SCARLETS

FOR EXPORT

Minimal Invasive Radio Frequency Microneedling

It provides direct heat to epidermis and dermis by precise depth control from 0.5mm to 3.5mm. Its efficient radiofrequency offers fractional and continuous treatment patterns.

SCARLETS

The RF Microneedling System

A Revolutionary Solution for Safe Radio Frequency Skin Treatments

Scarlet S is the safe treatment in the field of RF systems, with absolutely no downtime and no side effect. It targets virtually any skin issus. Patient can have everyday life immediately after treatment. there is no bleeding or sensitivity as experienced with other microneedle treatments. The technology behind the Scarlet S is guaranteed safe and is CE & FDA approved. The Scarlet S is patented not only in America, but in other countries in Europe, Asia, Middle East, Oceania, and South America.

One Touch and Optimized Tip to Treat Target Area

Shorter Treatment Time and More Patients

Light and Ergonomically Designed Handpiece

Simple GUI LCD Touch Screen

Scarlet S Mode

L Mode

- Large Pores
- Scar
- Stretch Mark
- Acne and Acne Scar
- Double Chin

F Mode

- Volumetic Tightening and Lifting

B Mode

- Sagging Skin on Neck and Body

Experience Proven Science, Proven Results with Scarlet S!

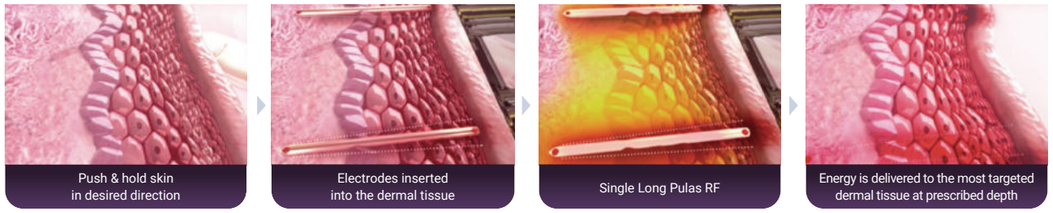
- FDA Approved
- US Patented
- International Patented (CA, EA, Asia, etc.)
- Short Pulse RF
- No Side Effect
- Less Downtime
- Less Bleeding
- Safe for All Kinds of Skin Type

RF Microneedling System

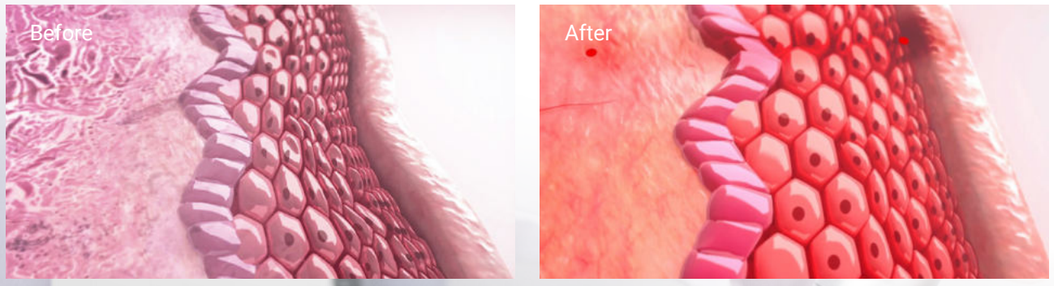
CW(Continuous-Wave RF)

RF energy is continuously irradiated to the tissue over a set conduction time. The temperature of skin tissue rises around 60℃. This sufficeint Energy causes tissue protein denaturation or collagen coagulation, stimulating wound healing process and dermal remodeling.

Treatment Procedure



Result



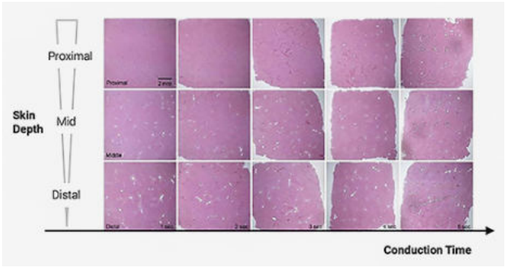
Globally Patented **"Na Effect"**

Originality of Microneedle RF Technology

Electromagnetic Initiation and Propagation of Bipolar Radiofrequency Tissue Reaction via Invasive Non-Insulated Microneedle Electrodes.

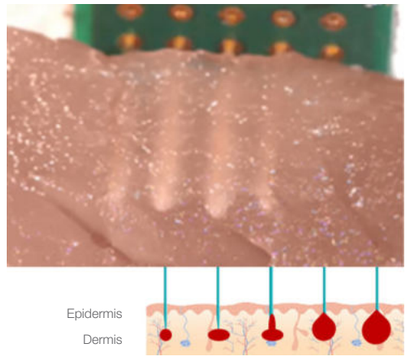
When bipolar RF energy is released through a non-insulated microneedle,tissue coagulation begins at each end of the microneedle electrode. Na Effect shows that tissue coagulation begins at the end of the microneedle electrode, then forms a droplet-shape as conduction time increases, showing less thermal damage on the epidermis.

SCIENTIFIC REPORTS



Horizontal sections of the vivo bovine liver tissue

Comparison with Others : *Non-insulated Electrodes*

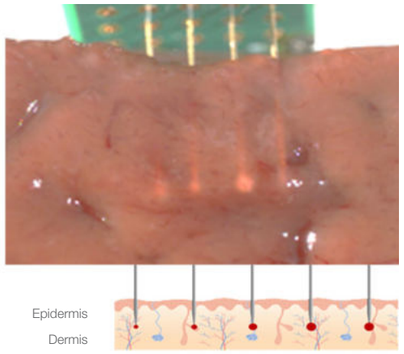


Scarlet S (Non-insulated Electrodes)

Creates complete coagulation zone as a water drop shape on each electrode covering both epidermis and dermis.

Delivers RF energy to the whole skin layer, it makes complete coagulation with the outstanding treatment effect.

In spite of the non-insulated electrodes, as Scarlet delivers a precise controlled RF energy and immediate coagulation of the whole skin layer, it leads to less bleeding, less pain and downtime.



Others (Insulated Electrodes)

Creates thermal coagulation on the end of penetrating electrodes limitedly causing incomplete coagulation leading to less treatment effect.

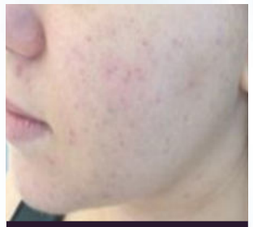
The reason of insulating the proximal ends of the electrodes where it contacts to the epidermis is because there is a risk of burns due to lack of precise energy control.

Clinical Results

Scarlet S delivers RF energy to the skin through microneedles to treat various skin problems such as acne, wrinkles and scars.

Cheek Acne

Before



After Treatment

Before

After Treatment

Acne scar

Before

After Treatment

Chest wrinkles

Before

After Treatment

Burn scar

Before

After Treatment

Eye wrinkles

Before

After Treatment

Published Articles

Scarlet is a proven product in several papers.

Sci Rep . 2015: 5: 16735. PMCID : PMC4643287

Pubilshed online 2015 Nov 13, doi : 10.1038/srcp16735

Electromagnetic Initiation and Propagation of Bipolar Radiofrequency Tissue Reactions via Invasive Non-Insulated Microneedle Electrodes

Jongju Na, Zhenlong Zheng, Christopher Dannaker, Sang Eun Lee, Jin-Soo Kang and Sung Bin Cho Avthor information / Artucke bites / Copyright and License information

Abstract

Radiofrequency (RF) energy can be emitted into the skin, either non-or invasivelay, via a monopolar mode that utilizes an acive electrode and a grounded elevtrode or via a bipolar mode that employs two active electrodes. in this experimental study of RF tissue reactions, bipolar RF energy was emitted in vivo to micropig skin at varying miconeedle penetration depths, signal amplitudes, and conduction times. Immediately after RF treatment, skin samples exhibited RF-induced coagulation columns of thermal injury, separately generated around each microneedle inthe dermis, In ex vivo bovine liver tissue, the thermal coagulation columns were found to be conventrated maximally around the pointed tips of each electrode. After a RF conduction time of 2 seconds, the individual areas of thermal coagulation began to converge with neighboring RF-induced coagulation columns; the convergence of coagulation columns was found to start from the tips of neighboring electrodes.

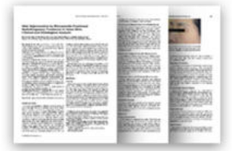
Radiofrequency (RF) refers to high frequency alternating electrical current at the frequency range traditionally used for radio-wave communication. Electromagnetic signal, including RF, induces an electrothermal reaction in targeted tissues, the patems of which depend on the resistance of the tissue. RF energy can be emitted intothe skin either non-or invasively via a monopolar mode that utilizes an active elevtrode and a grounded electrode or via a bipolar mode that employs two active electrodes. In monopolar modes, an electrical circuit formed by an electron current that flows from the active electrode to the grounded electrode is generated in the patient's body. Meanwhile, bipolar electrosurgery systems induce an electrical circuit between the two active electrodes that is limited to regionally targeted tissues. in the skin these active electrodes emit an electron current that flows through the shortestpath in the target tissue between the electrodes, theoretically limiting the depth of the thermal response induced by the electromagnetic energy. Invasive RF systems, which deliver elevtromagnetic energy through electrodes that penetrate into target tissues, offer advantages of a deeper layer of treatment in a non-contiguous pattern, compared whth noninvasive systems. In a recent study, a monopolar 0.4-MHz RF system equipped with a single penetrating elevtroude induced thermal coagulation in ex vivo bovine liver tissue that started from the tips of non-insulated elevtrodes and formed a rim of coagulated tissue around the entire length of the needles with increasing energy levels. Therein, the thickest rim of coagulated tissue was formed around the tips of the electrodes, suggesting that non-insulated penetrating electrodes can be used to effectively and safely deliver RF energy to the skin while preserving the epidermis.

Hyun Jun Park

Published by KSLMS

Park, HJ, Kim HM, Oh MJ.

Clinical Study of Facial Wrinkle Treatment with Fractional Microneedle Radio Frequency Syste / Med LASER 44:631-636(2012)



Kyu Young Seo

Published by Lasers in Sugery and Medicine

Seo KY, Kim DH, Yoon MS Et al.

Skin Rejuvenation by Microneedle Fractional Radiofrequency Treatment: in Asian Skin, Clinical and Histological Analysis / Med LASER 2014;3(2):59-64

Sang Ju Lee

American Society for Dermatologic Surgery

Lee, SJ. et al.

Use of Fractionated Microneedle Radiofrequency for the Treatment of Inflammatory Acne Vulgaris in 18 Korean Patients / Dermatol Surg 2012;1–6

Ji Hun Park

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Park JH, Shin JU, Cho SH Et al.

The use of microneedle fractional radiofrequency system in wrinkle reduction and skin tightening

Kyu Young Seo

Published by KSLMS

Na, JJ. Et al.

The Efficacy and Safety of Bipolar Radiofrequency Treatment with NonInsulated Penetrating Microneedles for Acne Vulgaris and Acne Scars / Med Laser 2015;4(1):10-15

Clinical Cases

Clinical Study of Facial Wrinkle Treatment with **Fractional Microneedle Radio Frequency System**

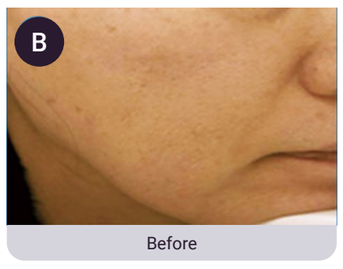
Author : Hyoung Moon Kim (Miaero Medical Aesthetic Group, Seoul, South Korea)

Results of Study

Of the 204 patients, 54 had grade 4 clinical improvement, 86 had grade 3 improvement, 50 had grade 2 improvement,and 14 had grade 1 improvement. Mild post-inflammatory hyperpigmentation was found in only two of the 204 patients,which spontaneously resolved within one month.

Marked improvement of periorbital wrinkles in a 48-year-old male patient after two sessions of fractional microneedle RF system treatment. Photos were taken at (A) baseline and (B) two months after treatment

Remarkable improvement of wrinkles along the forehead in a 56-year-old male patient after three sessions of fractional microneedle RF system treatment. Photos were taken at (A) base line and (B) three months after treatment.



Improvement of wrinkles and sagging along cheek in a 53 year old female patient after two sessions of fractional microneedle RF system. Photos were taken at (A) baseline and (B) two months after treatment.

Clinical Cases

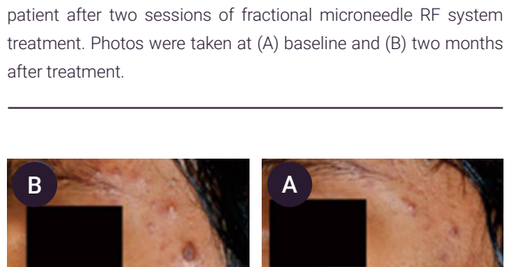
The Efficacy and Safety of Bipolar Radiofrequency Treatment with Non-Insulated Penetrating Microneedles for Acne Vulgaris and Acne Scars

Author: Jongju Na(Department of Anatomy, Soonchunghyang University College of Medicine, Cheonan, South Korea)

Results of Study

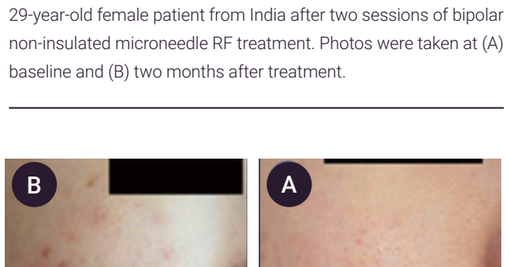
At two months after the final bipolar RF treatment, clinical assessment revealed grade 1 improvement in 21 (6.6%) of the 316 patients, grade 2 improvement in 78 (24.7%), grade 3 improvement in 133 (42.1%), and grade 4 improvement in 84 (26.6%). Temporary aggravation of acne vulgaris or folliculitis, which spontaneously resolved within three weeks, was noted in 9 patients. Otherwise, no remarkable side effects were recorded.

Marked improvement of periorbital wrinkles in a 48-year-old female patient after two sessions of fractional microneedle RF system treatment. Photos were taken at (A) baseline and (B) two months after treatment.



Marked improvement of acne scarring in a 33-year-old male patient from Saudi Arabia after two sessions of bipolar non-insulated microneedle RF treatment. Pho-tos were taken at (A) baseline and (B) two months after treatment.

Marked improvement of acne vulgaris and acne scarring in a 29-year-old female patient from India after two sessions of bipolar non-insulated microneedle RF treatment. Photos were taken at (A) baseline and (B) two months after treatment.



Marked improvement of acne vulgaris in a 21-year-old female patient from Korea after two sessions of bipolar non-insulated microneedle RF treatment. Photos were taken at (A) baseline and (B) two months after treatment.

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MICRO SITE

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