Next Generation Skin Rejuvenation



Combining RF Microneedling with Platelet Rich Plasma
H. William Song, MD

Disclosures:

Refine USA
AAEG
Vampire

Needles

Power

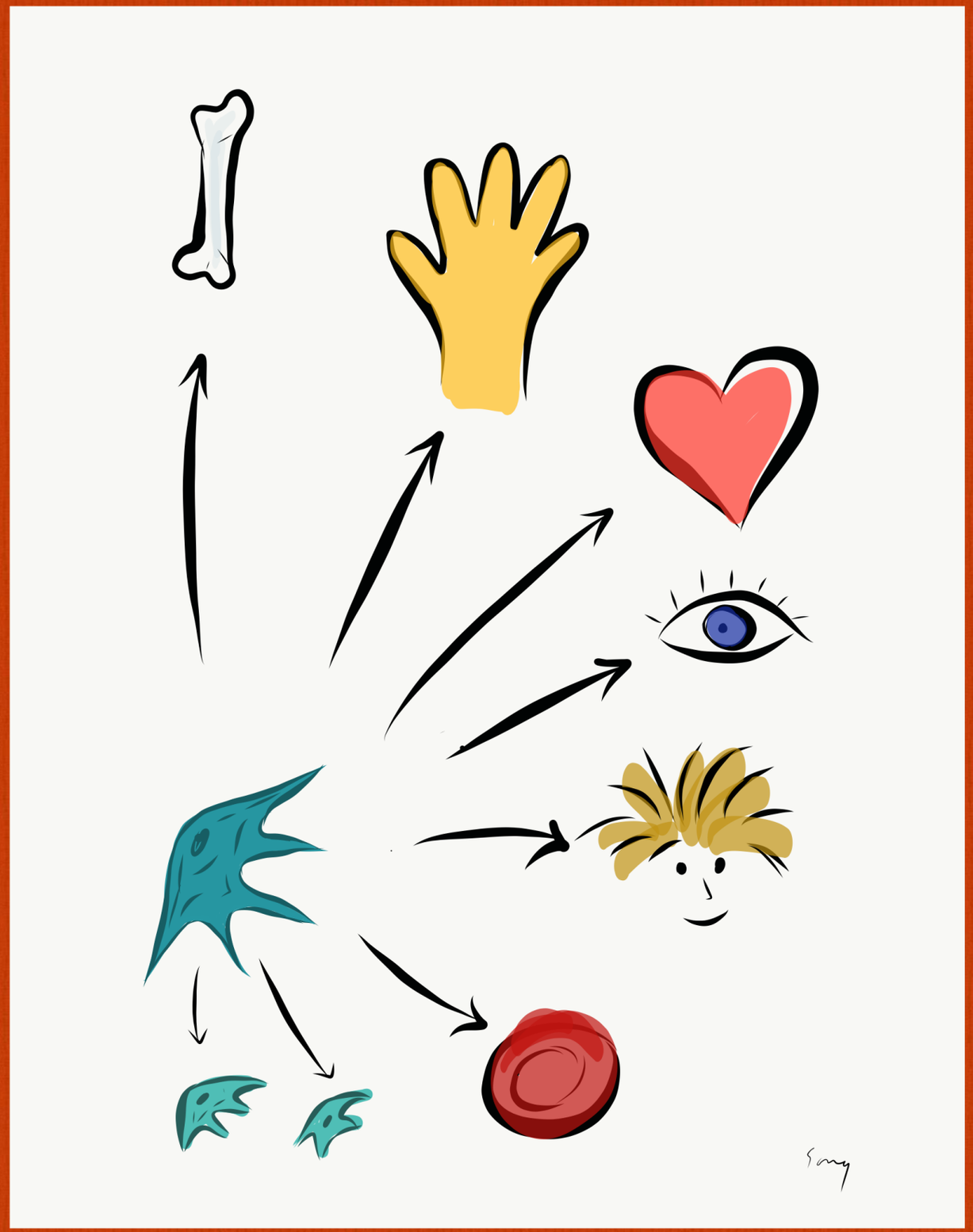
Blood


A long time ago in a galaxy far, far away...
STAR WARS
TWENTIETH CENTURY-FOX Presents
A LUCASFILM LTD. PRODUCTION
STAR WARS
Starring MARK HAMILL HARRISON FORD CARRIE FISHER
PETER CUSHING
and
ALEC GUINNESS
Written and Directed by GEORGE LUCAS Produced by GARY KURTZ Music by JOHN WILLIAMS
PANAVISION® PRINTS BY DE LUXE® TECHNICOLOR®
PG PARENTAL GUIDANCE SUGGESTED
Making Films Sound Better
DOLBY SYSTEM
Noise Reduction - High Fidelity

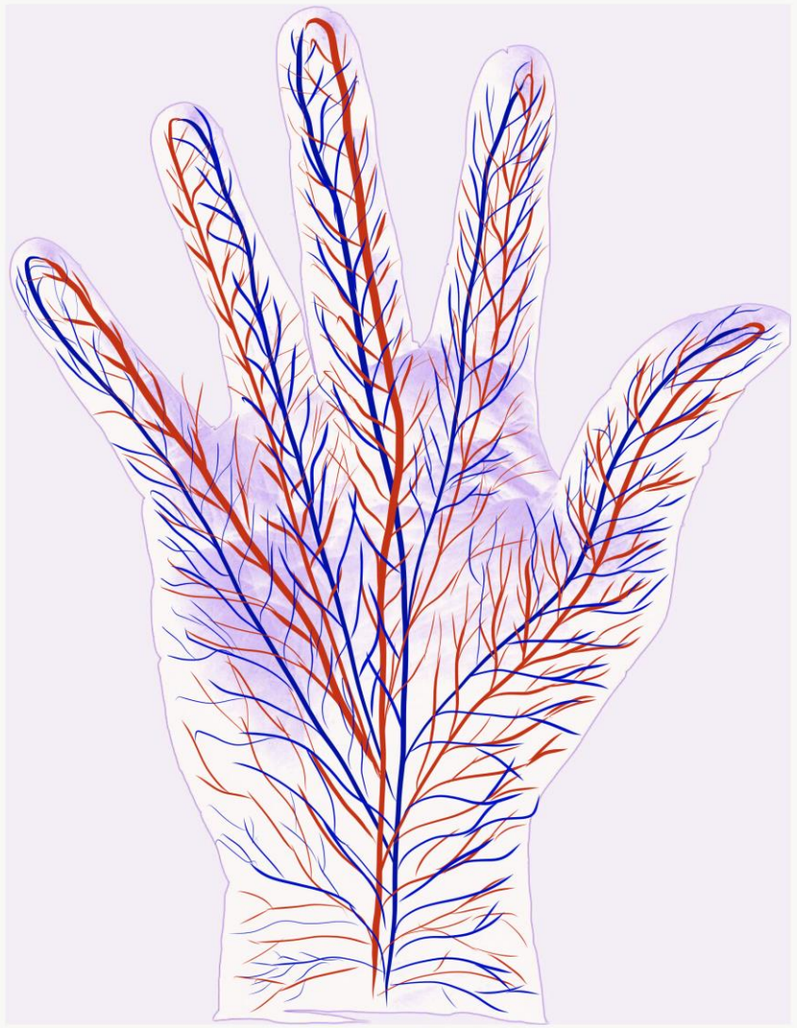


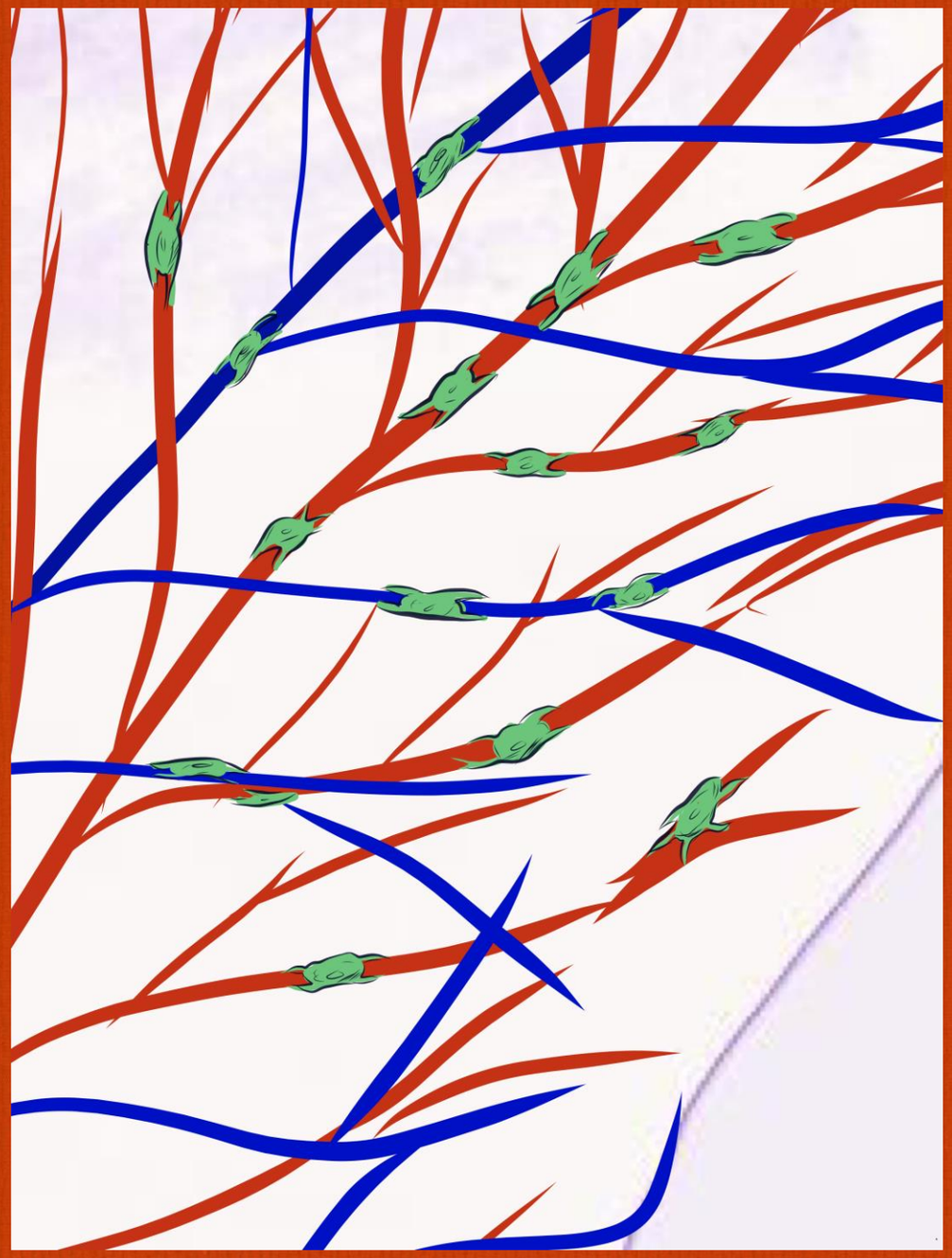
Controlled Trauma

Mechanical
Thermal
Chemical



Pluripotent Stem Cells





Stem Cells are everywhere waiting to be mobilized



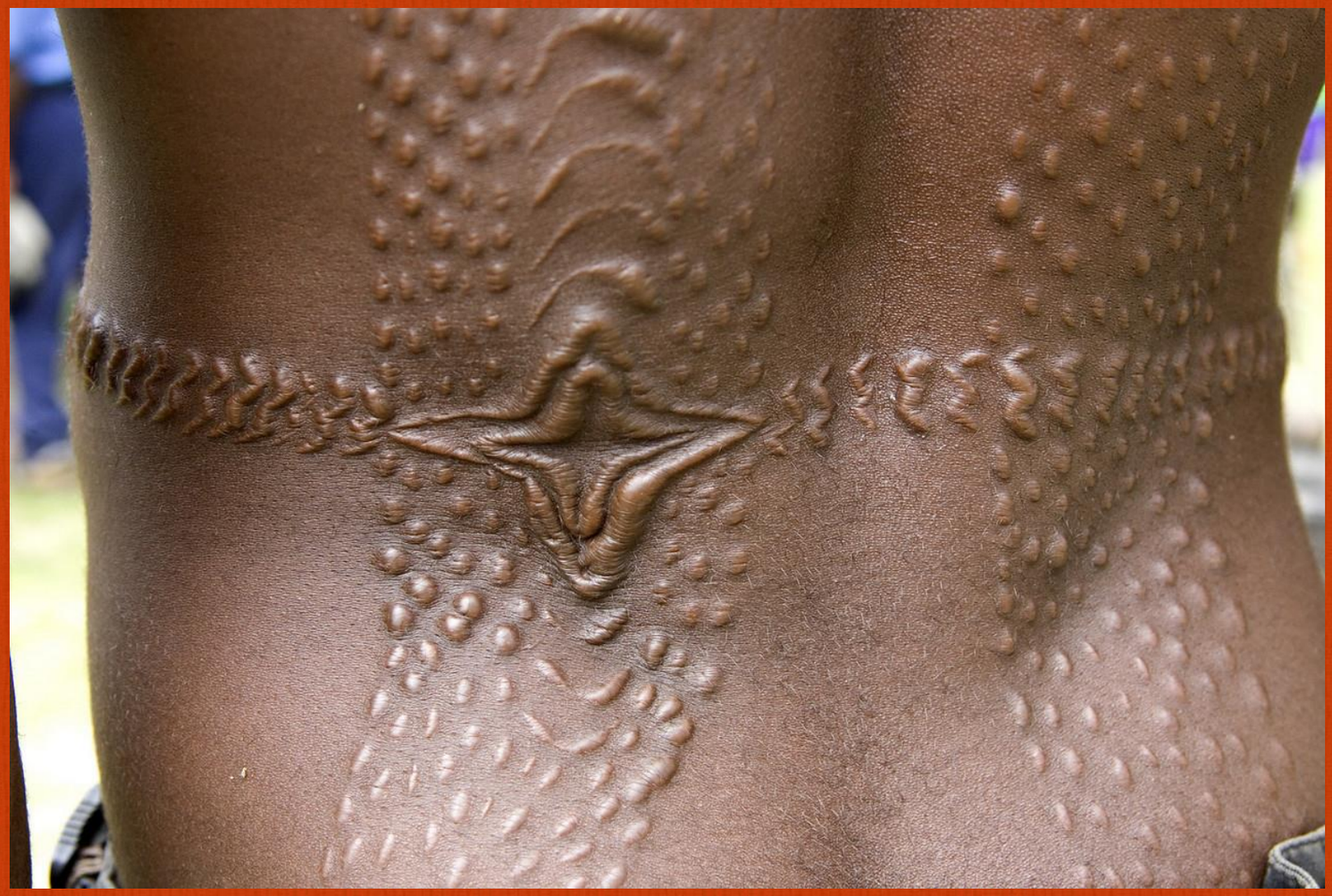
Body’s Response to Trauma

Our bodies are in a constant state of repair



Uncontrolled Trauma

New tissue is created to repair injury



Intentional Injuries

Using scar tissue to enhance beauty



Scarification

Production of permanent new tissue through controlled injury





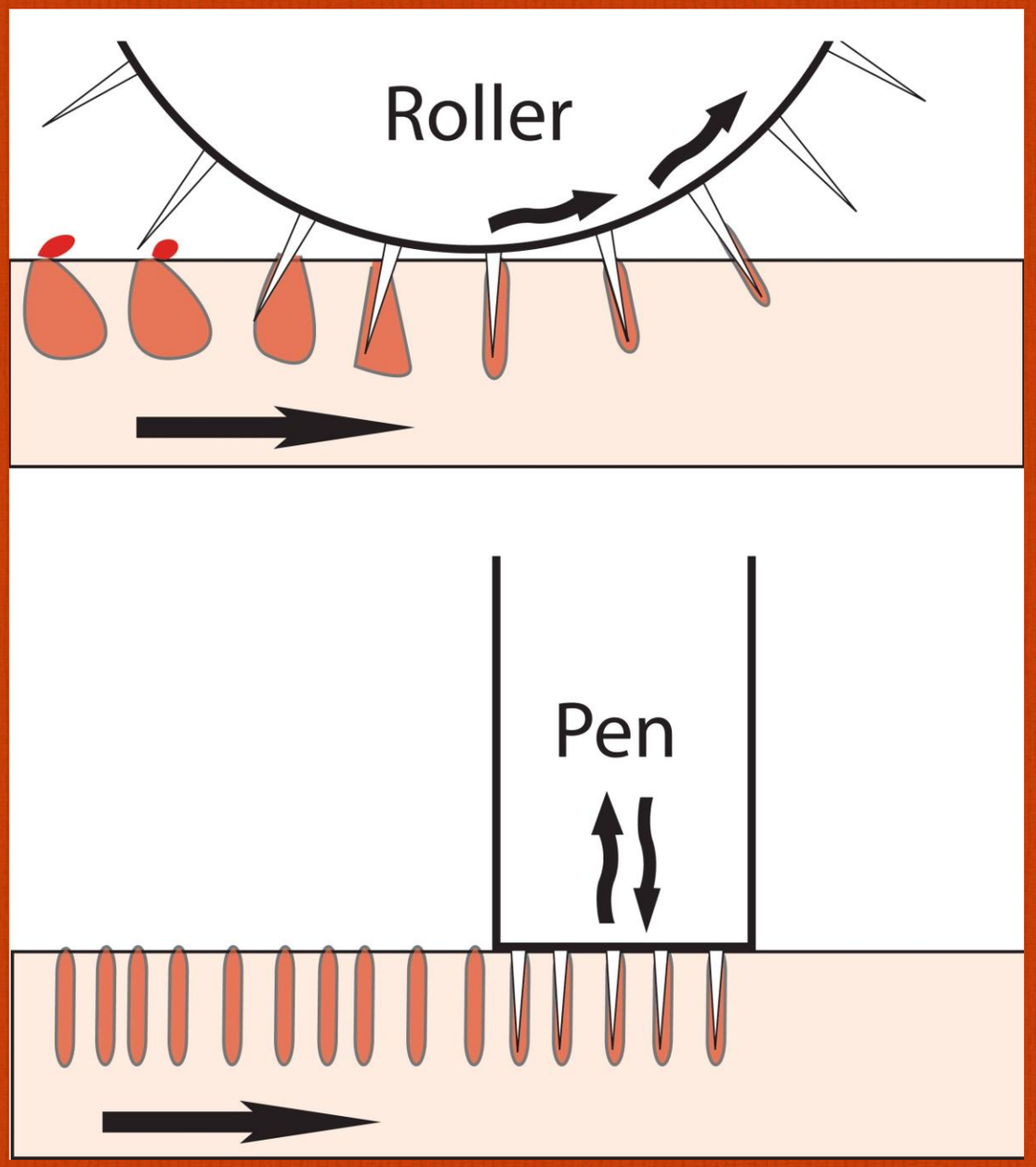
Controlled Injury Without Scarring

Dermal Rollers and Dermal Stamping



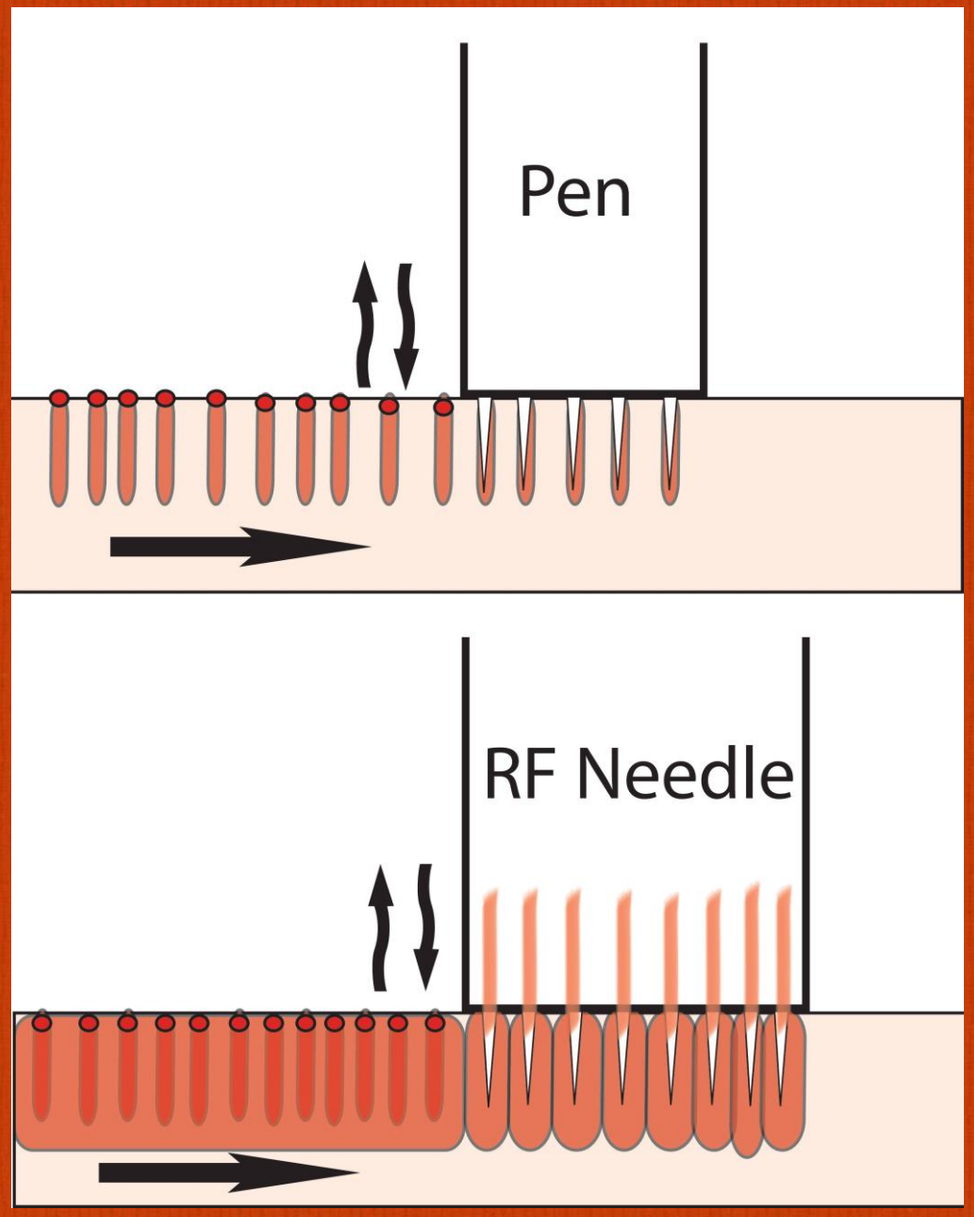
Microneedling Pen

Reciprocating, vertical motion further reduces risk of scarring



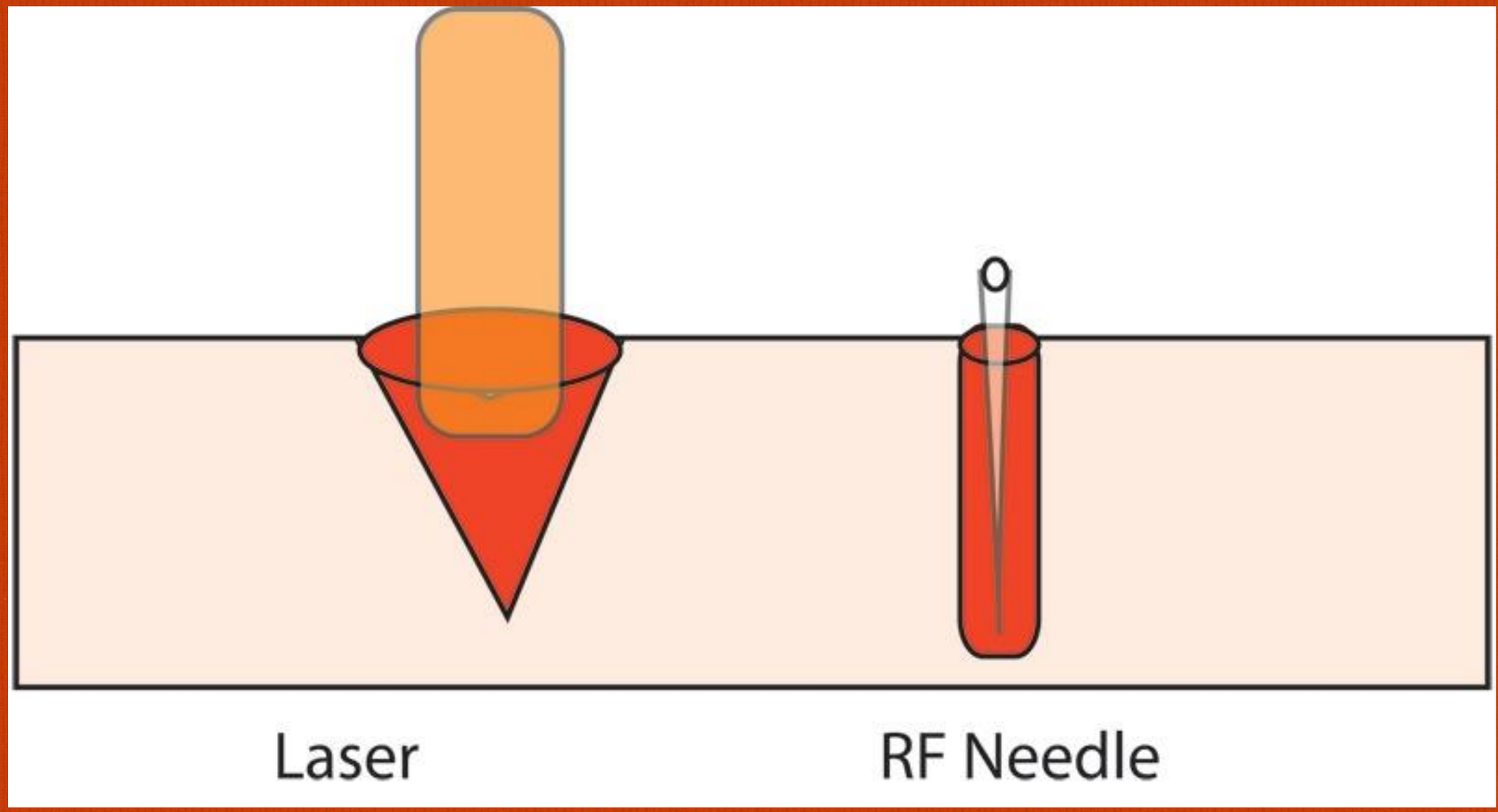
Controlling Trauma

Needling via roller vs pen



Needling with Radiofrequency

Mechanical plus thermal injury



Fractional Laser vs RF Needle

Controlling depth of injury and surface damage



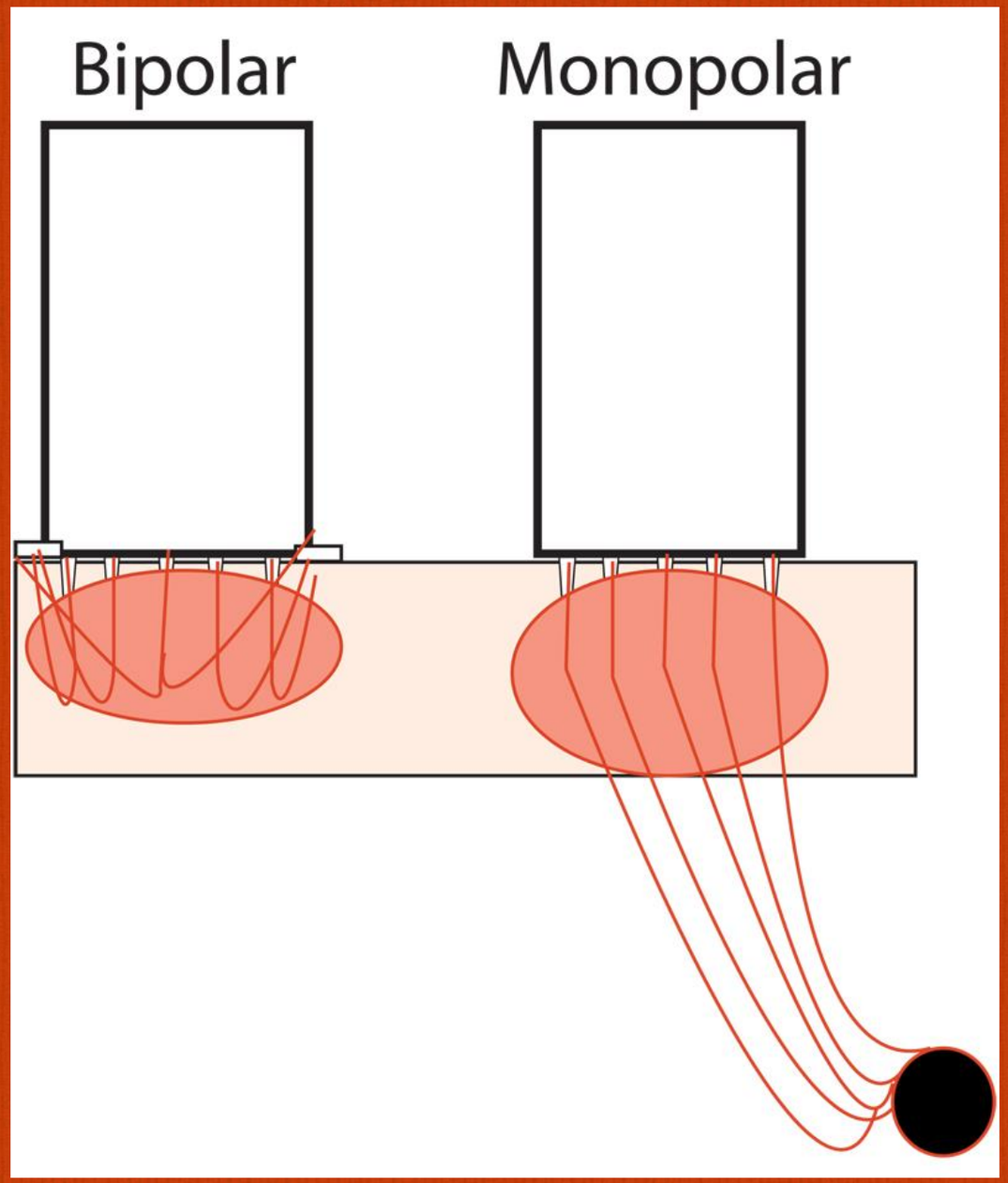
Bipolar Radiofrequency Microneedling

Combining radio frequency with micro needling to enhance effect



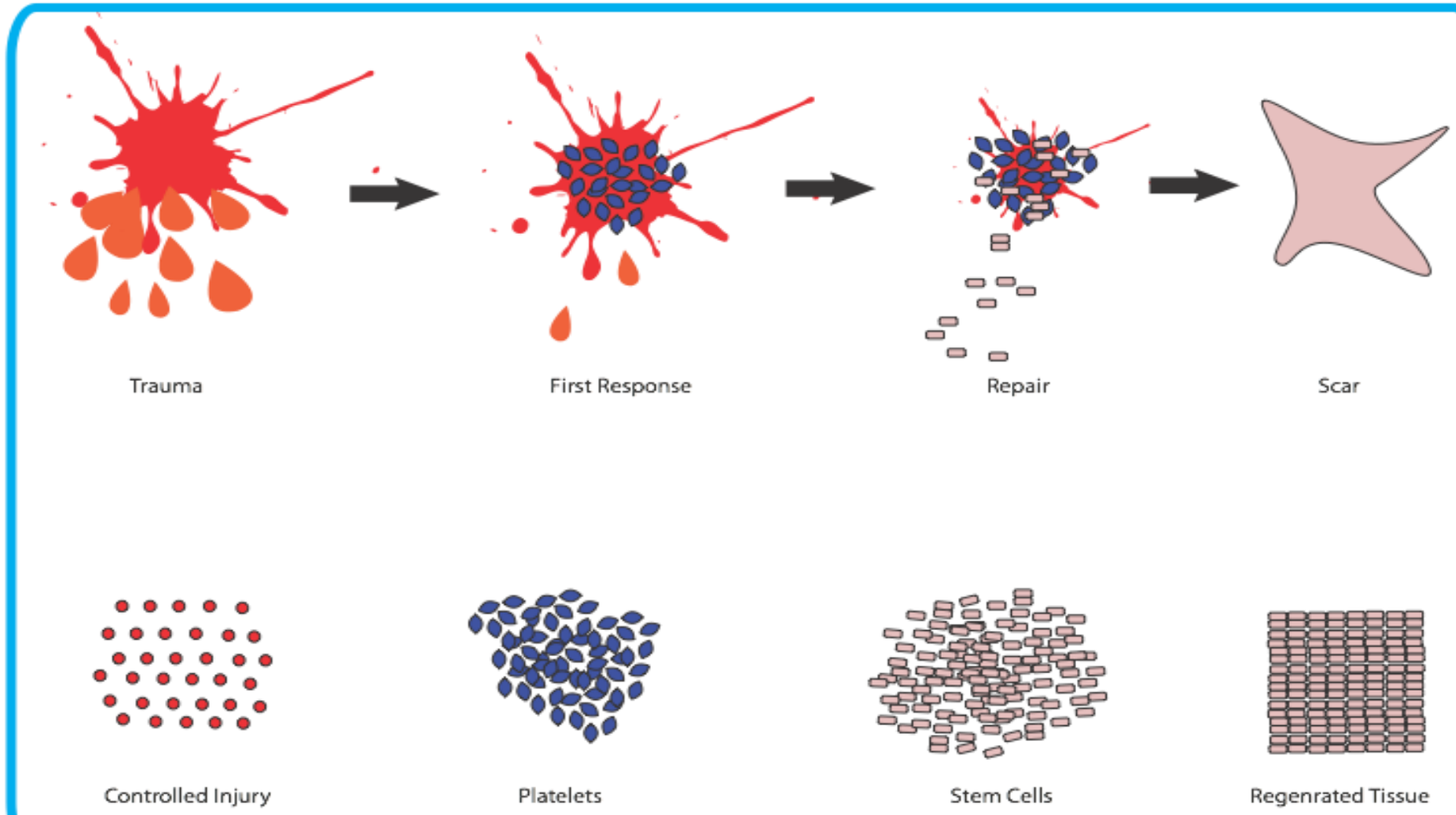
Adjustable Depth Needles

Radiofrequency energy is applied at various depths with bi or mono polar energy delivery



Bipolar vs Monopolar

Superficial or deep target



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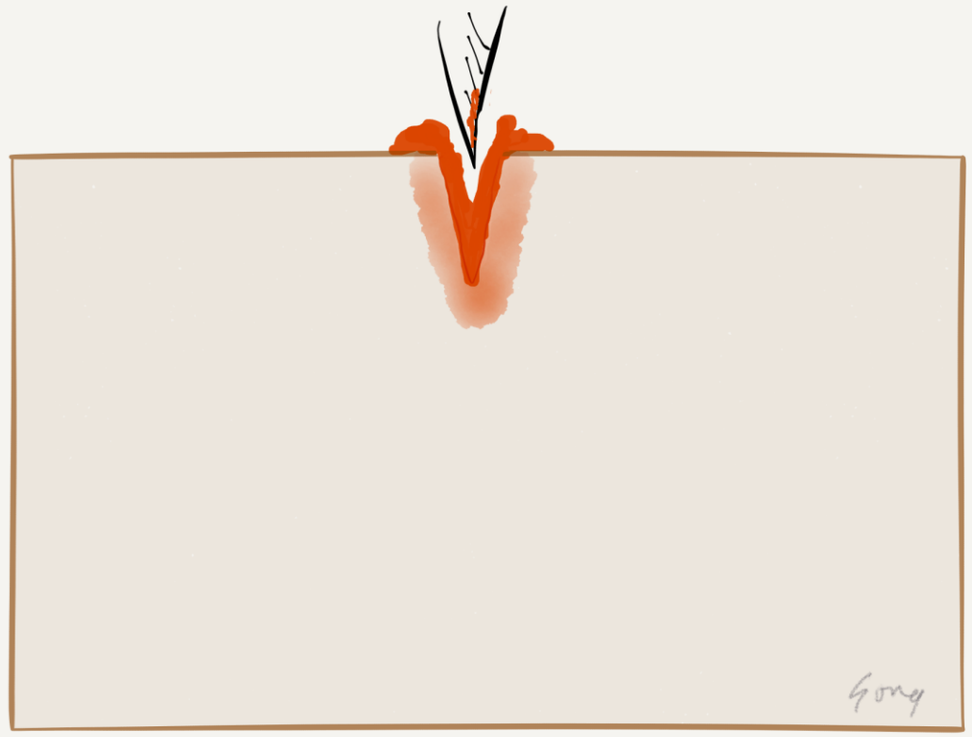
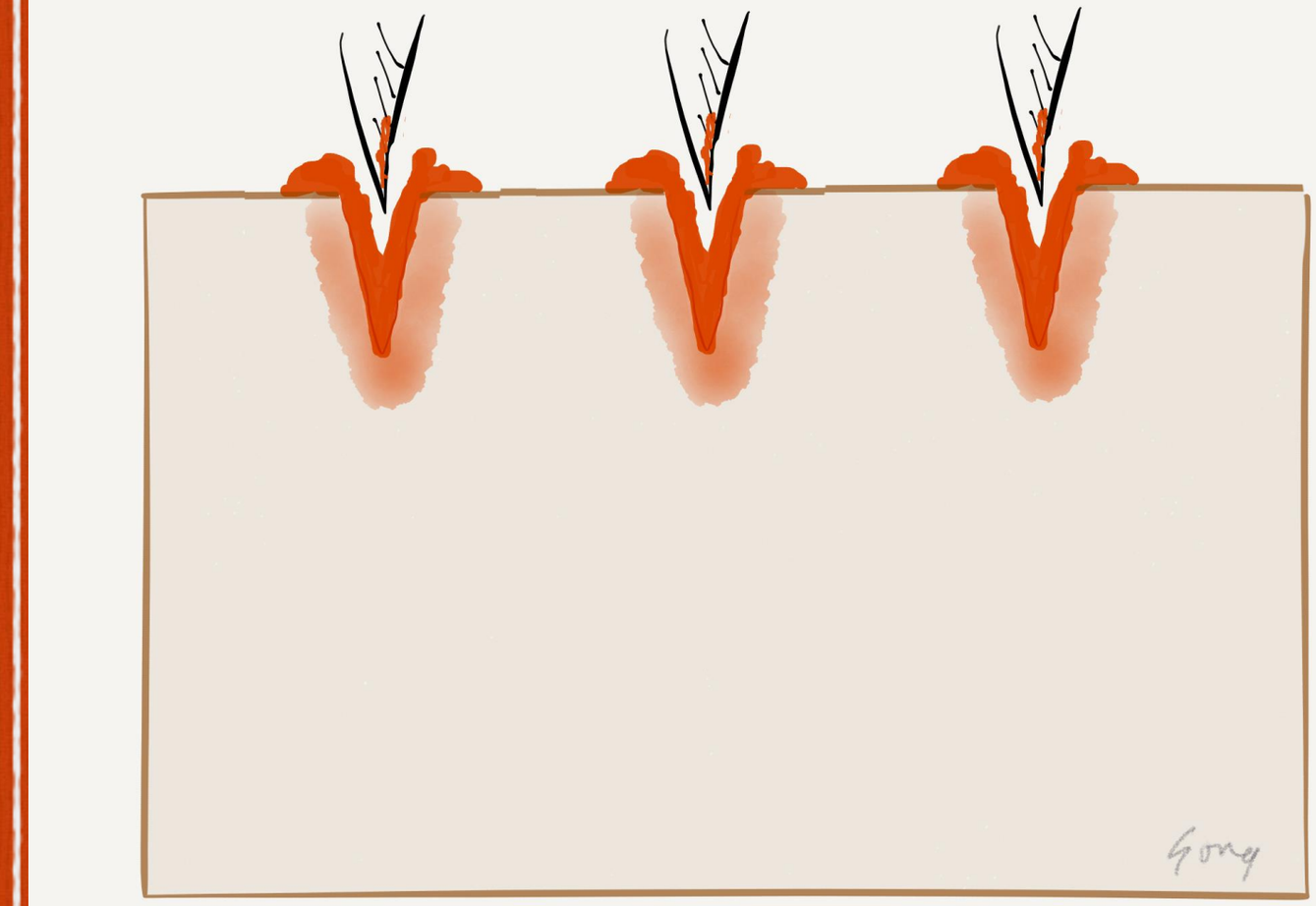
Healing Cascade

Uncontrolled vs controlled injury



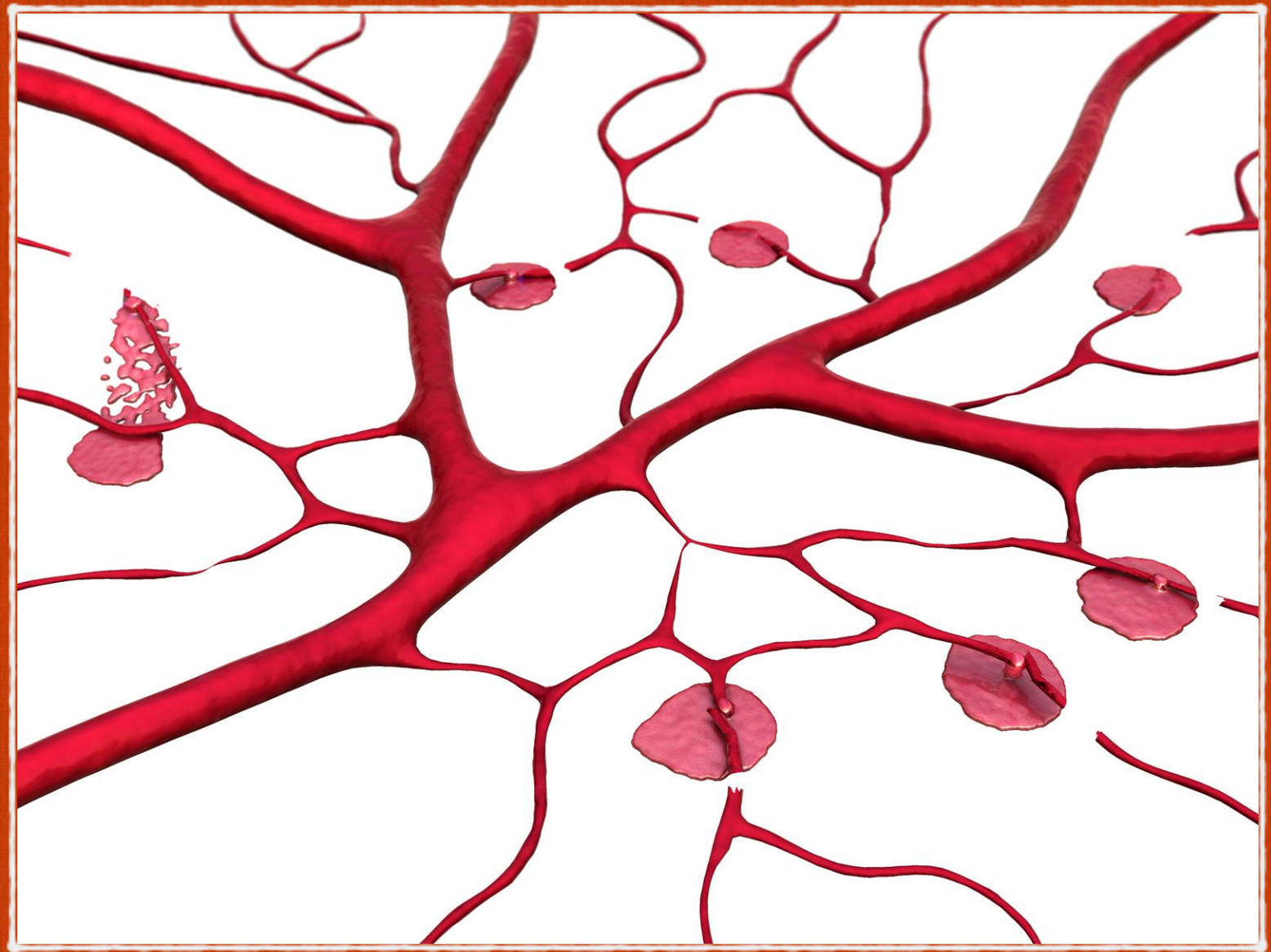
Controlled Injury

A very controlled trauma to initiate healing without scarring



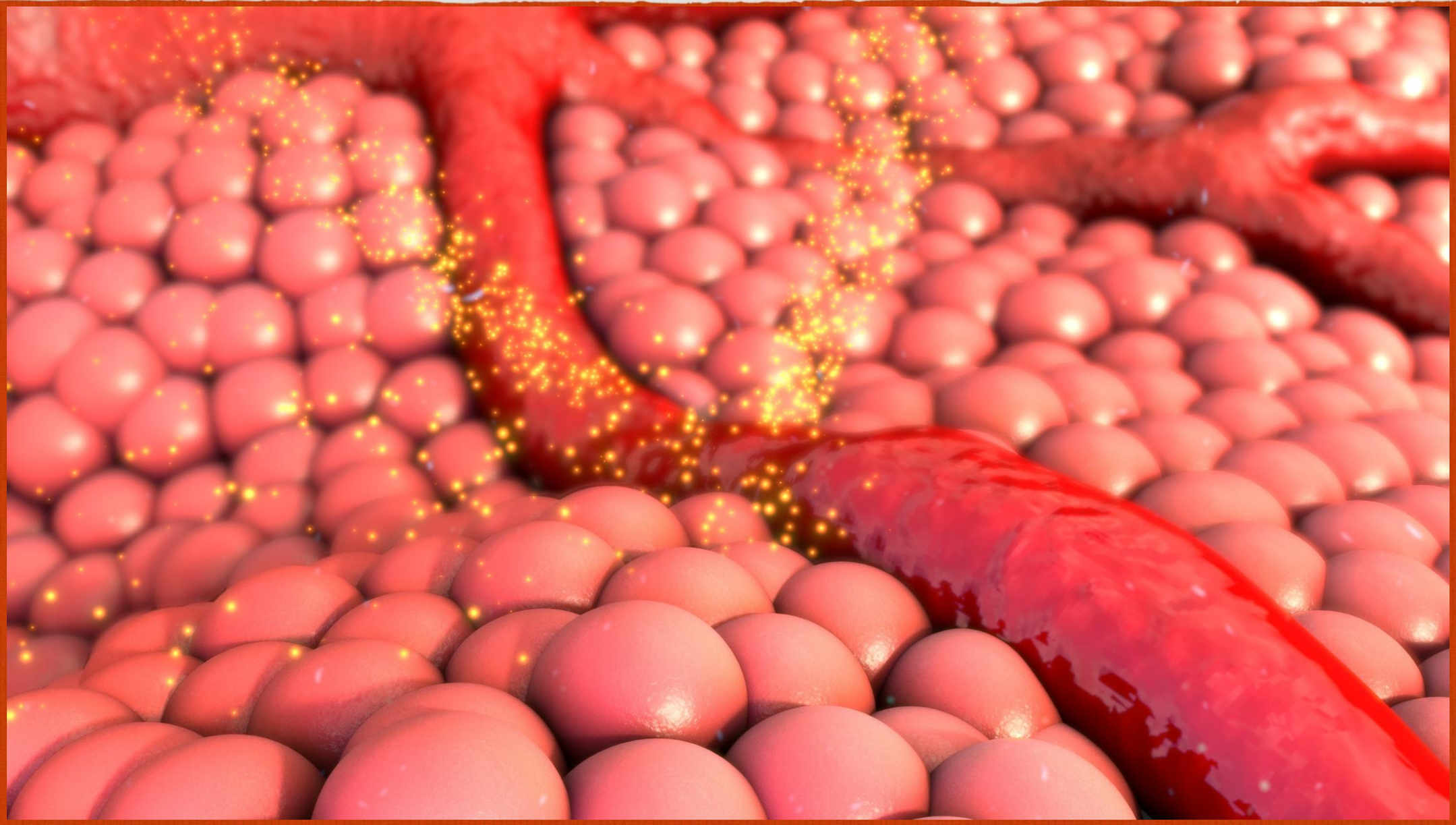
Microneedling

A systematic way of creating controlled tissue trauma



Capillary Damage Due to Trauma

Any insult to the body can disrupt delicate capillaries present throughout the body.

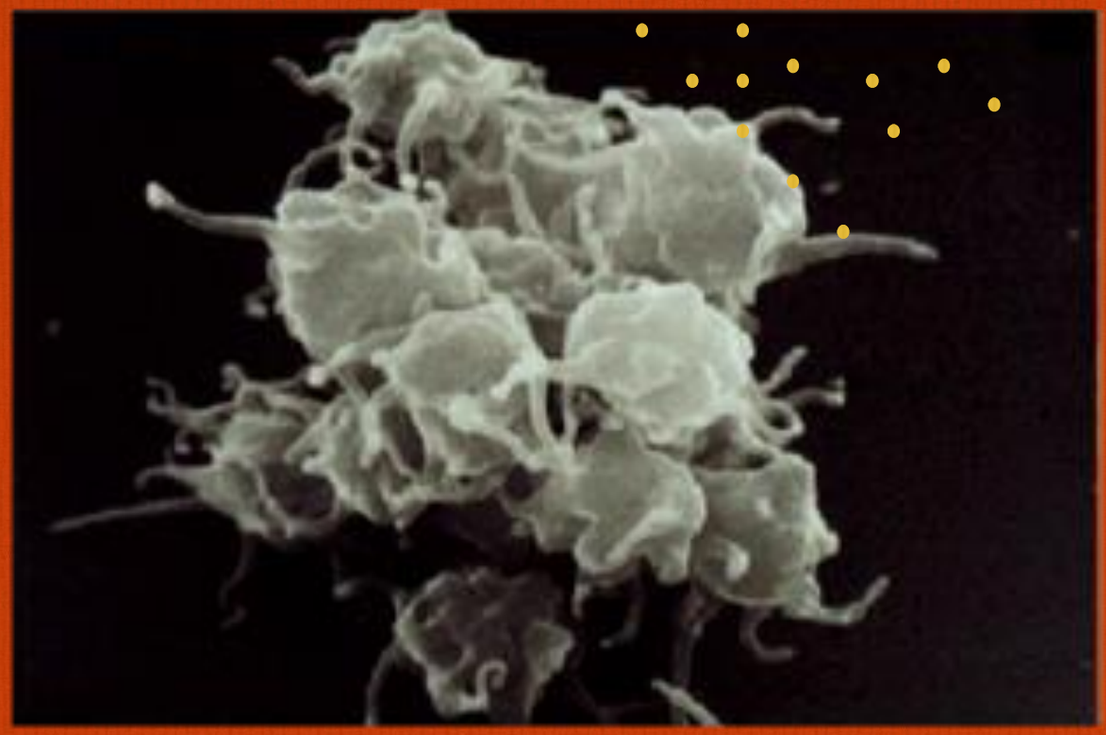


Tissue Response to Injury

Sensing an injury, the damaged tissue sends out a distress signal

Activation of Platelets

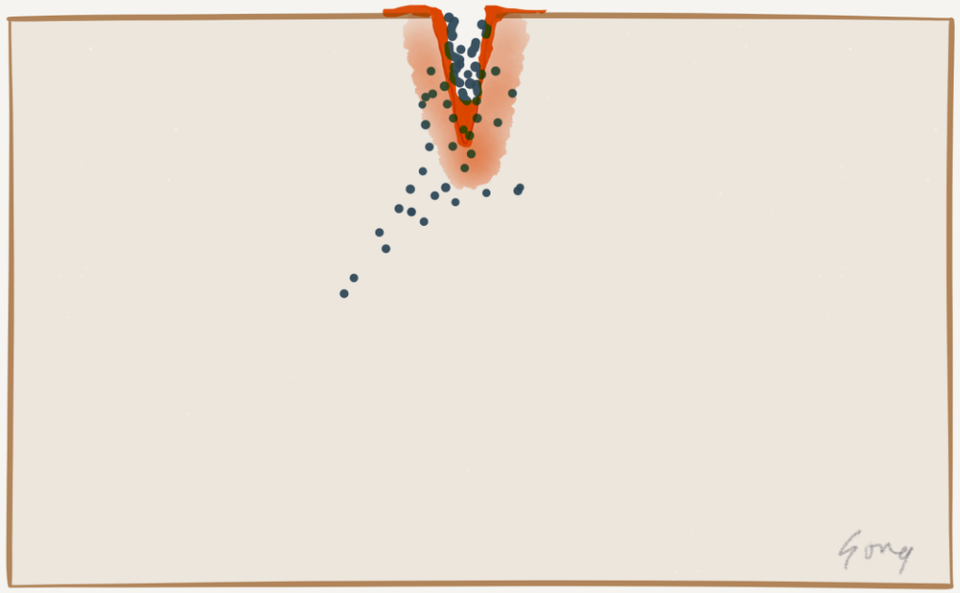




Activated platelets degranulate and release growth factors

Growth Factors

- IGF (Insulin-like growth factor)-Provides cell growth and improved immunity
- VEGF Vascular endothelial Growth Factor -Growth and new generation of vascular endothelial cells
- TGF Transforming Growth Factor- Growth of epithelial cells and vascular endothelial cells. Promotes growth of matrix between cells and bone metabolism
- EGF Epithelial Growth Factor- Promotes Cell growth and differentiation . Blood vessel formation. Collagen formation
- FGF Fibroblast Growth Factor- Tissue repair, cell growth collagen production HA Production



Platelet Response

Platelets are the first responders



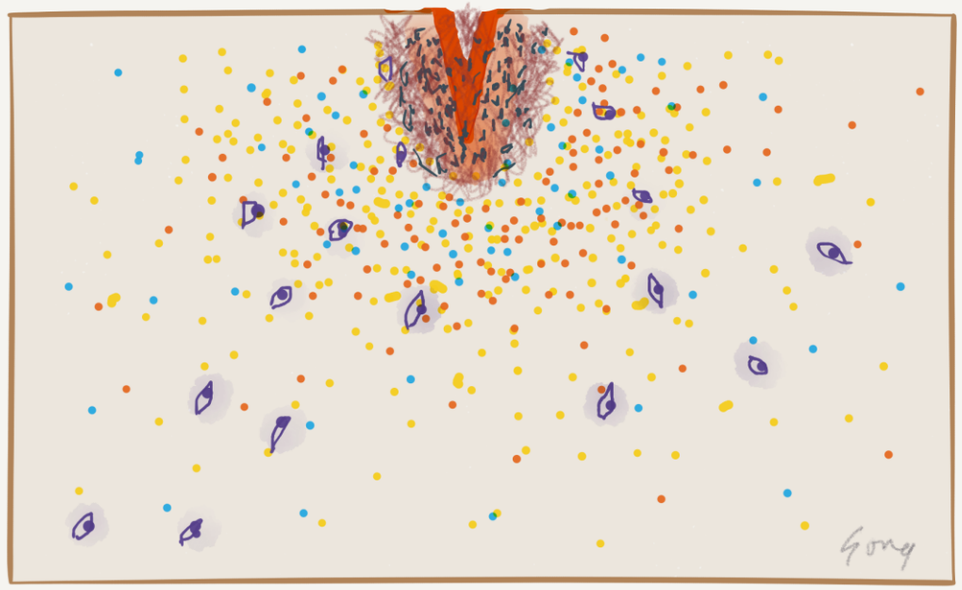
Fibrin Matrix

A fibrin matrix forms to stop the bleeding



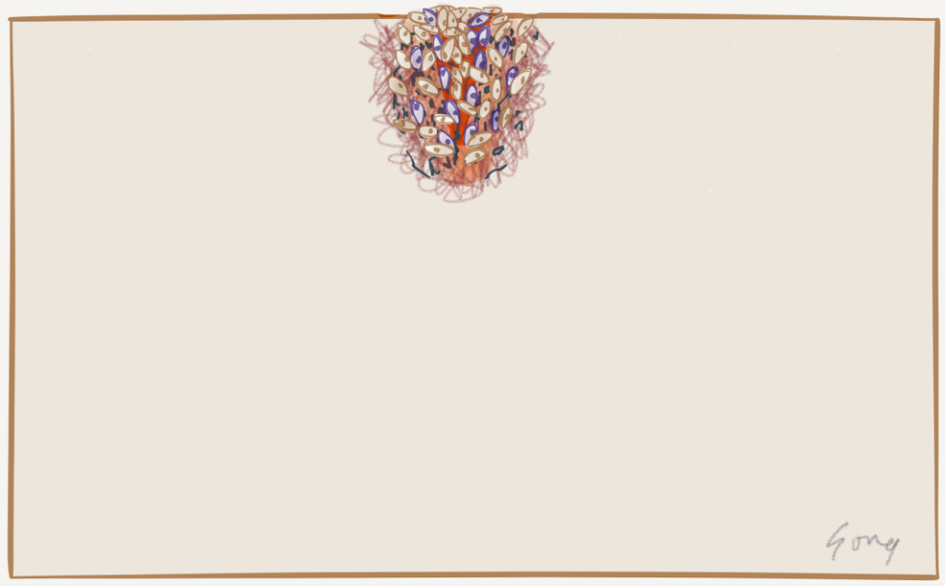
Alpha Granules

Platelets degranulate and release growth factors



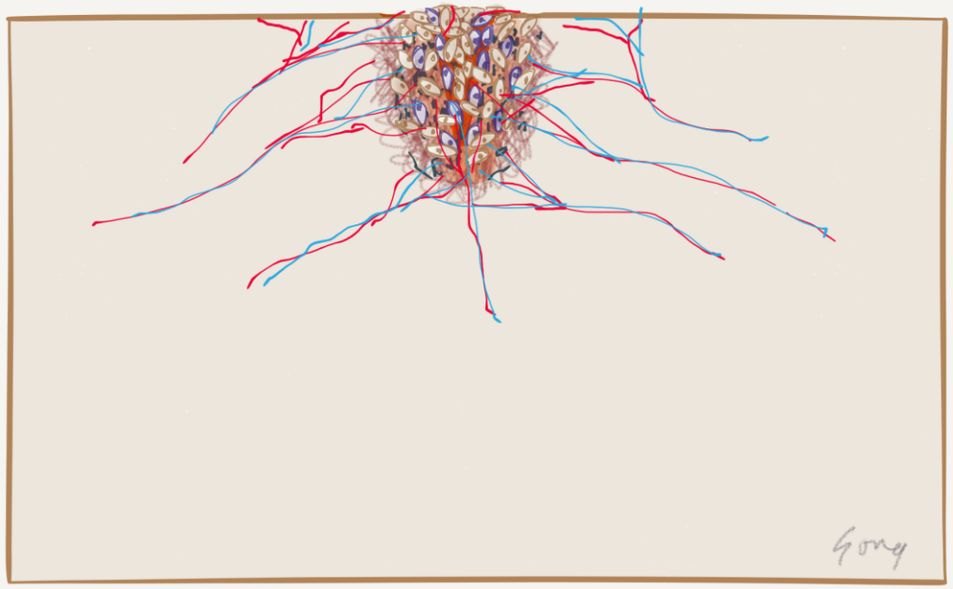
Chemotaxis

Growth factors released by the platelets signal stem cells to the area



Differentiation

Stem cells differentiate into local tissue



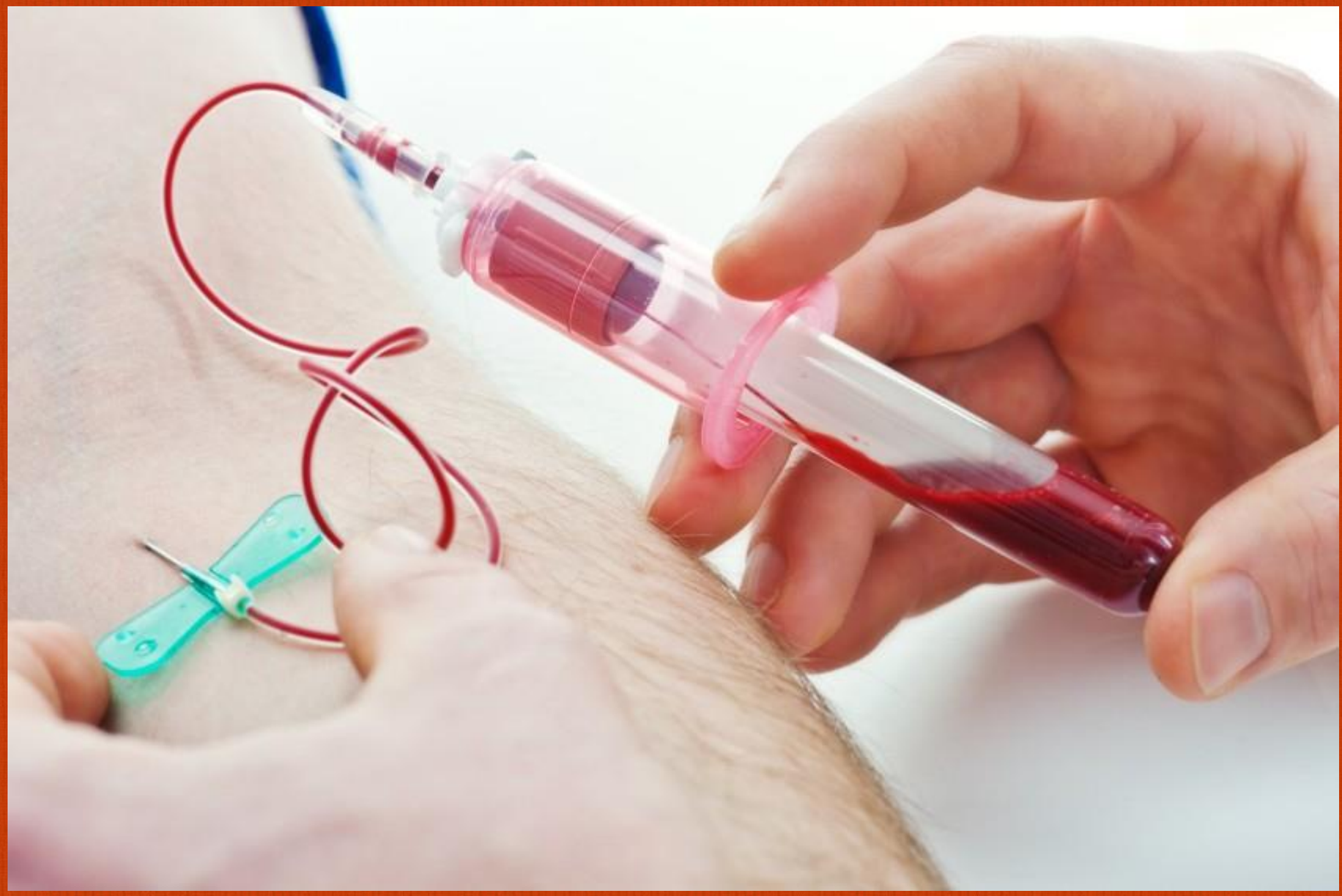
Angiogenesis

Some of the growth factors signal production of new blood vessels.

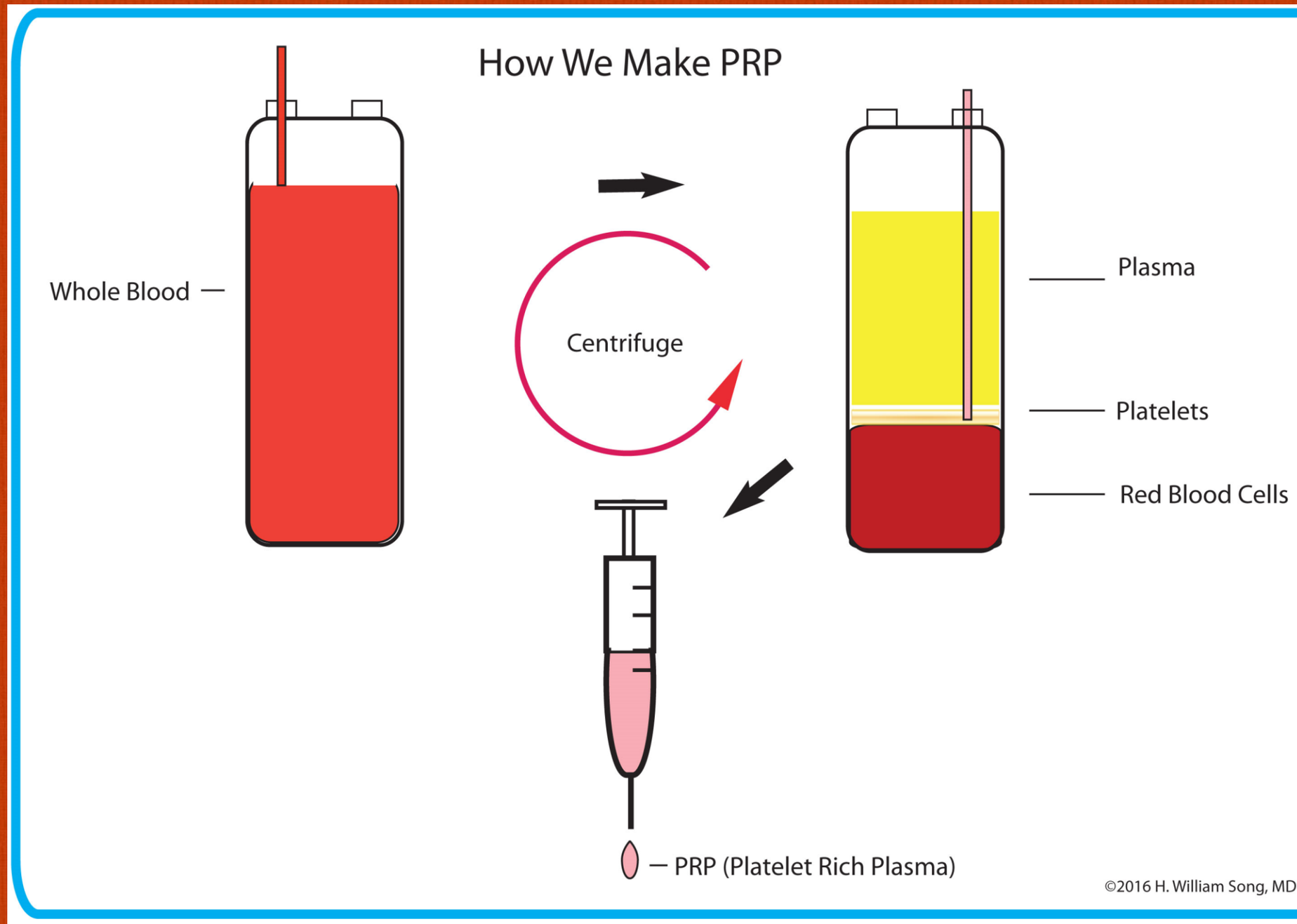


Generation of New Skin

If the injury is controlled, new tissue is formed with no scarring.



Blood is obtained by a simple phlebotomy



The platelets and a small amount of plasma are extracted from your blood using a sophisticated centrifuge process

Platelets are concentrated using a centrifuge and a kit



Injecting PRP with local anesthetic prior to RF Microneedling



RF Microneedling



Immediately After

RF Microneedling



Immediately After

Agressive RF Microneedling with PRP injection



3 weeks after

RF Microneedling with PRP



Before and after 1st and 2nd treatments

RF Microneedling with PRP



Before and 1 week after

Microneedling with Radiofrequency



Cystic Acne

RF energy can be used to destroy acne cysts


Song@docpages.com
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Exploring channeling optimized radiofrequency energy: a review of radiofrequency history and applications in esthetic fields.
Belenky I, Margulis A, Elman M, Bar-Yosef U, Paun SD.
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Gold M, Taylor M, Rothaus K, Tanaka Y.
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Combination of microneedle radiofrequency (RF), fractional RF skin resurfacing and multi-source non-ablative skin tightening for minimal-downtime, full-face skin rejuvenation.
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