First Alternatives

"Life Without Pain"

PRESENTS

# THE PAIN-THE IMPACT-THE TREATMENT

# of Post-Surgical Scar Tissue and Adhesions

With

AVAZIA

## Reaction Electro-Stimulation Technology

First Alternatives

"Life Without Pain"

# Presented by

# Nancie Anderson BS, RN, LMT

## Bradenton, Florida

AVAZIA

## June 25, 2015 Orlando, FL

# NO MEDICAL CLAIMS

- **The information in this presentation has not been reviewed or approved by the FDA.**
- **Nor is it intended in anyway to diagnose or suggest treatment for any medical condition.**
- **No information presented is intended or should be used as a substitute for qualified medical advice.**

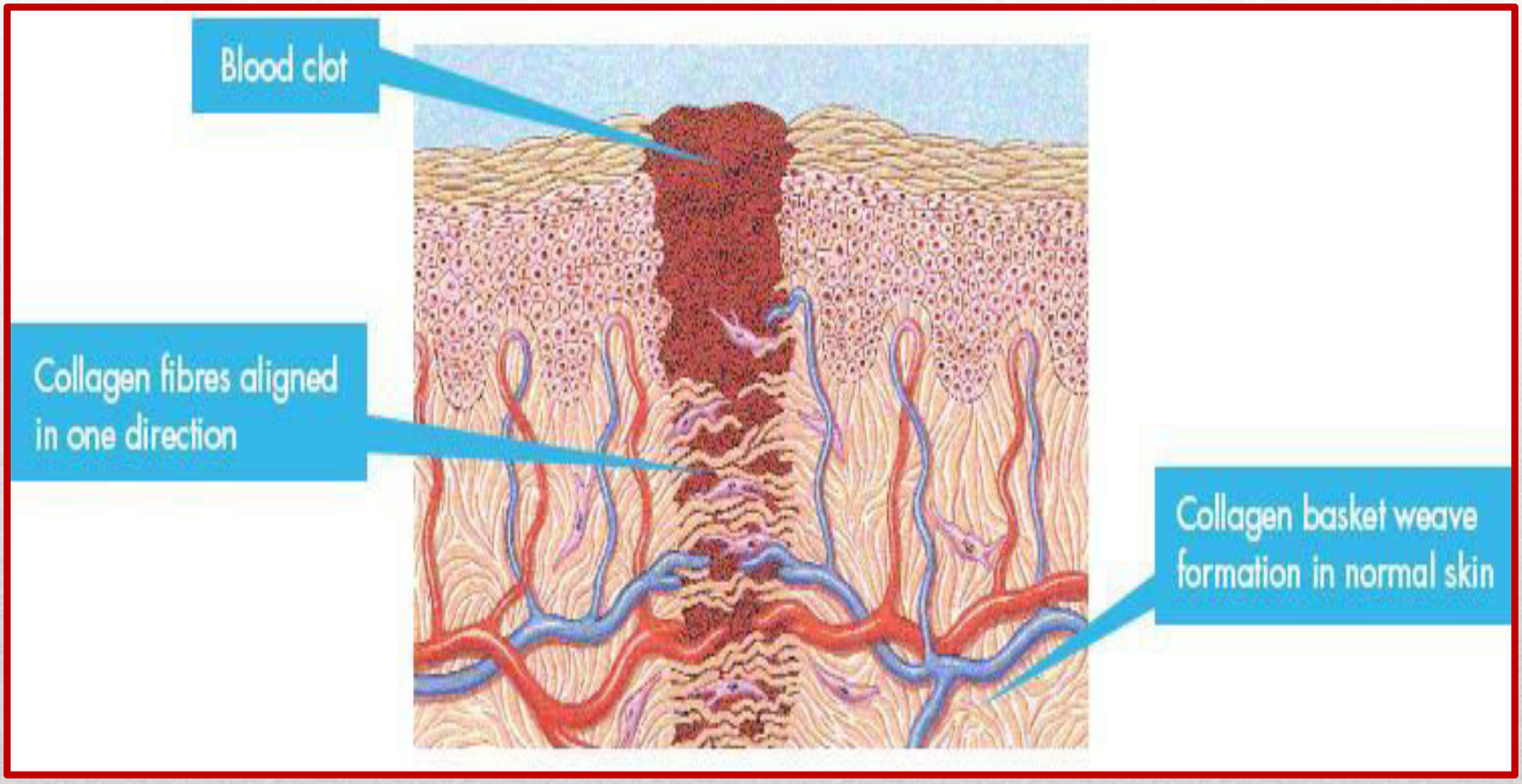
# Some View Points on Pain

- Neurosurgeons see……...Pinched Nerves
- Orthopedists see……Painful discs and joints
- Acupuncturists see……Qi Stagnation
- Chiropractors see……..Vertebral subluxations
- Physical Therapists see……Weak muscles
- Massage Therapists see…….Tight muscles and knots
- Rolfers see……..Postural distortions from fascia
- Myofascial Therapists see……Taut bands & trigger points
- Psychologists see……..Borderline personalities
- Radiologists see……In black and white
- Pain Management sees……..A renewable source of income
- Health Insurance sees……...Deniable benefits

# Development of Scar Tissue and Adhesions Related to:

- Joint Surgeries-including Arthrotomies, Joint Replacements, Arthroscopies
- Back Surgery
- Thoracic Cavity Surgeries
- Laparoscopic Surgeries
- Abdominal Surgery-including C-Sections
- Breast Surgery-including Biopsy, Mastectomy, Reconstruction
- Cosmetic and other Superficial Scars
- Closed Wounds-Contusions, Sprains, Fractures, etc.

# Wound Healing



# Wound Healing Video

# 3 Phases of Normal Wound Healing

1. Hemostasis/Inflammatory

1. Proliferative

1. Remodeling

Frontiers in Bioscience 9, 283-289, January 1, 2004

# 1. Hemostasis/Inflammatory Phase

**A) Immediate to 2-5 days**

**B) Hemostasis**
- **Vasoconstriction**
- **Platelet aggregation**
- **Formation of clot**

**C) Inflammation**
- **Vasodilation**
- **Phagocytosis (Neutrophils, etc.)**

Frontiers in Bioscience 9, 283-289, January 1, 2004

# 2. Proliferative Phase

A) 2 days to 3 weeks
B) Granulation
- Fibroblasts lay bed of collagen(Type 3) -deposit new Extracellular Matrix
- Fills defect and produces new capillaries- Angiogenesis and stimulates Nerve growth

C) Contraction
- Wound edges pull together to reduce defect

D) Epithelialization- epithelial cells migrate across the new tissue

Frontiers in Bioscience 9, 283-289, January 1, 2004

# 3. Remodeling Phase

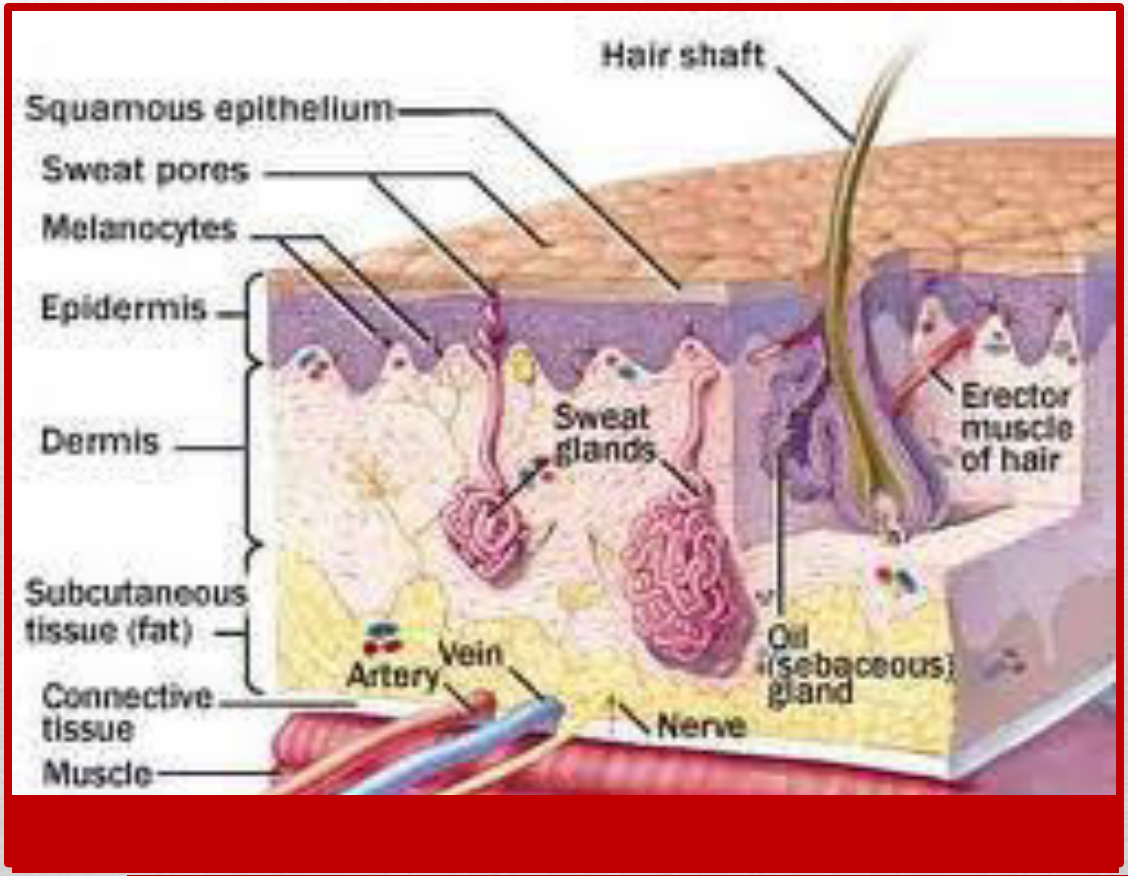
**A) 3 weeks to 2 years**

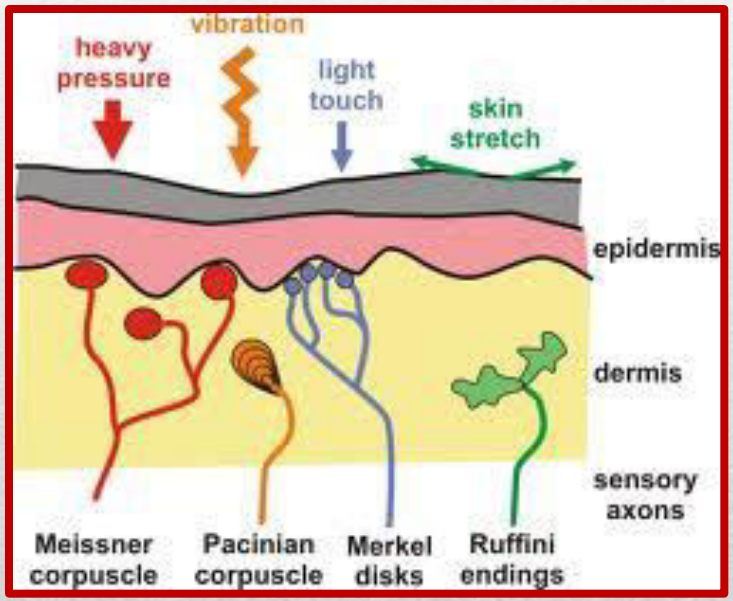
**B) New collagen (Type 1) forms replacing old collagen which increases tensile strength to the wound**

**C) Scar tissue is only 80 percent as strong as original tissue**

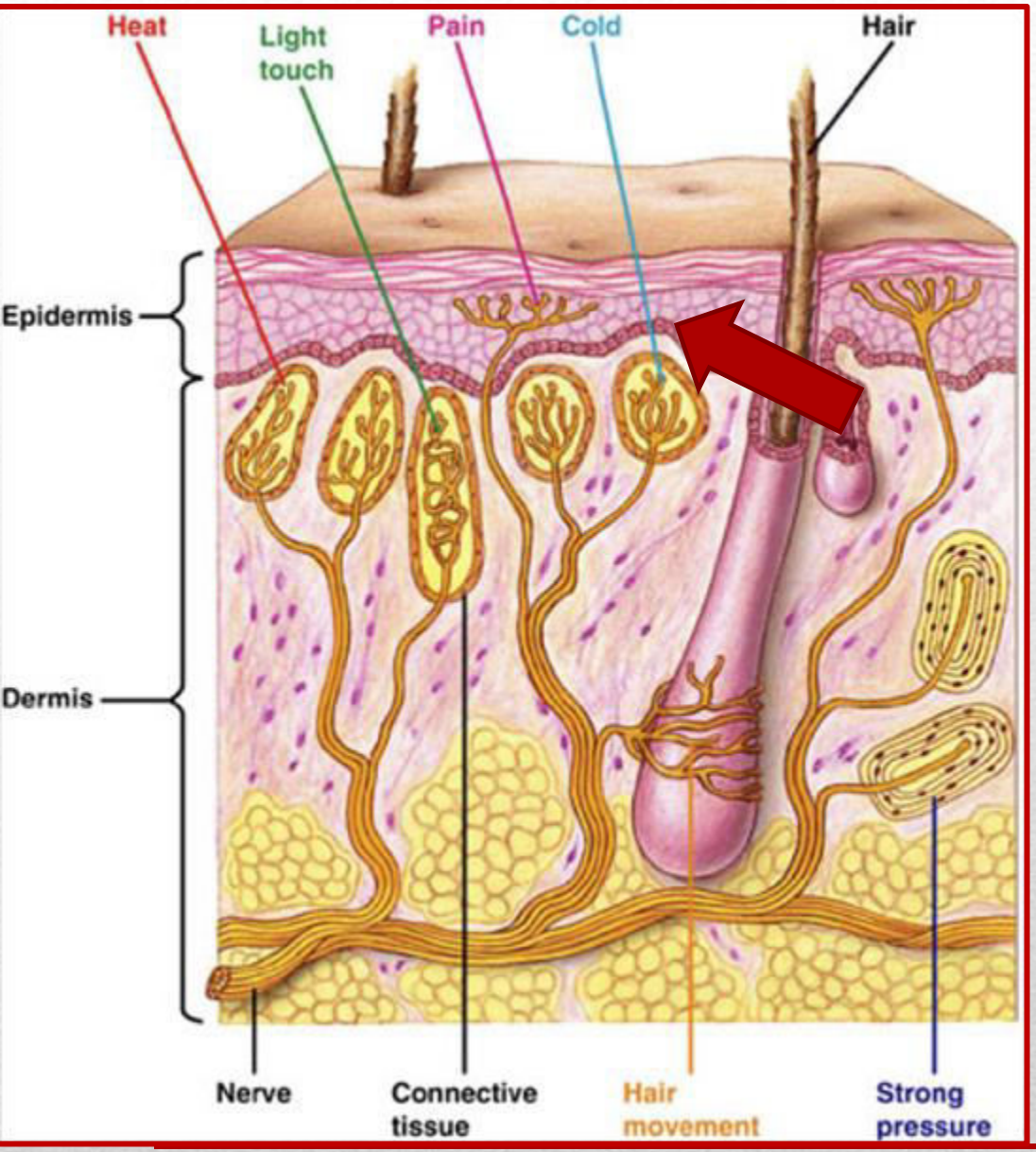
Frontiers in Bioscience 9, 283-289, January 1, 2004

# Skin Layers



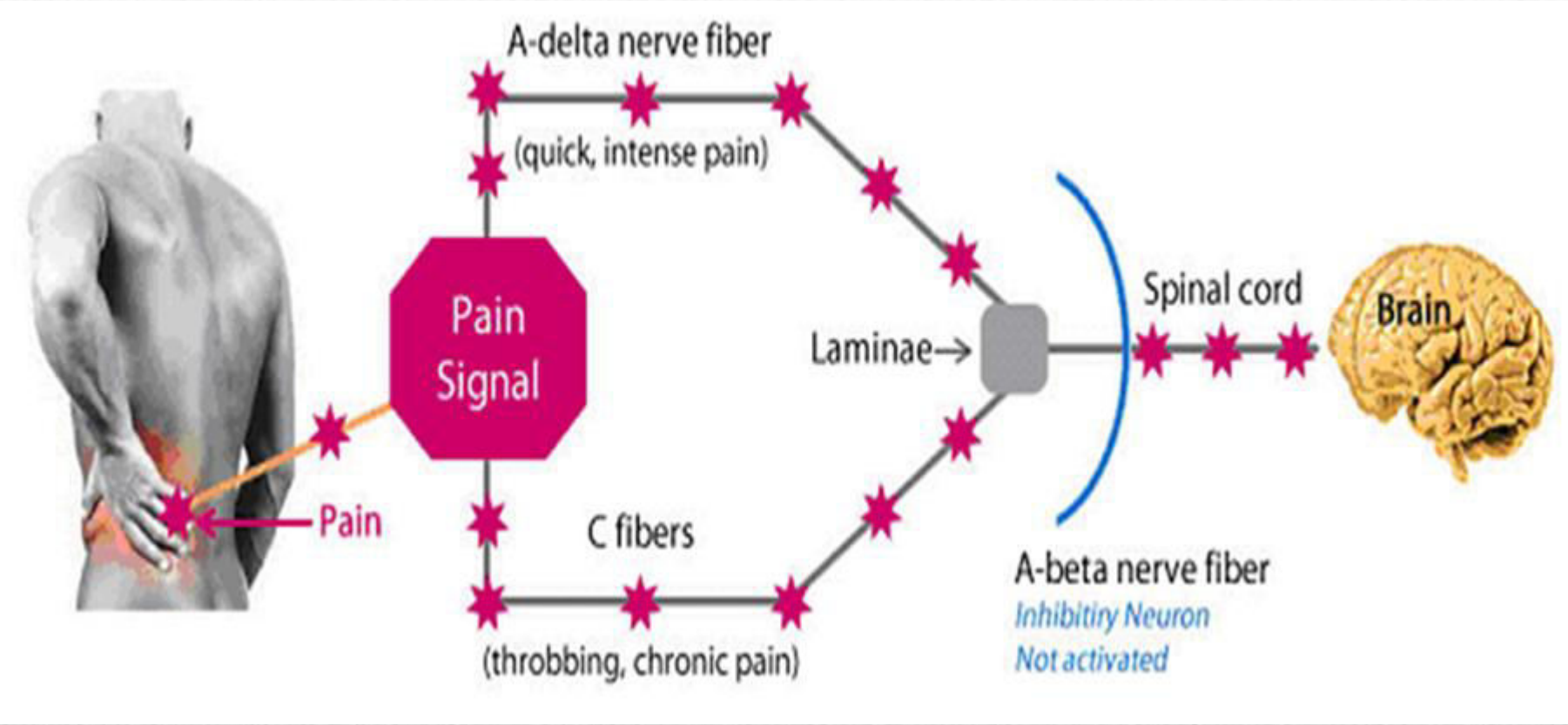

**Receptors**




# Nociceptors

**Nociceptor innervation plays a critical role in wound healing by regulating the wound's cellular function.**

# Nociceptors




**C Fibers transmit more slowly and cause throbbing diffuse pain**
**A Delta Fibers are associated with sharp, acute pain**

**Nociceptors** ...are sensory receptors that detect signals from damaged tissue or the threat of damage and indirectly also respond to chemicals released from the damaged tissue.

Nociceptors are free (bare) nerve endings found in the skin (Figure 6.2), muscle, joints, bone and viscera.

Recently, it was found that nerve endings contain transient receptor potential (TRP) channels that sense and detect damage. The TRP channels are similar to voltage-gated potassium channels or nucleotide-gated channels, having 6 transmembrane domains with a pore between domains 5 and 6. They transduce a variety of noxious stimuli into receptor potentials, which in turn initiate action potential in the pain nerve fibers. This action potential is transmitted to the spinal cord and makes a synaptic connection in lamina I and/or II. The cell bodies of nociceptors are mainly in the dorsal root and trigeminal ganglia. No nociceptors are found inside the CNS.

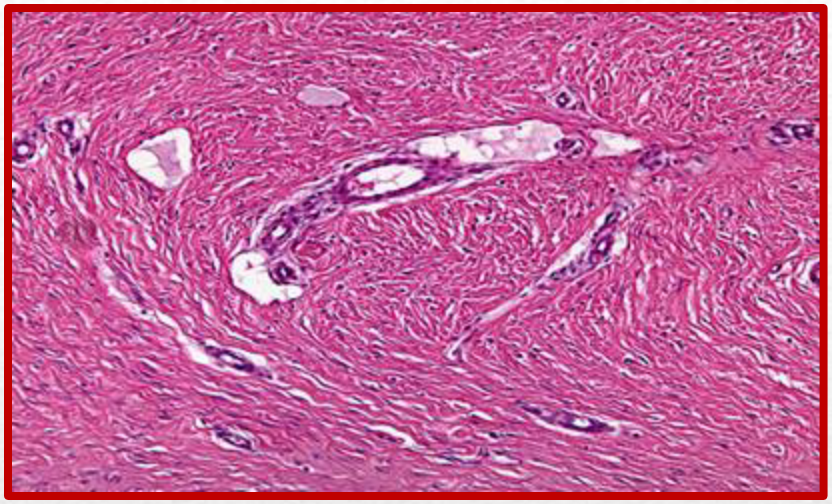
# Collagen

- **Most abundant protein in mammals, accounting for around 30% of the protein content of the human body**
- **Major Insoluble fibrous protein in the Extracellular Matrix and Connective Tissue**
- **Considered to be the "glue that holds the body together"**
- **Increased with Microcurrent Therapy**

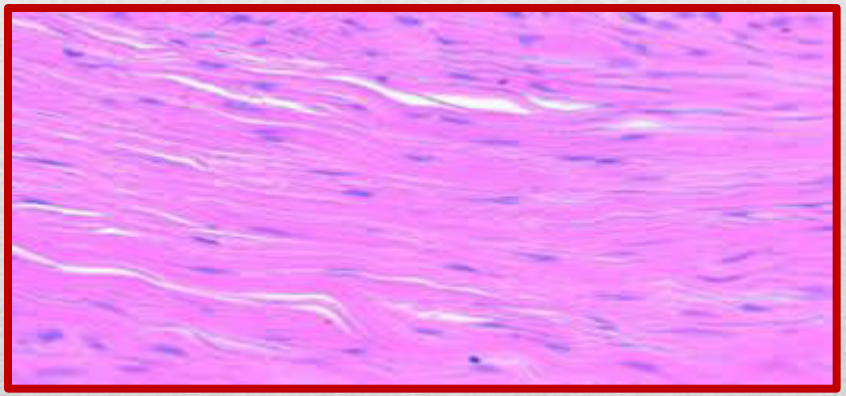
# Healing Gone Wrong

## Too Much Fibrotic Tissue

# Scar Tissue



KELOID Scar Tissue

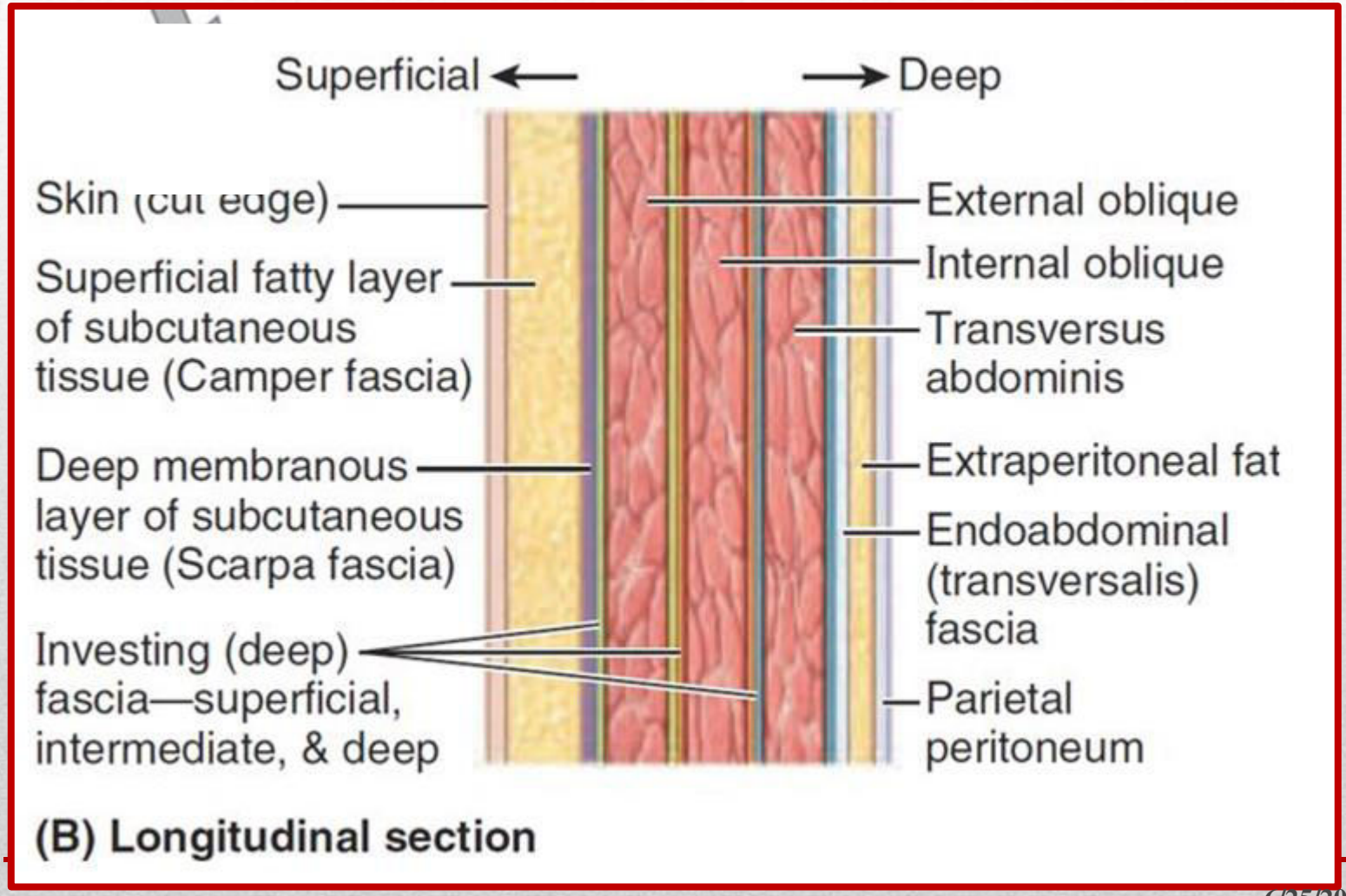


Normal Collagen Fibers

# Factors that Affect Scar Tissue Development

- Infection
- Repeat Surgeries
- Nutritional Deficiencies: Protein, Vitamin C, Copper, and other Nutrients
- Excessive Sugar/Carbohydrates and Food Sensitivities (Inflammatory)
- Genetics
- Smoking
- Diseases/Disorders i.e. Diabetes

# Surgical Incision




**(B) Longitudinal section**

# Problems Associated With Scar Tissue That Can Cause Pain

- Entrapment of Nerve, Vasculature, Lymphatics
- Arthrofibrosis
- Blockage/Stasis along Meridians Or Fascial Planes
- Adhesions

# Nerve Entrapment

- **Pfannenstiel incision-- C-Section**
- **Hip Replacement Surgery**
- **Knee Replacement**
- **Mastectomy– Brachial Plexus (Carpal Tunnel Syndrome)**

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC286203
http://www.ncbi.nlm.nih.gov/pubmed/20492809/
http://www.ncbi.nlm.nih.gov/pubmed/509395

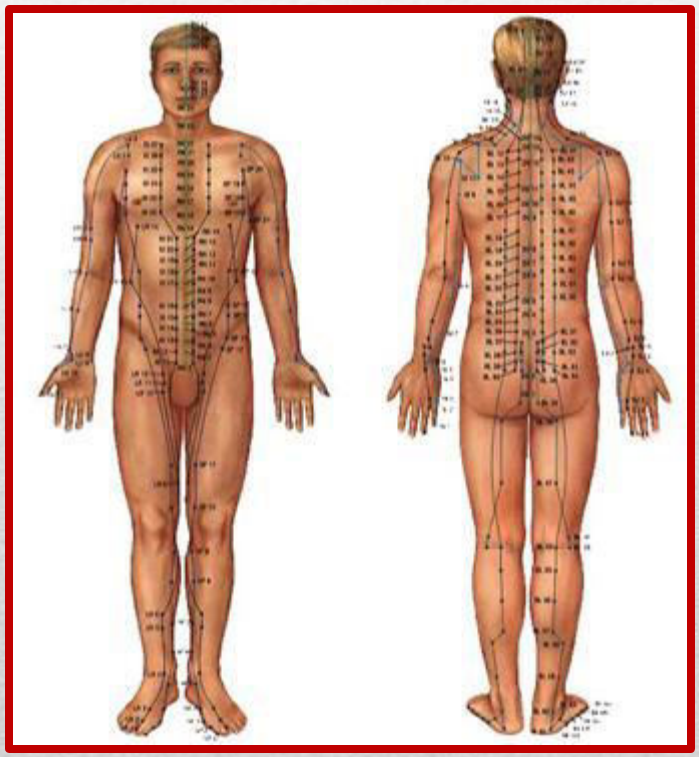
# Arthrofibrosis

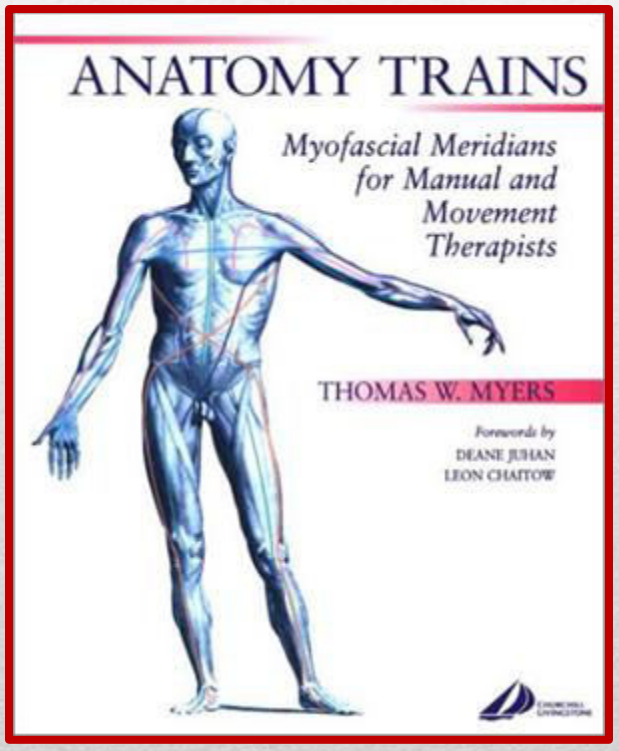
- A complication from injury or surgery to a joint
- Excessive scar tissue that leads to painful restriction of joint motion
- Scar tissue forming within the joint and surrounding soft tissue spaces
- Scarring adhesions has been described in most major joints, including knees, shoulders, hips, ankles, and wrists postsurgically.

# Total Knee Replacement

# Post Knee Replacement Scar

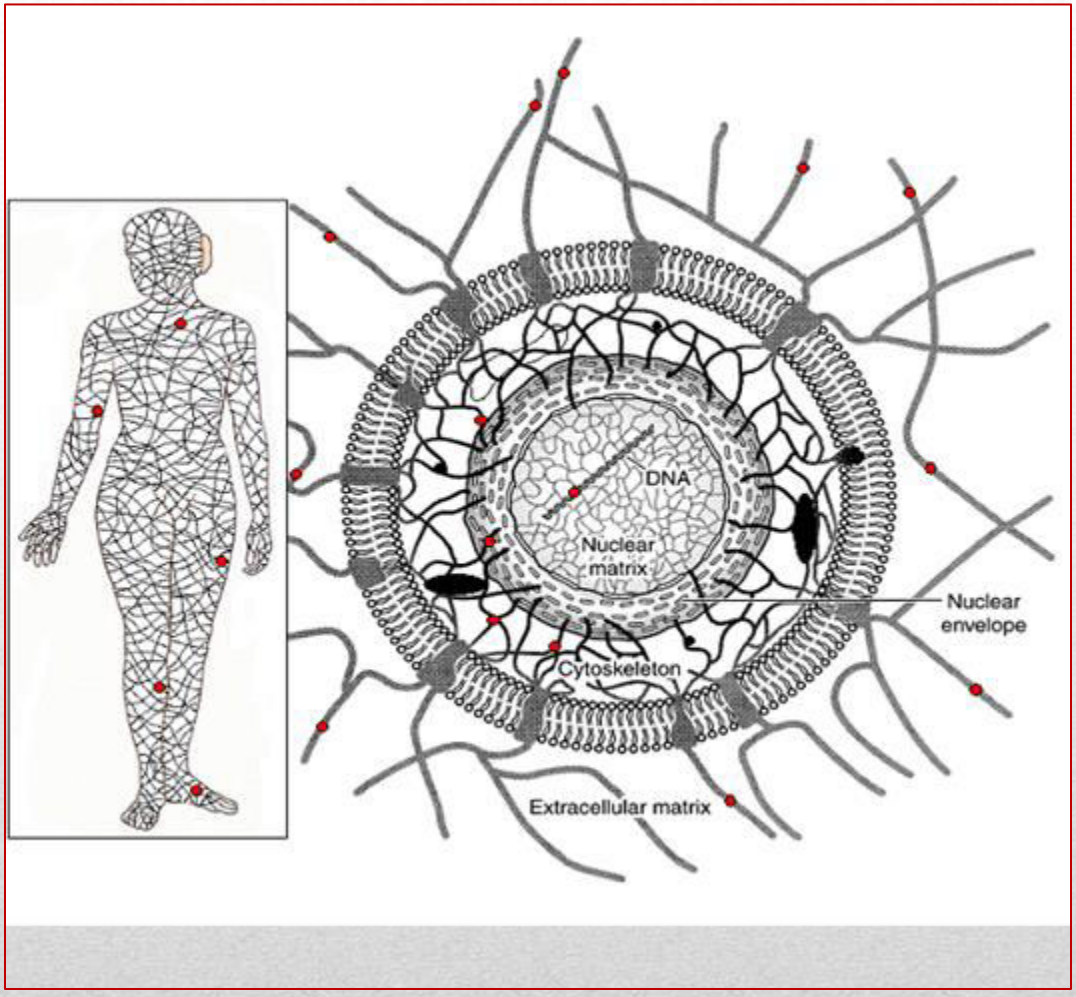
# Blockage or Stasis Along Meridians or Fascial Planes





**This matrix is believed to be the ground matrix for a high speed signaling network using bio-photons and electromagnetics transmitted by liquid crystalline structures in the collagen.**

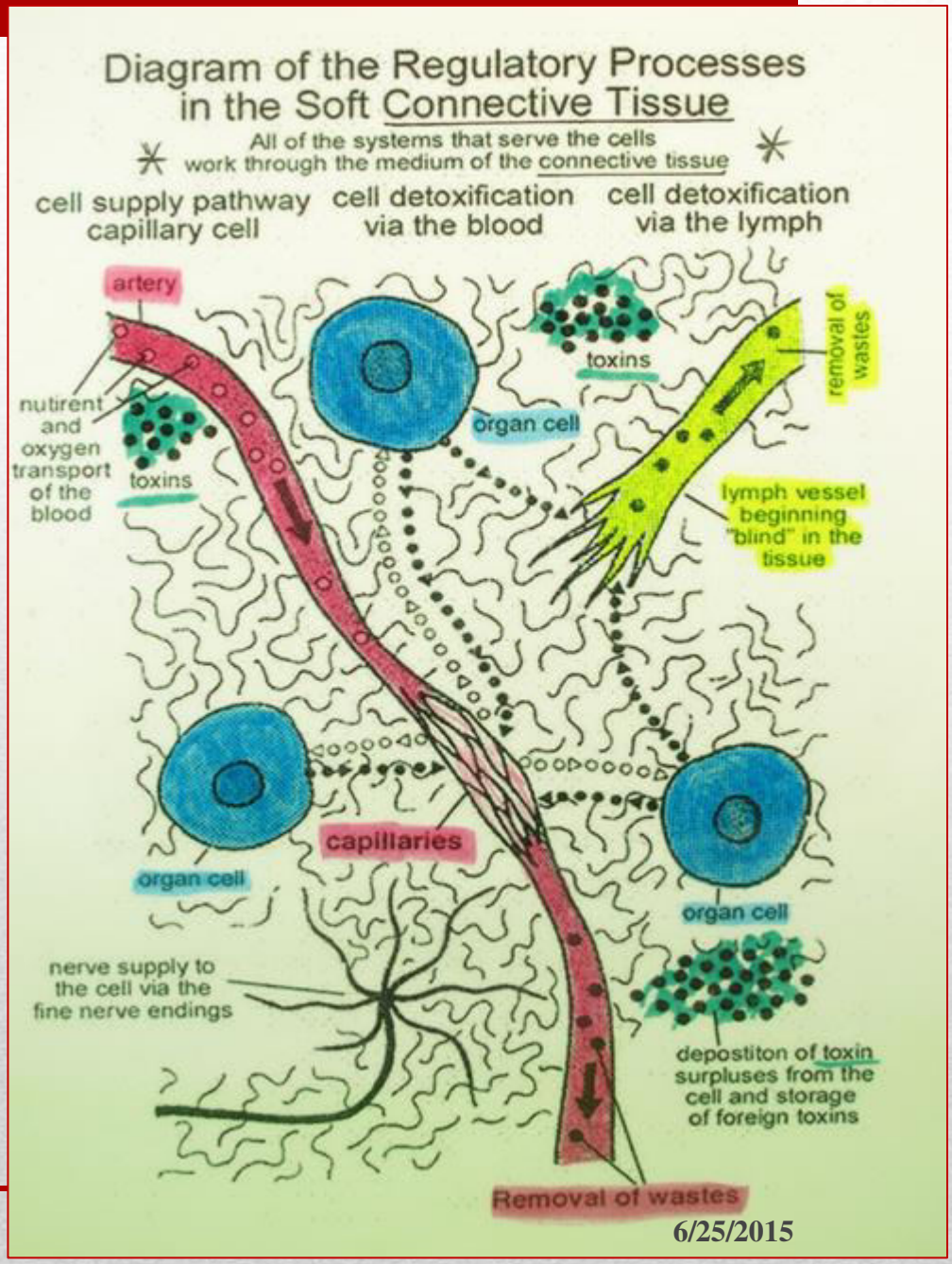
**"Strolling Under the Skin" Dr. J.C. Guimberteau**



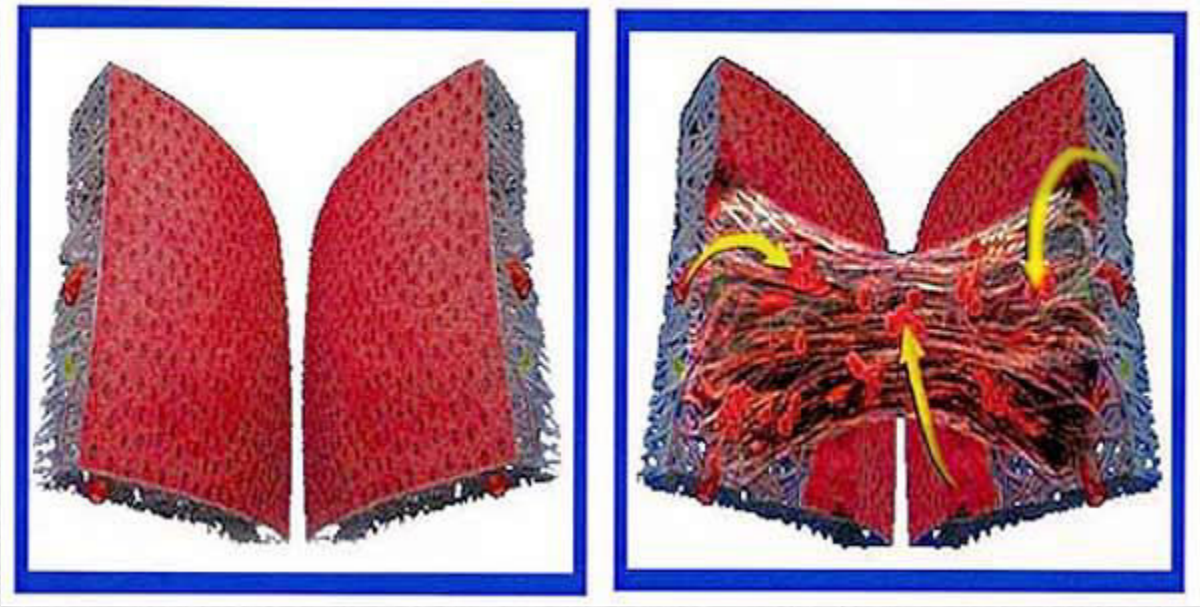

**Your body is an electromagnetic system that functions as a human Bio-computer which communicates via microcurrents**

# The Body Matrix = Connective Tissue

**Congestion inside cells and outside cells can equal pain.**

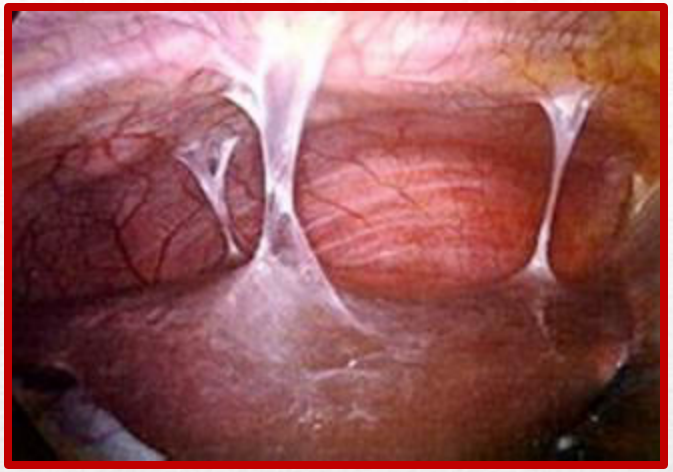



6/25/2015

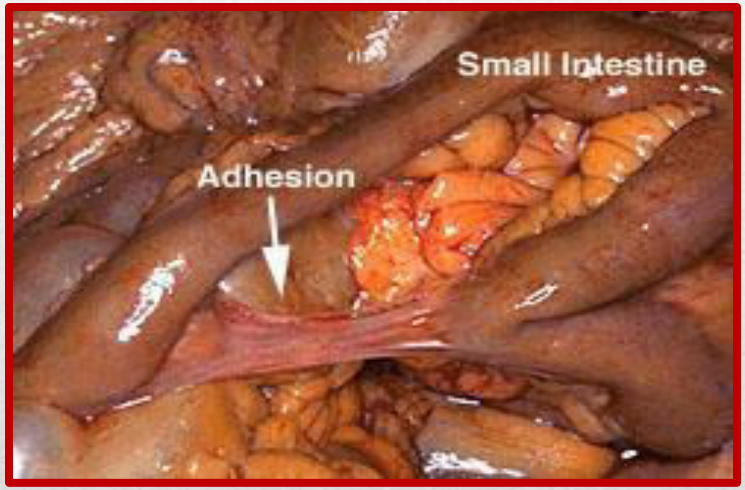


**Adhesions** are strands of scar tissue, fibrin bands that form in response to abdominal surgery and extend beyond the specific site of incision, sometimes forming separately from the incision site within the peritoneum.

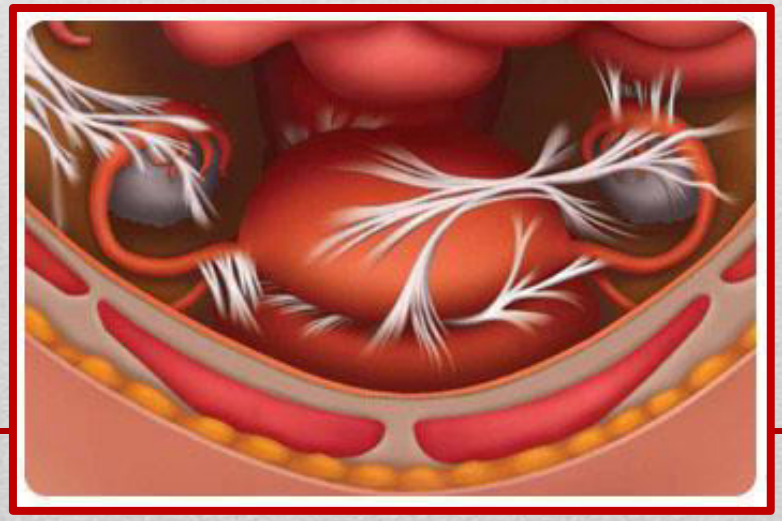
Women's Surgery Group, Adhesions, http://www.womenssurgerygroup.com/conditions/Adhesions/overview.asp

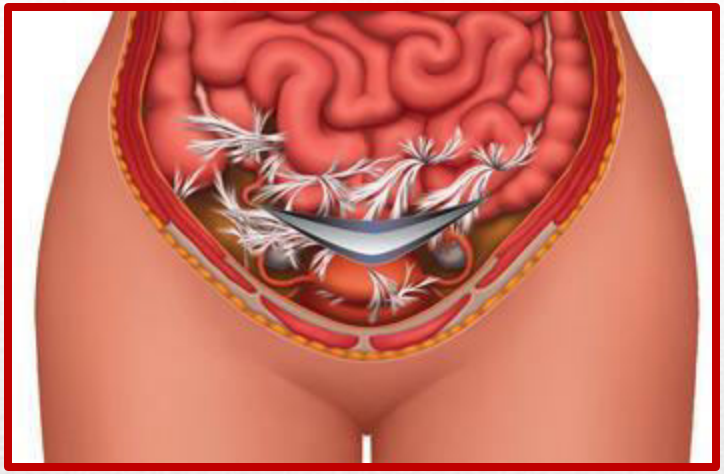


# Adhesions

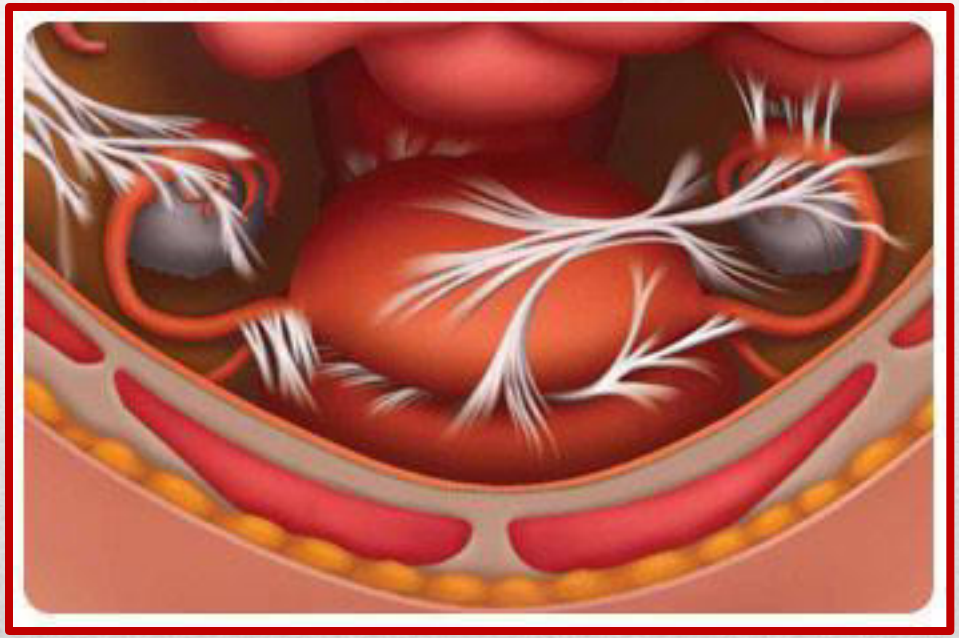



**Pain from Adhesions most often Misdiagnosed**





# Post C-Section



http://www.clearpassage.com/prior-c-section-can-cause-adhesions/

# Studies and Statistics

# Postsurgical Adhesions

## Four Major Negative Impacts on Healthcare Outcomes

- **First, adhesions cause significant morbidity, including intestinal obstruction, infertility and pelvic pain.**
- **Second, adhesions are associated with multiple surgical complications.**
- **Third, these complications lead to greater surgical workload and utilization of hospital and other health care resources.**
- **Fourth, all these negative impacts result in significant economic burden to society.**

Eur J Surg Suppl. 1997;(577):10-6.

# Intra-Abdominal Adhesions

- **Intra-abdominal adhesions arise after more than 50% of all abdominal operations and are an important source of postoperative complications.**
- **They attach normally separated organs to each other and can cause major problems for the affected patients by giving rise to small bowel obstruction, chronic pelvic pain, dyspareunia, infertility, and higher complication rates in subsequent operations.**
- **They are also a frequent source of medicolegal conflict**

Dtsch Arztebl Int. 2010 Nov;107(44):769-75. doi: 10.3238/arztebl.2010.0769. Epub 2010 Nov 5

# Association Between Peridural Scar and Recurrent Radicular Pain After Lumbar Discectomy (MRI)

- **Patients having extensive peridural scars were 3.2 times more likely to experience recurrent radicular pain.**

- **There is a significant association between the presence of extensive peridural scar and the occurrence of recurrent radicular pain.**

Neurosurgery. 1996 Apr;38(4):855-61; discussion 861-3.

# Pain After Breast Surgery: A Survey of 282 Women

- **The incidence of pain occurring at least one year after surgery in the mastectomy + reconstruction group (49%) was significantly higher than the mastectomy (31%) and breast reduction (22%) groups**
- **38% of the women with breast augmentation complained of pain. Women who had reconstruction using breast implants had a higher incidence of pain (53%) than those without (30%).**
- **Most patients reported intermittent pain in all groups**

Wallace MS1, Wallace AM, Lee J, Dobke MK Pain. 1996 Aug;66(2-3):195-205

# Peripheral Nerve Injuries Resulting from Common Surgical Procedures in the Lower Portion of the Abdomen

- **Twenty-three patients had a painful ilioinguinal and/or iliohypogastric nerve entrapment syndrome following common surgical procedures in the lower portion of the abdomen (appendectomy, repair of inguinal hernia, and gynecologic procedures through transverse incision**

Stulz P, Pfeiffer KM. Arch Surg. 1982 Mar;117(3):324-7.

# Pain Associated with Scar Tissue Treatment Using Avazzia Technology

# Avazzia Devices

# Contraindications

- Pacemakers and other electrically powered implanted devices
- Pregnancy
- Cardiac Arrhythmias
- Cancer and Cancerous Lesions
- Organ Transplants
- Open Wounds

**These contraindications are for all microcurrent devices categorized under TENS**

# TIM SMITH

AVAZIA

# B.E.S.T.

## DEVICES

# TIM SMITH

- BSEE, MSEE Southern Methodist University
- 45 years experience for Texas Instruments
- Designed logic chips for NASA space programs Apollo Missions, military jets, while working for Texas Instruments, and his chips were in early Apple and IBM systems
- CEO and founder of AVAZZIA

# ProSport 3 and Ultra Professional Units


# Avazzia Blue

**Blue Relax**

**Blue Stimulate**

AVAZIA

# Accessories

# Microcurrent Technology

- **Uses extremely low-level electrical currents (microcurrents) to treat nerve and muscle pain, inflammation and other health challenges.**
- **Each tissue has its own specific electrical frequency which may be disrupted by injury or disease.**
- **Microcurrent therapy simply restores normal frequencies within the cells, resulting in remarkable improvements in pain, inflammation and function.**

# Dr. Ngok Cheng, M.D.

## 1982- research on the Effects of Electric Current and Cellular Function

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## Microcurrent vs.T.EN.S.

- Microcurrent is 1 millionth of an ampere
- Millicurrent is 1000 of an ampere (TENS)

**Microcurrent…. (Millicurrent does opposite)**

- Increase in ATP upwards to 500%
- Increase in protein synthesis
- Increase in membrane transportation

**Clinical Orthopaedics & Related Research (171) 264-72** 6/25/2015

## Traditional T.E.N.S

- Milliamps
- Square Waveform
- No Biofeedback
- Habituation
- Low Voltage
- Temporarily blocks pain signal
- Little or no manufacturer support

## Avazzia B.E.S.T

- Microamps
- Sinusoidal Waveform
- Biofeedback
- No Habituation
- High Voltage
- Stimulates C & A Delta fibers to release opiates
- Continued support, product and education

# Microcurrent and Avazzia Tecnology

**High-Speed Microprocessors**

- **Avazzia is a non-invasive microcurrent system that transcutaneously communicates with the internal peripheral nervous system for the purpose of therapeutic intervention.**
- **High-speed microprocessor establishes a cybernetic loop between the Avazzia device and the body. The body's response is measurable, creating information for the loop.**
- **When a signal is emitted and penetrates deep into the tissue, the impedance of the tissue (analogous to resistance in DC circuits but dynamic in nature) modulates the next waveform. The degree of modulation is based upon the changes of impedance of skin.**
- **This sets up a constantly changing interactive bio-loop processing non-repeating signals. Eventually the change in impedance diminishes in significance until a plateau occurs.**

# What may happen with this technology…

**Application to skin can increase *PERFUSION***

**Improved blood circulation**

**Improved lymphatic drainage**


**Increase neuro-peptides**

**Pain management**

**Sense of well being**

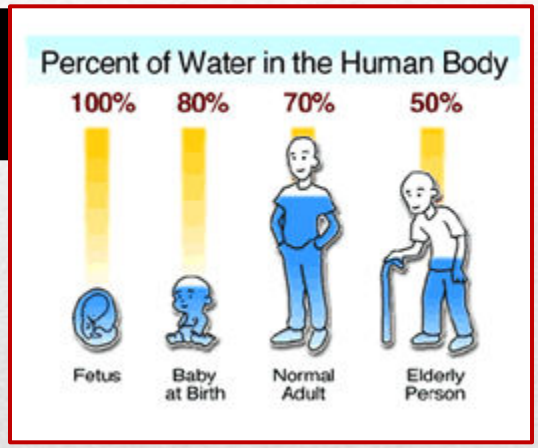
**Restore normal electro - dynamic properties of tissue**

**Normalizes cell signaling**

# How We Believe the Body Responds

**Releases neuropeptides that include neurotransmitters, natural opiates, anti inflammatory factors, nitric oxide**

# This is



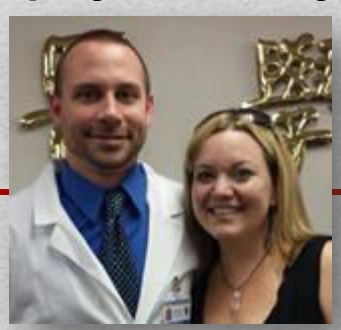

# Electro-stimulation Works

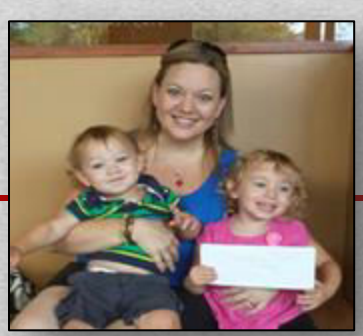
# Hydration

# Testimonials

# Testimonial

I met Nancie at a health fair in January of this year and she introduced me to First Alternatives Avazzia. Let me start by stating that I am NOT one to be impressed by gadgets. Some days I think my 4 year old knows more about my iPad than I do. But Nancie's quiet confidence piqued my curiosity...especially when she spoke of the device's success rate with releasing scars and scar tissue. In October of 2004, I had a liver resection to remove malignant tumors...they ultimately ended up taking out over 75% of my liver to completely remove the tumors. The incision did not heal properly and I was left with a huge, horrible, very deep scar starting at my breastbone, heading straight down to my belly button and then veering out about 7 inches across my right abdomen. Eleven years after the surgery, I had zero feeling or sensation in that entire area and the adhesions from the scar were causing me pain, discomfort and very limited mobility in my abdomen and right shoulder. Not to mention that I was very self-conscious of the scar's appearance...it was brown, dead-looking, and quite scary! Somehow, Nancie convinced me to lay down on a table, pull up my shirt and let her work on my scar in front of all those people...I still can't believe I agreed to it, but I am SO glad I did. Within 30 seconds...THIRTY SECONDS...I had feeling in an area that had been completely dead to me for over 10 years. I started feeling adhesions popping loose...the scar itself turned pink and was softer and smoother within minutes. The First Alternatives Avazzia (non-invasive, no pain, quick and simple to use even for me, by the way) made such a huge impact on my scar in just a few minutes that I knew I had to have this in my house for my family. We have since used it on our 4 and 2 and a half year old for knee scrapes, a dog bite, insect bites, tummy pain, etc. If one of our children falls or gets a bump, they immediately call out for "Daddy and the 'Vazzia". We use it to help our 2 year old sleep...that alone makes this device PRICELESS. We use it for our own sore necks, shoulders, and backs. I had a headache last week and grabbed the First Alternatives Avazzia...within minutes I felt great...with NO PILLS. This magic little machine has changed our lives and I could not be more grateful to Nancie for convincing me to pull up my shirt and try it. :)





# 4 Sessions with Avazzia Device

6/25/2015

# Clear Scars

**Scars can be a deterrent to communication in our cellular network of collagen tissue**

**Six week old hip replacement scar. Two treatments with Blue Relax using the Y bar electrode.**

- **Facial Injury after fall**

- **3 days after treatment**

- **5 days after treatment**

# Spider Bite

1st day
Pre tx

Hospitalized 12 days prior

2nd day

Ran RSI 24/7
Starting day 1

3rd day

# Spider Bite Testimonial, cont.

**Necrosis from Spider Bite**

**One week after RSI 24/7**

6/25/2015


# 3 weeks later the hand is healed

# Scar Clearing Protocol

**Determine appropriate time for treatment**

- Medical Model for wound healing= 6 weeks
- Acute vs chronic
- Do not use scar tissue modes for 6 weeks

**Observation and Documentation**

- Therapist Assessment
  -intake form (include all surgeries)
  -palpation of scar superficial and deep
- Client Assessment
- Discuss Potential for Emotional Release
- Make sure **Patient is Hydrated**
- Clear Scar – (Pro-Sport mode – Blue Relax
  Other Models – Relax)

**Re-Assess and Document**

*Release form is needed for pictures*

# Scar Clearing Protocol

- Palpate the entire scar and fascial restrictions before treating. Palpate superficial and deeper.
- Paint through the scar (N,S,E,W)
- Assess the scar for active zones
  - Stickiness
  - Color
  - Sound
  - Sensitivity
- Park on dense, sticky areas
- Take reaction readings and dose highest readings
- Re-Assess… Have the patient feel their scar
- Ask for feedback

# Ease of Use

- Simple controls
- Place on body directly, with attachments, or electrode pads
- Two AA batteries
- Small compact

# THANK YOU

www.firstalternatives.net
www.firstalternativetherapies.com