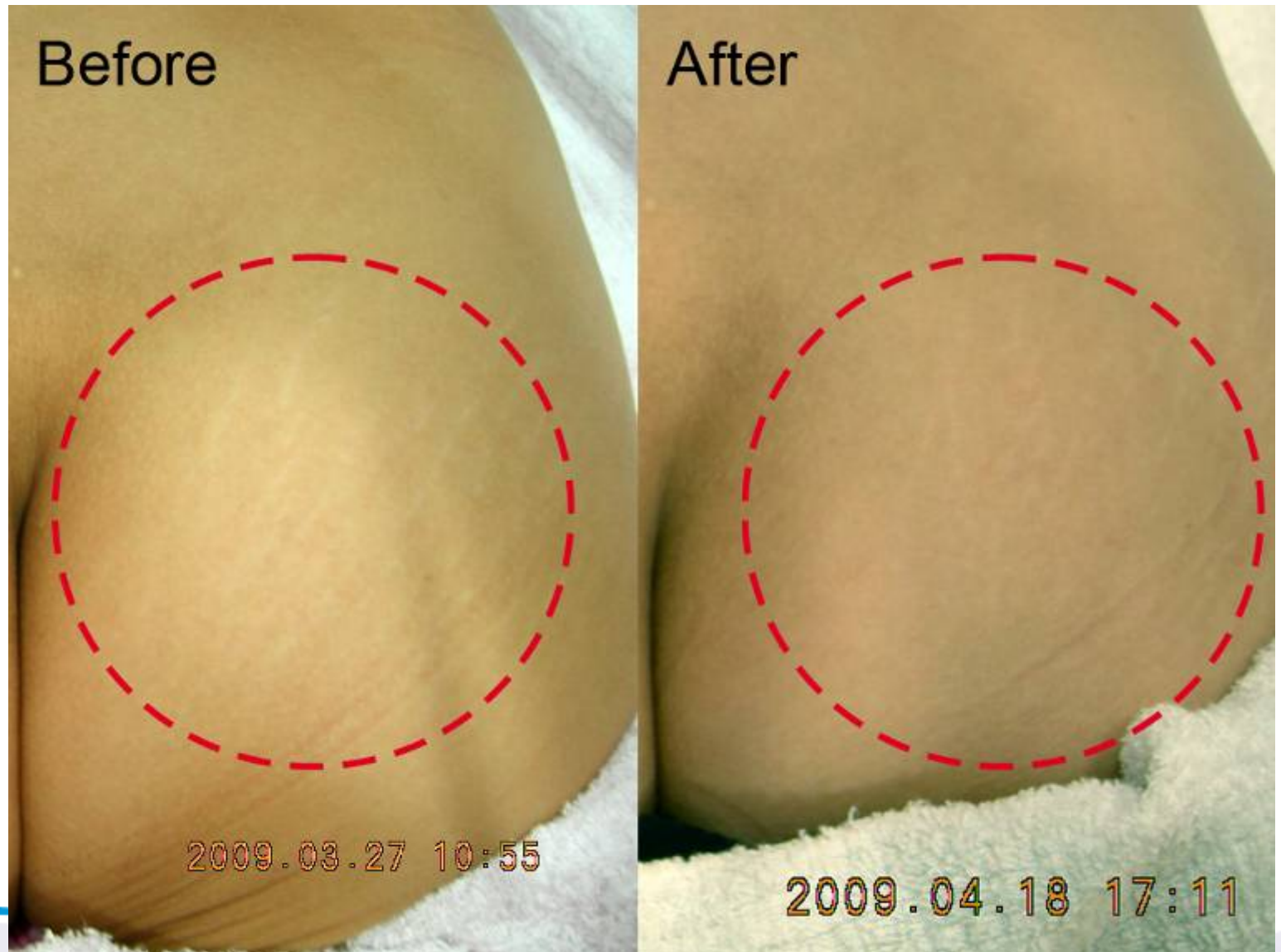
Stretch Mark by RF Pixel



Right side: Control

4/1 Left side: 1 month after 1st RelaxF Pixel; 25W x 2 pass

RF Pixel 30 W 2 Pass



RF Pixel 30 W 2 Pass





2009. 5. 12

2009. 6. 15 RF Pixel 23W
1 month after 1st Tx
By Accent Pixel



Stretch Marks



Before



2 weeks After 2 Treatments

50 Watts, 6 seconds 5 passes

Photos Courtesy: Dr. Dinko Kuliterna, Croatia

RF Pixel - Stretch Marks



Before



3 Months After 3 Tx

RF Pixel - Stretch Marks/Lax Skin



Before



1 Year After 2 Treatments

Before



1 Wk After 4 Tx



Photos Courtesy: Dr. Joseph Lepselter, Alma Lasers Ltd.

Before



1 Wk After 4 Tx



Photos Courtesy: Dr. Joseph Lepselter, Alma Lasers Ltd.

Before



1 Wk After 4 Tx



Photos Courtesy: Dr. Joseph Lepselter, Alma Lasers Ltd.



