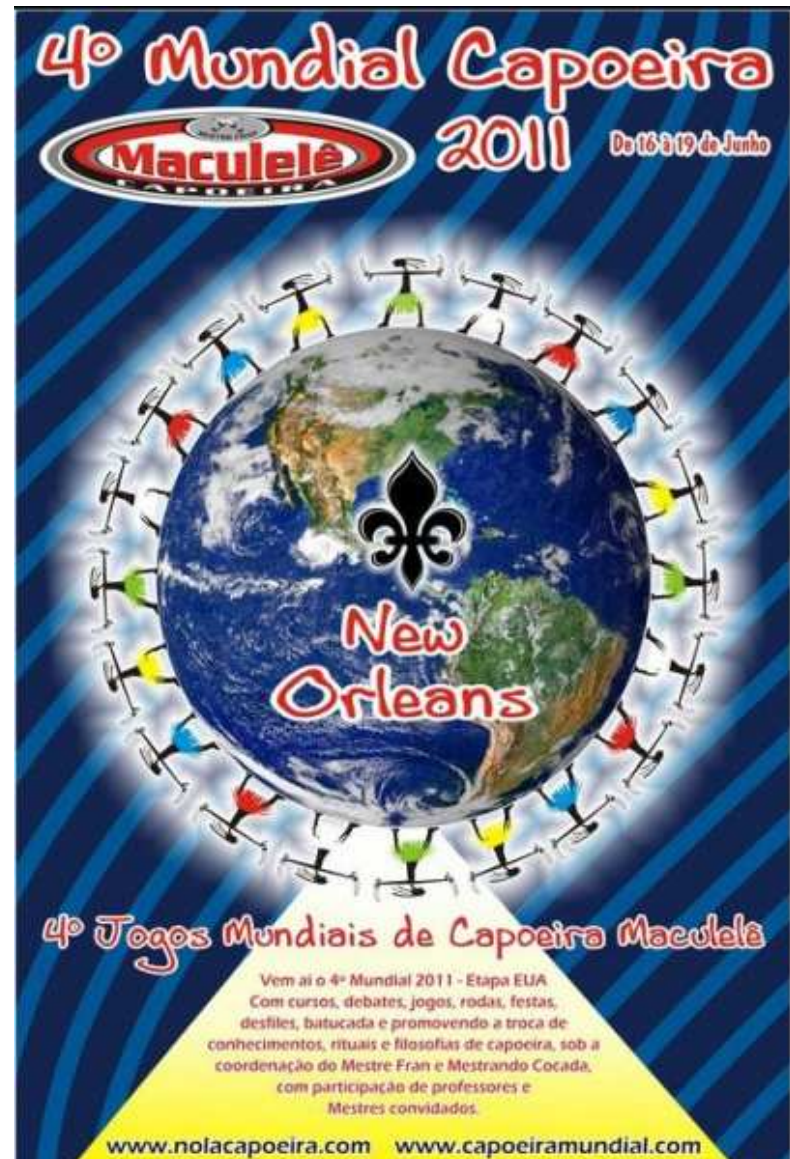


Capoeira

Preventing and
Rehabilitating Injuries

James Rizer, D.C.



Who thought they did not have any physical aches, pains or weaknesses until they began doing Capoeira?



Trauma Causes Inflammation

Physical Trauma

- Acute
- Chronic



Nutritional Trauma

- Poor dietary choices
Now known as Pro-Inflammatory Diet



Physical Traumas/Injuries

- Acute Trauma/Injury
 - Trauma
 - Sprained ankle, Strained muscles
 - Motor Vehicle Accident inducing Whiplash
 - ***Acute can lead to Chronic Trauma/Injury if not dealt with properly***
- Chronic Trauma/Injury
 - Repetitive
 - Typing on computer leading to Carpal Tunnel Syndrome (*over use*)
 - Poor Alignment
 - Postural
 - Poor Function
 - Joints, tendons, and ligaments not working the way they should
 - Poor Technique
 - Incorrectly landing on foot from jumps do to poor form

Each of the above can/may lead to lifetime problems

Pain as an Indicator???

- Acute
 - Person feels pain immediately
- Chronic: Repetitive, Poor Mechanics, & Postural
 - Person notices pain weeks to years AFTER problems have already begun
 - Degenerative changes have begun
- When intermittent pain turns to constant pain
 - Much bigger problem
 - More challenging to treat
 - More time needed to correct
 - Equates to MORE TIME AWAY FROM SPORT and possible missed work (\$\$\$)

Be Preventative with your care

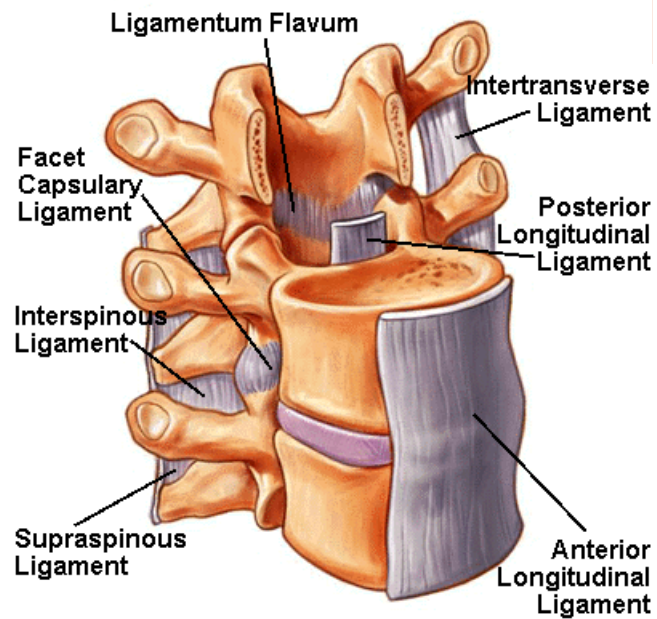
The Pain Cycle



- Injury
 - Acute
 - Repetitive
 - Poor alignment
 - Poor function of joints and tissues
 - Poor technique

Injury > Pain > Body Compensates > Unbalanced Motion >
Further Injury > More Pain > and so on....

Scar Tissue



Achilles Tendon



©MMG 2001

Three Phases of Healing

1. Inflammatory

- Lasts 4 to 10 days
- Inflammation will tie up your immune system
- Ice, Fish Oil, and Antioxidant nutrients are important here

2. Repair

- *Collagen Formation*: Starts anywhere from 48 hrs to one week and lasts up to 6 weeks
- *Elastin Formation*: Starts 14 weeks and completed up to 52 weeks
- Range of motion exercises are vital here
- Zinc, copper, protein, Vitamin A & C & E, and B-Complex are important here

3. Remodeling

- Starts 3rd week and lasts for 12 months or longer
- Resistance exercise and nutrition needed here
- Continued zinc, copper, protein, Vitamin A & C & E, and B-Complex are important here

Ice vs. Moist Heat Packs

Ice

- Used for *acute pain*
- Vasoconstrictor
 - Blood vessels close down
 - Reduces blood flow
- Decreases swelling & inflammation
- Great pain reliever if sudden trauma occurs

Moist Heat

- Used in *most chronic cases*
- Vasodilator
 - Blood vessels open up
 - Brings in more blood flow
- Relaxes muscles
- Increasing the extensibility of collagen tissues
 - Decreasing joint stiffness
 - Relieving muscle spasms
- Never use dry heating pads

Proper Rest



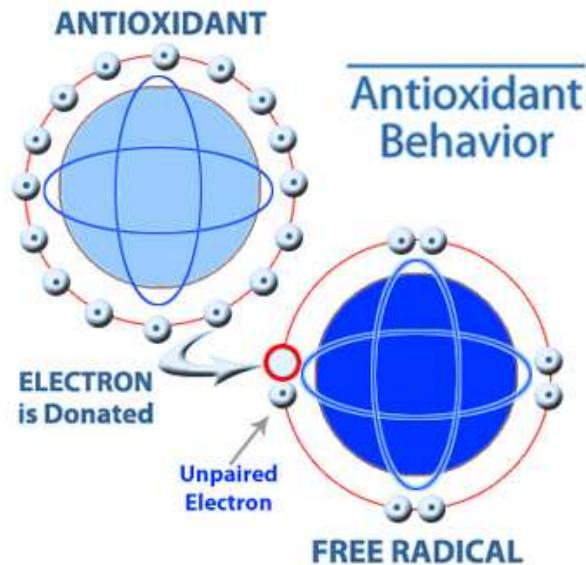
- Side and back sleep
- Resets body
- Growth Hormone is released with aids in healing.
 - It stimulates growth, cell reproduction and regeneration.
 - The largest peaks occurs about an hour after onset of sleep.
 - Nearly fifty percent of HGH secretion occurs during the third and fourth NREM sleep stages.
- Eight Hours of Sleep Cannot be Beat for Enhancing Performance.
 - Studies show that most Americans simply do not get enough rest.

Free Radicals

Damages the healthy cells of your body

- Caused by
 - Inflammation from Acute or Chronic Injury
 - Chemicals / Toxins
 - Alcohol, smoking and drugs
 - Aging
 - Radiation
 - Poor food choices
 - When we have a poor diet and improper supplementation (vitamins and minerals) our cells suffer.

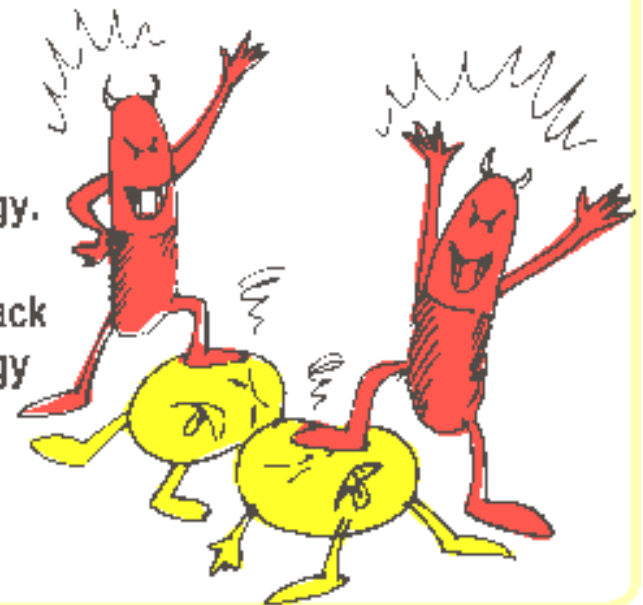
Free Radicals



- Radicals are believed to be involved in degenerative diseases and cancers.
- Their chief danger comes from the **damage** they can do when they react with important cellular components such as **DNA or the cell membrane.**

What are Free radicals ?

- Free radicals are like robbers which are deficient in energy.
- Free radicals attack and snatch energy from the other cells to satisfy themselves.



Antioxidants

- Prevents free radical damage



- Glutathione (as N-Acetyl Cysteine) and Vitamins A, C, E, Zinc, and more



- *Often the body cannot manufacture these, so they must be supplied in the diet.*

Fruits and Vegetables

“Live foods”



- 2 cups a day of fruits daily
 - Snack on dried fruits
 - Add berries to cereal or oatmeal
 - Add frozen fruit to plain yogurt
- 2.5 cups a day of vegetables daily
 - Try fresh or frozen
 - Choose different colors for different nutrients.



Considered Good Fat

Anti-Inflammatory Diet. Omega-3 / Fish Oil



- The polyunsaturated fats are from:
 - Omega-3 (EPA, DHA, Linolenic)
 - Mostly seafood
 - Better fat to fight inflammation.
 - Omega-6 (Arachidonic Acid, Linoleic)
 - Vegetable oils
 - Found in chips, crackers, french fries, fast food
- Monosaturated and polysaturated are healthier than Transfats and Saturated Fats

Anti-Inflammatory Diet: Omega-3 / Fish Oil

- Omega-3 consumption should be balanced with omega-6 fatty acids
- Omega-6 to Omega-3 ratio (between 1:1 and 4:1)
 - No more than four grams omega-6 for every one gram of omega-3
- EAT MORE FISH and/or TAKE FISH OIL SUPPLEMENTS



Avoid Simple Carbohydrates

Simple carbohydrates

- Low in fiber and are rapidly broken down by the body, so they **can be consumed in large amounts WITHOUT feeling full.**
- **Can trigger overeating**, as well as blood-glucose slumps, which can lead to...
 - **Fatigue**
 - Headaches
 - Craving sweets
 - Depression
 - Irritability
 - And a host of other symptoms



- **Examples of BAD choices**
 - **Sugar**
 - **Candy**
 - **Pizza**
 - **Chips**
 - **Cookies**
 - **White bread**

Supplements / Vitamins

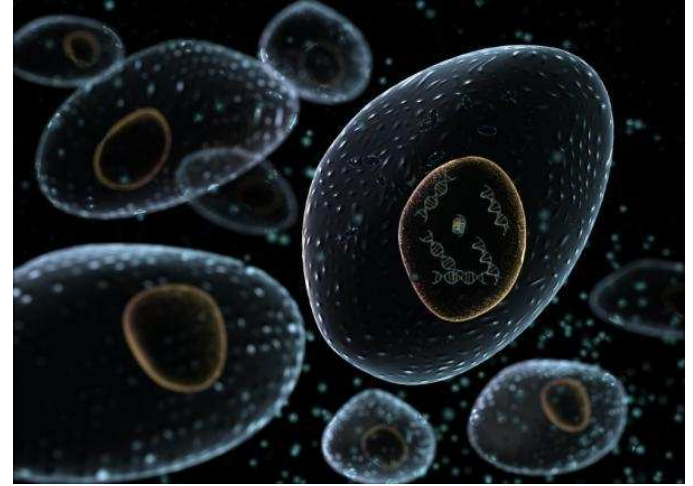
- Two Hour Rule
 - Take supplements / vitamins two hours apart from when medications are taken
- Better utilized if smaller doses taken a couple of times a day rather than one giant megavitamin
 - Are these products truly safe?
 - They may make false claims
 - Registering these products with FDA nor the FDA is NOT NECESSARY to put on the shelves of stores.
 - FDA investigates after side affects have been reported
- Purchase supplements from Healthcare Professionals or at least from nutrition stores for more reliable products
- Go to www.fda.gov for more safety information



Over the Counter Medications

- **Acetaminophen (Tylenol)**
 - Liver affected
- **NSAID's (Naproxen, Aleve, Advil, Motrin, Ibuprofen, Naprosyn, etc..)**
 - Kidney's affected
 - Stomach ulcers
 - High Blood Pressure
 - Leads to leaky gut; Allergies, Type I Diabetes, Asthma, Autism
 - *Delays healing of damaged tissues*

Hydration = WATER



- 60% of body weight is water
 - 40% intracellular (inside cells)
 - 20% extracellular (outside cells)

Hydration Prior to Event

- *American College of Sports Medicine* recommends
2 to 3 hours prior to exercising
 - Consume 14 to 20 oz (400-600mL) of water with a carbohydrate prior to exercise
- Log your weight prior to event



Hydration During and After the Event

- During Event Fluid Recommendations
 - Consume 6-12 oz (150-350 mL) of fluids at 15 to 20 minute intervals
- If event is longer than 1 hour
 - 4-8% of what you drink should include a carbohydrate (sugar)
 - Chilled
- Re-weigh yourself after working out.
 - Consume 1 pint of water for every 1 pound of body weight lost
 - 500mL of fluid for every 1 lb. of weight loss
 - Some recommendations are that we consume 1.5 times of what we lost in body weight

If you feel that you are thirsty then you have waited too long!!!

Caused by Dehydration aka “Fourth Quarter Fatigue”

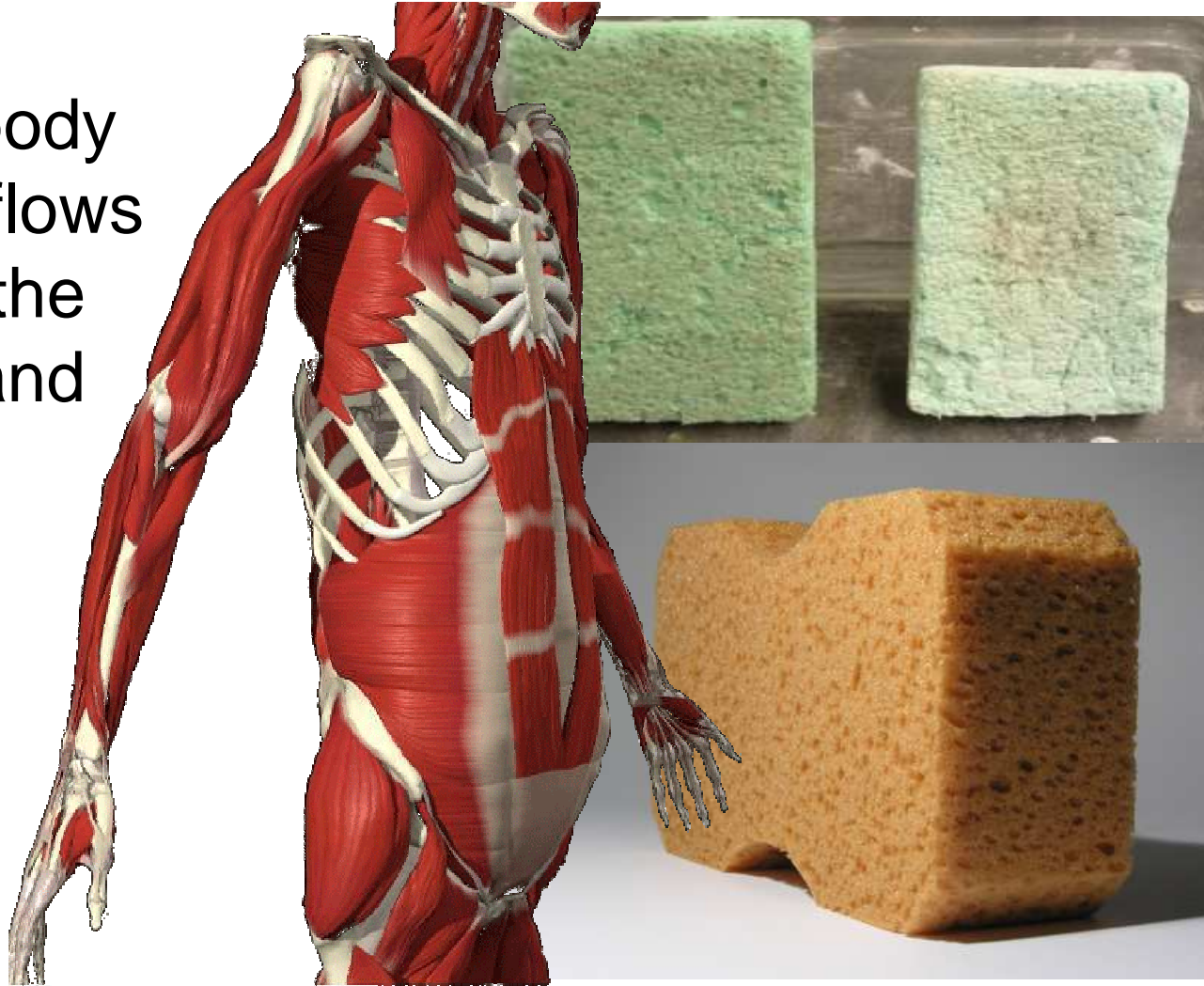
- Caused by Dehydration
 - Decreased cognitive/mental performance
 - Decreased muscle strength & endurance
 - Muscle cramps
- Can lead to
 - Heat Exhaustion
 - Heat Stroke
 - Coma and even Death
- It is important to “*Listen to Your Bodies*”

Importance of Listening to Your Teacher



The Importance of Warming Up and Cooling Down

- Core body blood flows out to the arms and legs



Common types of stretching

Functional/Dynamic stretching

- Controlled leg and arm swings that gently take you to the limits of your range of motion
- ***Ideal pre-event stretch for individuals***

Ballistic stretching

- Stretching that force a part of your body beyond its normal range of motion by bouncing into a stretched position
- To be done moments prior to event
- Does not decrease performance
- ***Can lead to injury and should only be used by highly conditioned athletes who need to prepare for a volatile, high-speed activity***

Static/Passive stretching

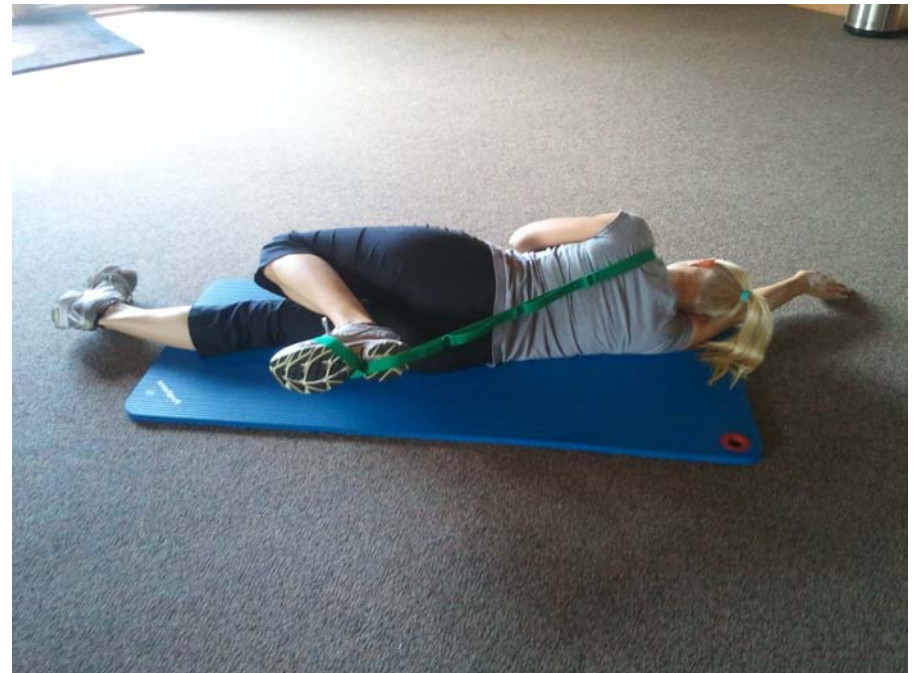
- Most common type of stretching
- Assume a stretch position and hold it for approximately 30 seconds. No bouncing or rapid movement
- Maintains flexibility and demonstrates more flexible muscle over time
- ***Ideal post-event stretch for individuals***

Static/Passive Stretching



- Static/Passive stretching is best to be done AFTER exercising

- Maintains flexibility and demonstrates *longer muscles over time*



Quadriceps strength should be stronger than the hamstrings

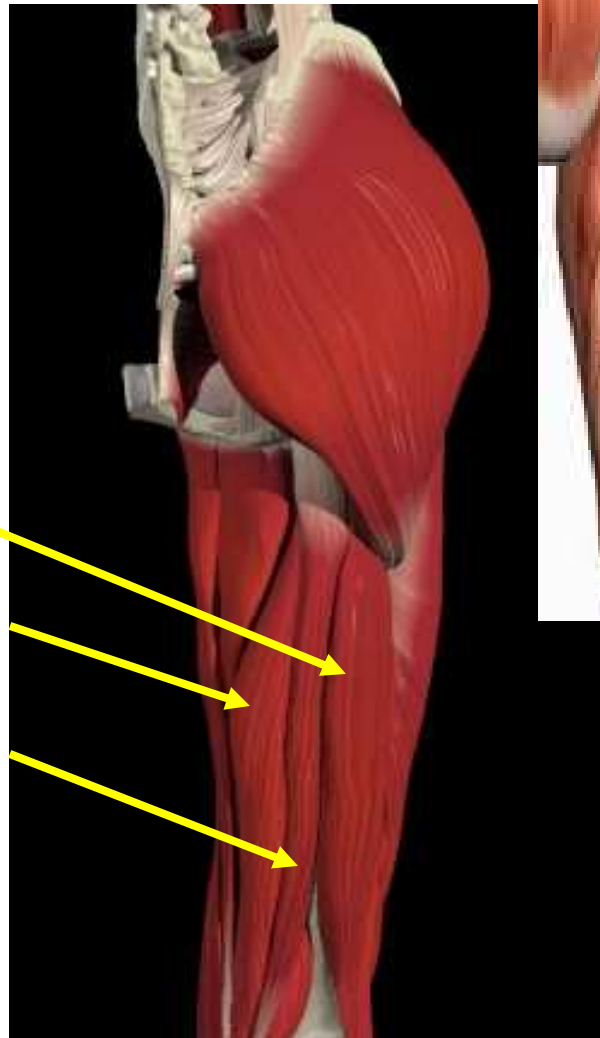
Due to muscle imbalances strains are more likely to affect the hamstrings

HAMSTRINGS

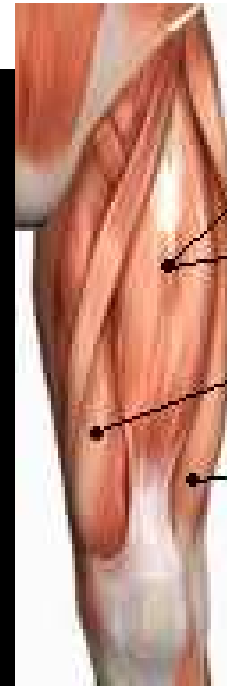
Biceps Femoris

Semimembranosus

Semitendinosus



QUADRICEPS



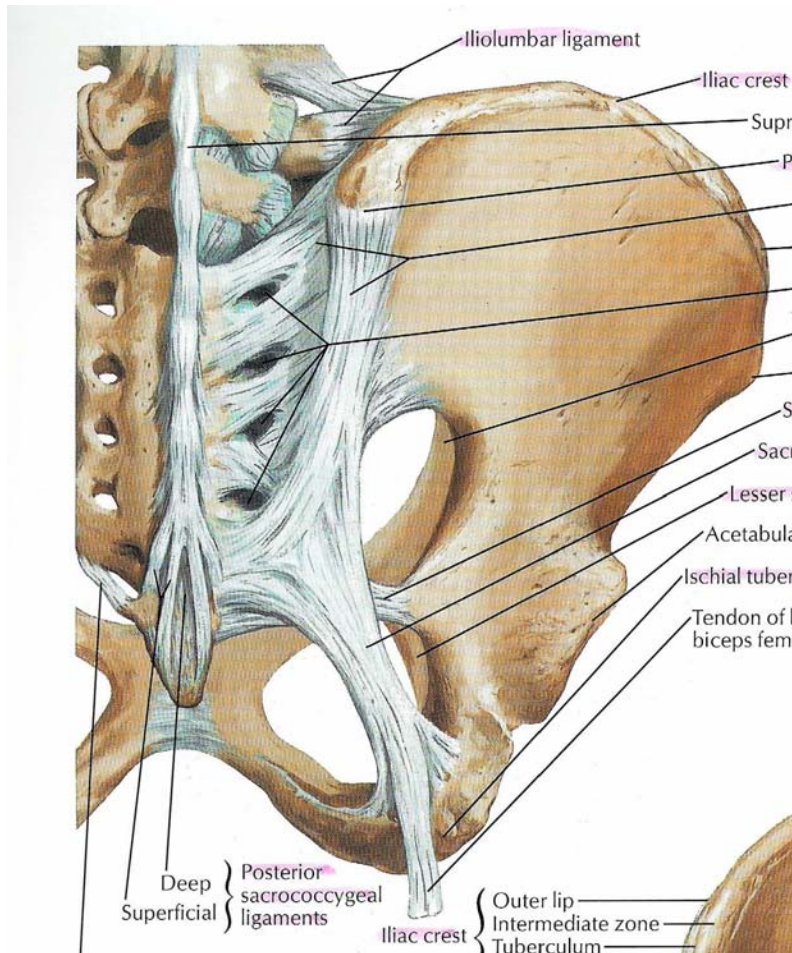
rectus femoris

vastus intermedius

vastus medialis

vastus lateralis.

Sacroiliac Ligaments

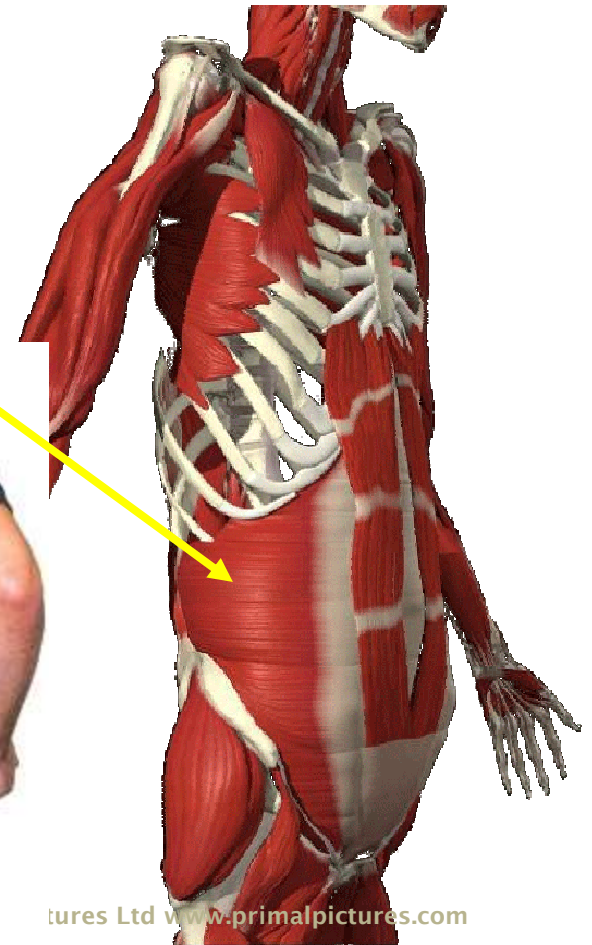


- Dorsal sacral ligament and sacrotuberous ligament
- Share fibers with lumbar paraspinals and biceps femoris
- Chronic SI pain
- *Raise your arm and feel muscles of your back at work!!!*

Transverse Abdominus Muscle

Inner Core Muscle

- Keeps posture upright & protects internal organs
- Some back problems are correlated with a weak transverse abdominus
- Your bodies own muscular back brace



tures Ltd www.primalpictures.com

Chiropractic Care

“Motion is Life”

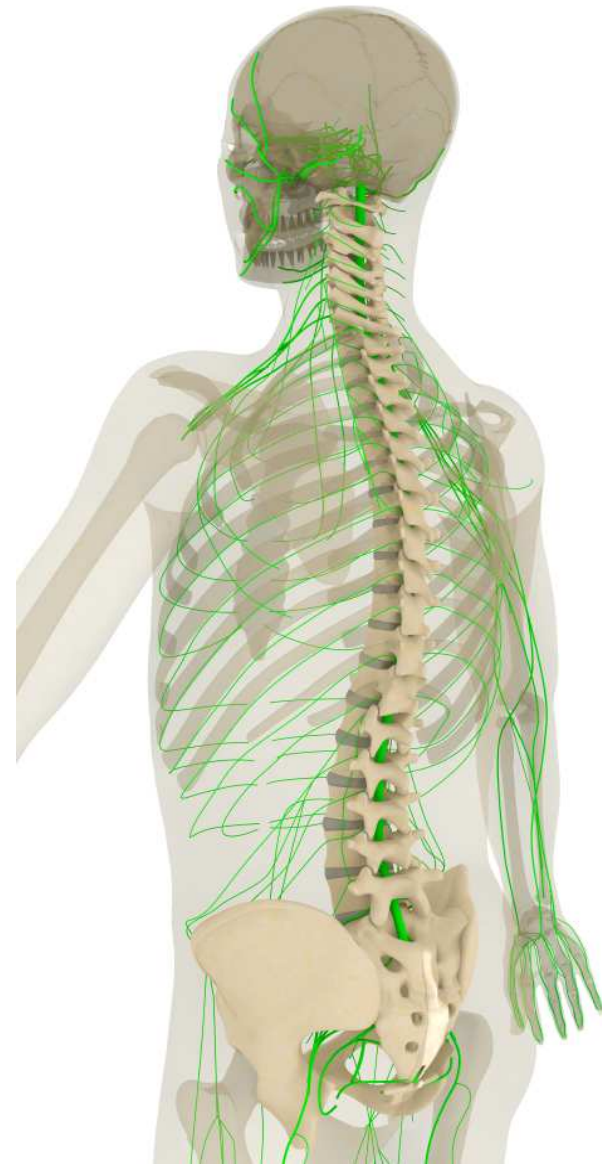
- Helps alleviate pain
- Promotes correct alignment
- Promotes functional joints
 - Joints that move as they should
 - Helps prevent soft tissue injury
 - Increases range of motion
- Reduces the likelihood of injury
- Promotes better recovery from injuries



Chiropractic promotes homeostasis, which is the bodies inherent was of doing things the right way.

Chiropractic Care

- Stimulates the Nervous System
 - Helping with hand-eye coordination
 - Balance
 - Reaction time
 - Reflexes



ACTIVE RELEASE TECHNIQUE

- Provider uses his/her hands to evaluate the texture, tightness, and movement of the soft tissue
- Abnormal tissues are treated by combining precisely directed tension with specific patients movement (mostly active motion)
- To break up adhesions and scar tissues that restrict motion



GRASTON TECHNIQUE (GT)

- GT incorporates the use of six patented stainless-steel instruments to aid the clinician in the detection and treatment of soft-tissue dysfunction.



- Debbie Ferguson-McKenzie** Two-Time Olympic Champion



KINESIOTAPING

- Made from a gentle cotton fiber strip
- Features a 100% medical grade acrylic adhesive
- Totally latex free
- Does not limit range of motion
- 3-5 day wear time to conserve tape and save money
- Creates a lifting effect which improves circulation and relieves pain
- Tension on tape has the ability to relax or stimulate muscles



» **Olympic Gold Medalist Kerri Walsh**

41% of Websites have incorrect, misleading, and harmful claims

- Mayo Clinic Proceedings
 - Discovered that there were 41% of websites that had incorrect, misleading, and harmful claims?
- How can you determine if CAM claims are true?
 - FDA, FTC and NCCAM
 - www.pubmed.gov

Internet Reliable Sources

- **U.S. Food and Drug Administration (FDA)**
 - The FDA oversees the safety of many products, such as foods (including dietary supplements), medicines, medical devices, and cosmetics.
Web site: www.fda.gov
- **National Center for Complimentary and Alternative Medicine website:**
 - The National Center for Complimentary and Alternative Medicine is a very resourceful organization that has a very helpful website to find evidence based medicine. A lot of healthcare is based upon a persons beliefs, individual experiences and sales tactics. The National Center for Complimentary and Alternative Medicine does research to determine the validity of many claims made in areas of healthcare. I like this website a lot.
<http://nccam.nih.gov/>
- **Office of Dietary Supplements (ODS), NIH**
 - ODS seeks to strengthen knowledge and understanding of dietary supplements by evaluating scientific information, supporting research, sharing research results, and educating the public. Its resources include publications and the International Bibliographic Information on Dietary Supplements (IBIDS) database.
Web site: ods.od.nih.gov
- **American Pain Society**
 - <http://www.ampainsoc.org/>
- **Center for Food Safety and Applied Nutrition (CFSAN)**
 - CFSAN oversees the safety and labeling of supplements, foods, and cosmetics. Publications include "[Tips for the Savvy Supplement User: Making Informed Decisions and Evaluating Information.](#)"
Web site: cfsan.fda.gov



Functional Joints
Soft Tissue Work
Nutrition
Lifestyle Advise
Proper Exercise Technique

Visit Our Website www.provancechiropractic.com

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