Skin Tightening

David J. Goldberg, MD
Skin Laser & Surgery Specialists
NY/NJ

Disclosure

- Research Grants: Syneron, Ulthera

- Facial
- Off-Facial
- Cellulite
- Body Shaping
Options
- Radiofrequency sources
- Laser Light Based Technology
- Cryolipolysis
- Laser Lipolysis

RF
- Monopolar (Solta Thermage and BTL Exelis)
- Bipolar (Numerous brands)

Types of RF
- Monopolar (Solta Thermage and BTL Exelis)
Monopolar RF

- Monopolar systems deliver current by using one electrode that contacts the skin and another that acts as a grounding pad.

- The skin tightening effect is based on the principle of volumetric heating. The electrode contacting the skin delivers the electric current to the skin. A reverse thermal gradient is created by cooling of the epidermis.

- The dermis is then heated uniformly and volumetrically, sparing the epidermis. Partial collagen denaturation occurs as a result of this heating, which leads to collagen contraction and thickening.

- Some contraction of the collagen framework may occur immediately due to the fibril denaturation. More tightening follows due to a natural inflammatory wound healing response that triggers neocollagenesis and further skin contraction.

Bipolar

- Monopolar RF has one active electrode on the skin and a grounding pad
- Bipolar RF has 2 actives electrodes placed short distance apart
Bipolar
- Current flows between the 2 electrodes
- More superficial penetration when compared to both monopolar RF

Clinical Results
- Bipolar RF used for superficial skin tightening

- Facial
- Off-Facial
- Cellulite
- Body Shaping
- Facial
- Off-Facial
- Cellulite
- Body Shaping

Types of RF
- Monopolar
- Unipolar

Types of RF
- Monopolar
- Unipolar
RF: Unipolar

Types of RF

- Unipolar (Alma Accent VShape)

Unipolar

- No electric current to the skin
- High frequency EMR at 40MHz to induce rotational oscillations in water molecules
- Action akin to microwave energy
- Production of heat to depth of 15-20mm
Clinical Results

- Unipolar devices used for cellulite and skin tightening

Unipolar diffuse RF

Goldberg et al
Dermatologic Surgery 2008

- 30 Female Subjects
- 6 treatments over 12 weeks
- Upper Thigh Cellulite

- Facial
- Off-Facial
- Cellulite
- Body Shaping
Body Shaping
- Zeltiq Coolsculpting
- Radiofrequency (BTL Vanquish)
- Radiofrequency (InMode BodyFX)
Skin Tightening