

## The all new INTRAcel 3 in 1 system

Bipolar, Monopolar with ERS (impedance matching system), and Superficial RF Rejuvenation

The all new INTRAcel was launched at IMCAS in Singapore after the successful completion of clinical studies. Presentations by Dr. Michael Gold and Dr. Yan Trokel from the USA, Dr. Ching I Lu of Taiwan on INTRAcel demonstrated various advantages compared to other aesthetic laser and RF devices. The expert groups participating in these studies investigated a new monopolar mode with an impedance matching function for superficial RF rejuvenation. The new features of the all new INTRAcel results in improved efficacy and reduced pain during treatment.

### RF Microneedle and Mono-polar

Figure 1. illustrates that bipolar mode makes a narrower coagulation zone than monopolar mode using the same energy. Bipolar mode shows a narrower zone with stronger coagulation during treatment, whereas monopolar mode develops a wider weaker denaturation zone, which explains why monopolar has reduced pain as well. In fact, 40% less pain was measured in monopolar mode than bipolar mode. The study also confirmed 30% shorter down time with monopolar mode than with bipolar mode.

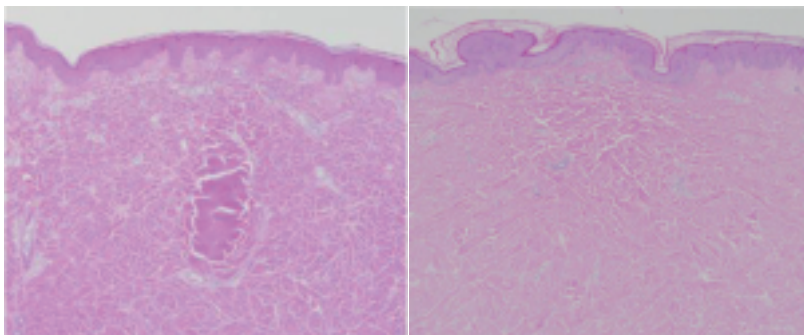


Fig 1. Tissue denaturation of Bipolar (left) and Monopolar (right) at the same energy level



Importance of impedance checking

# INTRAcel

Impedance varies by patient, skin type and target tissue. Thus, predicting a precise result with RF treatment is not practical without monitoring impedance. In addition, impedance values change when RF energy penetrates into human tissue. Figure 2. shows the difference between normal monopolar and monopolar with ERS (Energy Rewarding System) by impedance matching. In this experiment, impedance matching reduces body resistance to allow sufficient energy into the target tissue.

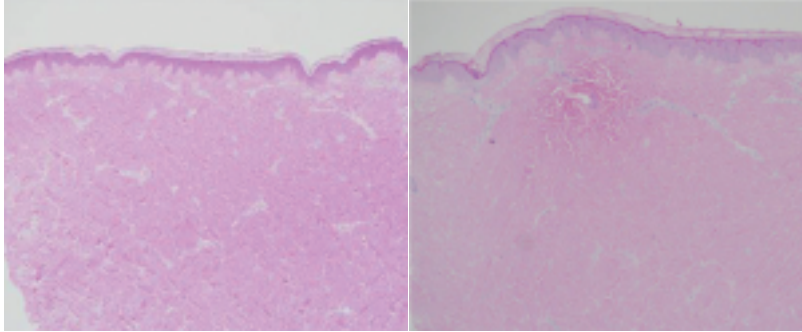


Fig 2. Comparison between before (left) and after impedance matching (right) at the same level of energy

## FRM(Fractional RF Microneedling) Monopolar for better results.

Many aesthetic patients who visited the clinic desired immediate results. If it is difficult to find a moderate method to stimulate the superficial dermis with non-invasive methods, or for patients who do not want to wait for results of treatments for 2 months. For those patients monopolar treatment would be an alternate solution. According to the study, the ideal depth to stimulate using monopolar mode is approximately 0.8mm, the typical distance between superficial dermis and mid-dermis.

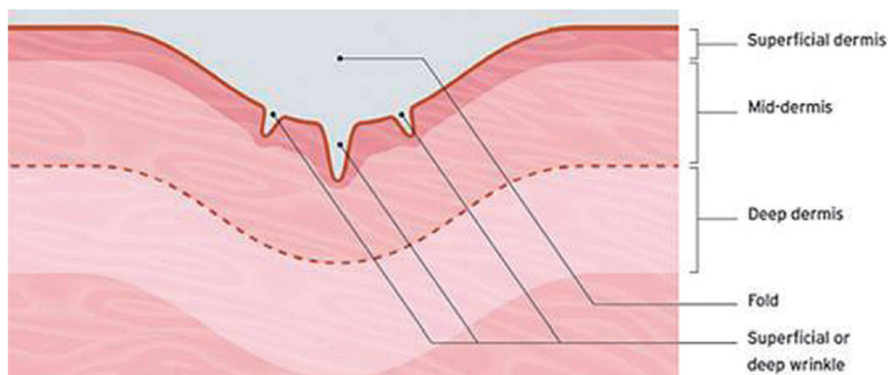


Fig 3. Most of wrinkles are on skin surface

# INTRAcel

## Long Pulse Bipolar

A study of energy diffusion showed that Long Pulse Bipolar (Bipolar Long On-time) is not able to influence as large an area as monopolar. Energy emission time does not make a significant difference because bipolar has the characteristic of focusing and emitting energy at the target point. In other words, no matter how long the energy is emitted in bipolar mode, expanding the denatured area would be unavoidable without increased time and pain. Therefore, monopolar is a preferred solution for heating and warming large parts of skin by expanding the thermal denaturation zone between needles with less energy and shorter pulses.

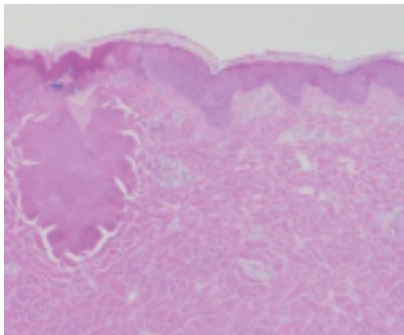
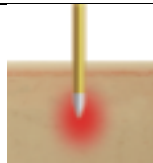
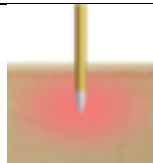
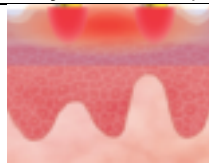


Fig 4. Efforts to expand denaturation zone using bipolar increases pain, dwell time and damage on the skin surface.

## Which is better? Bipolar or Monopolar?

### Features of positive and negative RF microneedle

	Bipolar	Monopolar	SRR (Superficial RF Rejuvenation)
E.Field			
RF Area	Column	Wide	Narrow
Target Area	Dermis	Mid-dermis	Epidermis
Tissue Interaction	Coagulated Necrosis Zone	Denaturation Zone	Fractional Epidermis Heating Zone
Depth	0.5 ~ 2.0 mm	0.5 ~ 2.0 mm	~ 0.5 mm
Interval	4 ~ 5 weeks	3 weeks	1 week
Down Time	48 Hr	24 Hr	6 Hr
Indication	Wrinkle/Pore/Acne/Scar	Fine wrinkle/Tightening	Periorbital wrinkles

The table shows that bipolar creates a coagulation necrosis zone around the needles and monopolar delivers weaker but wider denaturation zone under the same parameter set up. In

# INTRAcel

this case, combining bipolar and monopolar treatment with one pass of each treatment would bring both immediate and long term efficacy.

## Other improvements for pain and efficacy

- The a new monopolar mode was added to the latest version of INTRAcel to reduce pain and increase the efficacy of treatment.
- The handpiece structure is improved to reduce the feeling of punching, making the treatment more comfortable with less noise that can startle patients.
- A 24 needle tip for full face treatment is available for both bipolar and monopolar.
- A new non-invasive superficial tip is available for Fractional RF Resurfacing, which can provide patients with a painless, safe and more effective result on superficial areas.

The new INTRAcel from Jeisys is the best in class product for fractional RF microneedling for the foreseeable future.

## How Three Layer Therapy Works?

