

# RECOVERY STRATEGIES FOR TODAY'S ATHLETES

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Health Network

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# Quote

**“People will work to the level  
expected of them.”**

**- Glenn Gray**

# Quote

**“People need to know how much you care before they care how much you know.”**

**- Ron Courson**

**Director of Sports Medicine**

**University of Georgia**

# A FEW THOUGHTS ON TRAINING

- **SAFETY FIRST!**
- **TEACH PROPER TECHNIQUE – If they can't do it right, do not allow them to progress.**
- **GPP WORK FIRST, SPECIALIZE MUCH LATER (if ever)**
  - **VOLUME MAKES YOU SORE, NOT WEIGHT**
    - **HARD TO OVERTRAIN A BEGINNER**
- **MOST THINGS YOU DO WILL CAUSE IMPROVEMENT**



# **A FEW THOUGHTS ON STRESS**

- **THERE ARE LOTS OF WAYS TO STRESS ATHLETES**
- **PHYSICAL, MENTAL & EMOTIONAL STRESS ARE ALL FACTORS**
- **WHAT HAPPENS AT PRACTICE, AT HOME, AT SCHOOL & IN THEIR PERSONAL LIFE WILL ALL CREATE DIFFERENT TYPES OF STRESS**
  - **STRESS GENERALLY CAUSES ADAPTATION**
    - **STRESS CAN ALSO LEAD TO INJURY**
  - **BIG EVENTS GENERALLY LEAD TO INJURY – SO BE MINDFUL OF THE TIME OF YEAR IT IS (Midterms, Finals, etc.)**

# Recovery Is Just As Important As Your Training

- ❑ One of the most important (and necessary) parts of training is being able to do it again tomorrow.
- ❑ Emphasis (Purpose, Goal) of recovery?
  - Physical – what does training do to your body?
  - Mental/Emotional – what does training do to your psyche?
  - Central Nervous System – what does training do to the engine that drives the whole process?
- ❑ **A comprehensive training program includes: acclimation, progressions, regressions, periodization of some sort, de-load days/weeks and off-days. These things can be the biggest factor in how much outside recovery is required.**

# Recovery Is Just As Important As Your Training

- Awareness for us, self-awareness for athletes, is needed to aid in Recovery:
  - Nothing beats **TIME** for recovery, we are only trying to speed up the process.
  - Proper recovery can help reduce the risk of over-training and injury.
- Key indicators that additional recovery may be warranted:
  - Tiredness
  - Pain
  - Soreness
  - Stiffness or Tightness
  - Fatigue
  - Insomnia
  - Anxiety/Stress

# However.....

- ❑ Training is supposed to be hard, we are supposed to make the athletes over-reach. They will likely be sore and have all of these effects of training.
- ❑ In an effort to help the athletes ‘recover’, let’s be sure not to stunt the natural adaptations that must occur for training to be effective.

# METHODS OF RECOVERY

## ENERGY OUT [MONEY OUT]

- ❑ High Intensity Workouts
- ❑ Poor Eating Habits
- ❑ Dehydration
- ❑ Lack of Sleep
- ❑ Anxiousness & Stress
- ❑ Alcohol
- ❑ Flying
- ❑ Inefficient Movement Patterns

## ENERGY IN [MONEY IN]

- ❑ **Sleep**
- ❑ **Cold Tub**
- ❑ **Hot Tub**
- ❑ **Contrast Bath**
- ❑ **Epsom Salt Bath**
- ❑ **Cryotherapy**
- ❑ **Acupuncture**
- ❑ **Compression Boots**
- ❑ **Massage Therapy**
- ❑ **Sauna & Steam Room**
- ❑ **Low Level Cardio**
- ❑ **Yoga**
- ❑ **Flexibility & Soft Tissue Work**
- ❑ Nutrition – Biggest factor (but another presentation)
- ❑ Sport Psychology

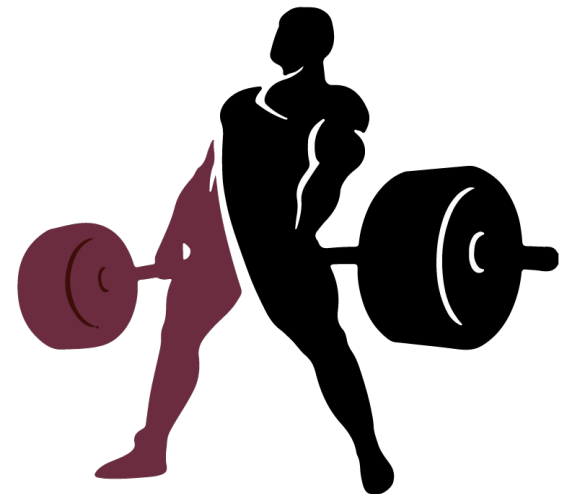
# Short Version

- NUTRITION
- SLEEP/REST
- HYDRATION

# My Website:

## Random Thoughts on Strength & Conditioning: And Other Things That Might Interest Me

- [HTTPS://RANDOMTHOUGHTS-ON-STRENGTHCONDITIONING.COM/RECOVERY-STRATEGIES-FOR-TODAYS-ATHLETES/](https://randomthoughts-on-strengthconditioning.com/recovery-strategies-for-todays-athletes/)



**Link to article on Recovery**



**[http://csccamonthly.com/recovery-  
strategies-for-todays-athletes/](http://csccamonthly.com/recovery-strategies-for-todays-athletes/)**



**The following items are things that athletes can do by themselves without any equipment/supervision. These things can be done at home on their own time.**

# Sleep

## Environment:

- Room should be completely dark.
- Room temperature should be between 62-68°.
- When travelling to team hotel, have rooms pre-set or immediately turn down temperature upon arrival.
- Limit ambient noise to slow, soft rhythmic music or white noise.
- Our athlete demographic usually does not value sleep.**

## Nightly Routine:

- Consistent bed & wake-up time.
- Cut out overhead light 30-60 min. prior to bedtime.
- Cut out blinking light (i.e.. iPad, computer, TV, phone).
- Put on blue-blocker glasses.
- Abstain from using alcohol.
- Limit food and beverage (i.e. spicy foods).
- Shower 30-60 min. before bedtime.
- Read or brush teeth – mundane tasks help relax the mind.
- Lying on the floor with your legs up the wall is a great way to induce sleep.**

# Flexibility

- ❑ Definition - Flexibility or limberness refers to the absolute range of movement in a joint or series of joints, and length in muscles that cross the joints to induce a bending movement or motion.
- ❑ Flexibility generally refers to muscles.
- ❑ Many conflicting scientific studies and a lot of bad information exists in the public about flexibility.
- ❑ General rules of thumb:
  - A general warm-up is recommended prior to mobility or flexibility work.
  - Never stretch a cold muscle.
  - Dynamic warm-ups work better prior to exercise.
  - Long static stretches work well with chronically tight people.
  - Never increase ROM prior to a workout only check motion. Save increases (static stretching) for after practice or training.
  - Stretching at the end of a workout can speed up recovery.
  - To increase and *maintain* flexibility there needs to be neurological component (PNF, Active Isolation, etc.).

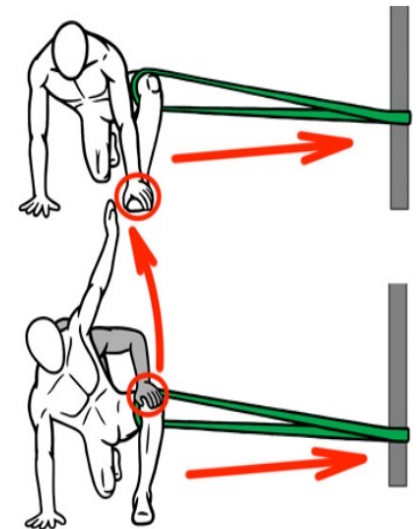
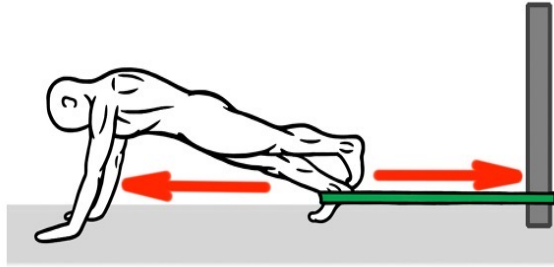
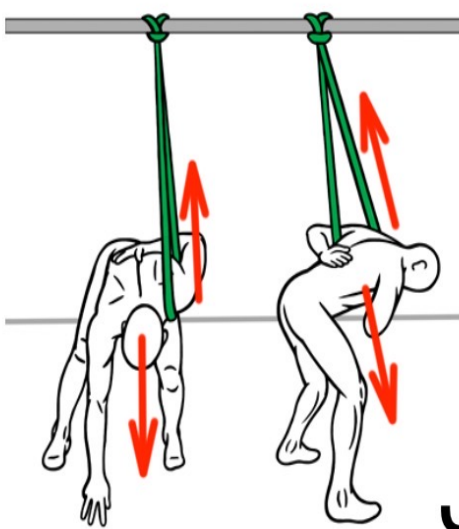
# Mobility

- ❑ Definition: “The ability to move or be moved freely and easily.”
- ❑ Mobility generally refers to joints, as Flexibility generally refers to muscles.
- ❑ Increased mobility can aid in athletic performance. You will never hear anyone say that they wished that they were less mobile, could bend less or move worse during a game.

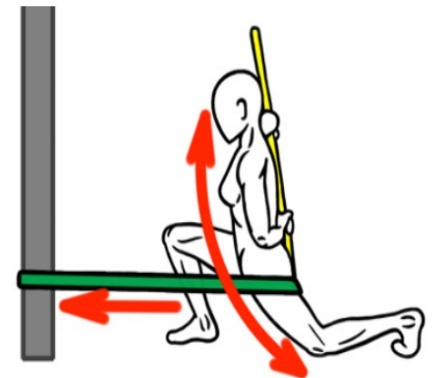
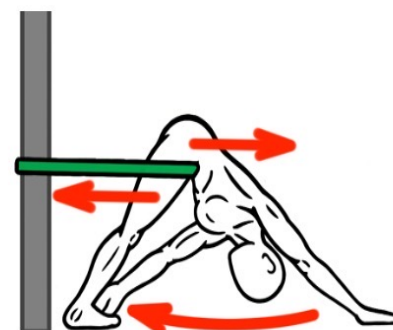
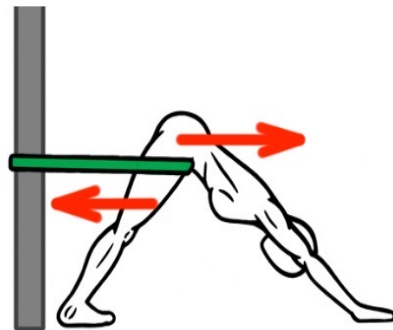
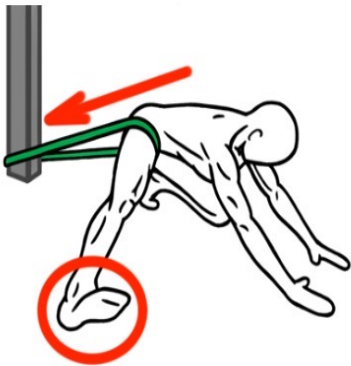
# Banded Distraction

- ❑ Banded Distraction, or Traction, refers to the decompression of the hip or shoulder joint-capsule. Both the head of the humerus and head of the femur can be tractioned to create space in the joint-capsule. Fifty percent of range of motion is in the joint-capsule and the surrounding ligaments and deep muscle fibers. (136)
- ❑ In addition to creating space in the joint-itself, traction relaxes the nervous system – which you could say ‘distracts’ the nervous system to allow for a deeper stretch.
- ❑ **Reference: “Becoming A Supple Leopard”, by Dr. Kelly Starrett. Pages 136-145.**

# Banded Distraction



**PreHab Exercises** Examples of  
**JOINT DISTRACTION**



# Band Flossing

- ❑ Use of elastic bands for “compression-based joint mobilization with movement.”(146) Starrett, 2015.
- ❑ Has shearing effect on muscle layers, separating them, not just compressing them.
- ❑ Help to break up scar tissue.
- ❑ Floss can act as a “Pattern Assist”, which can help restore ROM.
- ❑ Can help reduce swelling.
- ❑ Skin Strain: Pain Gating and Kinesthetic Sense.
- ❑ **Reference: “Becoming A Supple Leopard”, by Dr. Kelly Starrett. Pages 146-151.**





# Yoga

- ❑ Dramatically *Increases range of motion and flexibility* reducing the occurrence of muscle tears. Postures help to maintain space and mobility in the spine and in the joints.
- ❑ Creates supple musculature helping to prevent injuries and speeding up recovery.
- ❑ Encourages a *greater awareness* of your body's needs in order to improve proprioception, increase movement efficiency and cultivate physical intuition.
- ❑ Developing a sense of optimal alignment can lessen the occurrence of chronic pain and reduce likelihood of injury from repetitive motions.
- ❑ Focused Breathing develops *greater oxygen intake*, focus, concentration and reduces performance anxiety.
- ❑ Improves balance – getting your feet, hips and core muscles integrated with the ground creates grace, agility and efficiency of movement.
- ❑ Increases core strength and the dynamic of drawing inward to extend outward with more power.
- ❑ *Reduces stress and encourages better sleep.* One of the simplest and most effective yoga postures is lying on your back with your legs resting against the wall. Practice this if you only have time for one pose.
- ❑ Poses “massage” the internal organs and the soft tissue, which can improve digestion, blood and lymphatic circulation.



# Non-Physical Benefits of Yoga

- ❑ *Encourages living in the moment (awareness).*
- ❑ Quiets the chaos of the mind and promotes mental steadiness.
- ❑ Focus and concentration are dramatically improved in all aspects of life.
- ❑ Mindfulness is paying attention “on purpose”. You are purposefully watching your actions in the practices, your mind's response to the actions and the sensations that arise during and after the practice.
- ❑ Breath and awareness as tactical tools to cultivate a restful physical and mental state.
- ❑ The passive and the active physical practices will impact multiple bodily systems: nervous, circulatory, hormonal, respiratory, musculoskeletal

# POST WORKOUT YOGA POSES

**Corpse Pose**



Lie in Corpse Pose: flat on back with your arms at your side and palms turned up. Put bolster under knees for support.

**Child's Pose**



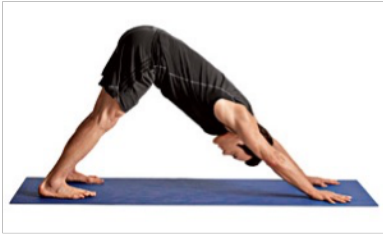
Move hips toward heels, big toes close together, abdomen lengthening over quads.

**Cat/Cow Pose**



Breath flow with Sequential Movement of pelvis and lower abdominals. Inhale into anterior tilt (Cow) and exhale into posterior tuck (Cat).

**Downward Facing Dog**



Back body stretch with posterior pelvic tilt. Keep feet hip width distance apart, hands shoulder width distance, and a soft bend in the knees. Draw naval and PF muscles in on exhale and releasing on inhale.

**Half Moon Pose**



**Warrior 2 Pose**



Strengthens hip external rotators and abductors, stretch the adductors

**Side Plank Pose**



Strengthen adductors, glute med and obliques

**Warrior 1 Pose**



Strengthen adductors, hip extensors of rear leg and hip flexors of forward leg. Stretch hip flexors on rear leg

**Warrior 3 Pose**



Pelvis in neutral alignment: Keep weight centered, do not let hip of extended leg lift higher than stabilizing hip. If this is difficult, bend the knee of the standing leg to help engage the glute medius.

# Irony

*Don't think I don't get the irony of an old-school strength coach like me having 3 slides about yoga in our presentation... ..*

# Body Tempering

- ❑ Really, really heavy foam roller. But it's metal. About 135 lbs. of it.
- ❑ Works like a meat tenderizer.
- ❑ Helps get compression in areas that are hard to compress using a foam roller.
- ❑ Bigger guys don't get enough pressure on a foam roller to feel the relief.
- ❑ You will need a partner for this, and it will be hard on them.
- ❑ <http://thompsonbarbell.com/index.php/features/body-tempering>

# Buffering (For lack of a better term)

- ❑ It is literally a car buffer.
- ❑ Very cost-effective way to get deep muscle stimulation. Cheaper than a DMS or most foam rollers.
- ❑ You want to buy a random orbital polisher buffer. That means one that doesn't necessarily spin in a circle but also vibrates & oscillates.
- ❑ <http://www.allthingsgym.com/car-polisher-next-level-self-myofascial-release/>

# Soft Tissue Work

- ❑ Self massage techniques that can help increase blood flow to the muscles, reduce soreness and stiffness, and facilitate an increase in range of motion (ROM).
- ❑ Generally done prior to activity as part of a warm-up routine.
- ❑ Can also be done post-workout to facilitate recovery.
- ❑ Can help reduce the instances of soft tissue injuries, strains and pulls.
- ❑ Remember to never stretch a cold muscle. This is why soft tissue work is valuable, to help prepare the muscle for activity.

# Foam Rollers

- ❑ A form of self-massage.
- ❑ Can use many different types of rollers.
- ❑ Compression of muscles.
- ❑ Debate rages on as to whether this is actually myofascial release or not.
- ❑ **Can use PVC pipes as cheap alternative.**
- ❑ **You can also use Kettlebells or Barbells as foam rollers.**

# Myofascial Balls

- ❑ Myofascial ball - Best for pec/shoulder work.
- ❑ Super Nova Ball - Best for lower body.
- ❑ Peanuts – Best for t-spine work.
- ❑ Lacrosse balls – Best for upper back work.
- ❑ Lacrosse balls and golf balls are great for feet.
- ❑ **A softball can also be used as an alternative.**

**The following items are things that athletes might require some/more equipment for, or may need supervision, or appointments made through the school or parents.**

## Cold Tub

- ❑ Cold Tubs can help with:
  - ❑ Decreasing body temperature.
  - ❑ Reducing muscle inflammation and soreness; **however, some inflammation is needed to help adaptation.**
  - ❑ Pushing O<sub>2</sub> to the muscles and connective tissues.
  - ❑ Helps to re-set the central nervous system.
  - ❑ **Get in the cold tub, 40-55° water.**
  - ❑ **DO NOT stay in the cold tub for longer than 10 minutes at a time.**
  - ❑ **Limit exposure to cold tub to maximize effects.**

## Hot Tub

- ❑ Hot Tubs can help with:
  - ❑ Relaxing muscles prior to training.
  - ❑ Increasing muscle temperature prior to training.
  - ❑ Increasing parasympathetic activity. Some people are stressed in the mornings and need this to relax prior to activity.
  - ❑ Reducing stiffness.
  - ❑ Increasing blood flow.
  - ❑ **Water should be around 98-105°; no more than 15 minutes in duration.**
  - ❑ **Can be used 4 - 5 times per week before practice or on off days.**
  - ❑ **Not recommended to be performed immediately following training.**



# Contrast Bath

- ❑ Contrast Bath helps to increase:
  - ❑ Metabolism and facilitate the removal of lactic acid and other toxic byproducts.
  - ❑ Immune function and promote healing.
  - ❑ O<sub>2</sub> to the muscles and connective tissues.
  - ❑ Helps to re-set the central nervous system.
  - ❑ **3 minutes in warm to hot (98-104°) water followed by 1 minute in cool to cold (55-65°) water.**
  - ❑ **Repeat 3-4 times. Typically end in the cold. Contrast can be performed daily.**
  - ❑ **If tubs are not available, a hot/cold contrast shower can produce similar results. Can also shock the CNS.**

# Epsom Salt Bath

- ❑ Epsom Salts (Magnesium Sulfate):
  - ❑ Magnesium is essential for recovery.
  - ❑ Magnesium is mostly absorbed through the skin, not internally.
  - ❑ Many people are magnesium deficient, including athletes.
  - ❑ Osmotic pressure and fluctuations of salt and water helps to reduce toxins in the body and deliver nutrients (vitamins and minerals) to areas not reached by circulation.
  - ❑ Calms nervous system.
  - ❑ Reduces muscle soreness.
  - ❑ Increases blood flow.
  - ❑ Improves sleep.
- ❑ **Water should be around 98-105°; no more than 25 minutes in duration.**
- ❑ **Can be used 4 - 5 times per week after practice or on off days.**
- ❑ **Economical way to add recovery. Can be purchased at Wal-Mart, CVS, Walgreens.**
- ❑ **There are also Epsom Salt creams that you can rub on feet or legs.**

# Cryotherapy

- ❑ Whole Body Cryotherapy (WBC) consists of exposing the entire body to very low (subzero) temperatures, usually between -200 to -330 degrees Fahrenheit, for a few minutes (typically between 2 and 4 minutes).
- ❑ WBC has proven to be a valuable adjunct for speeding muscle recovery, reducing pain and producing a general feeling of well-being.
- ❑ Cold temperatures can help reduce inflammation.
- ❑ Takes less time and no direct skin contact is better for many people.
- ❑ Also aids in sleep.
- ❑ Seems very effective and there is more emerging scientific evidence to support it.

# Acupuncture

- ❑ Tiny needles inserted into the skin at various points around the body.
- ❑ Points are usually placed around 'meridian lines'.
- ❑ Helps to relieve stress, reduce pain, soreness and stiffness.
- ❑ Seems very effective but there is little scientific evidence to support it.

# Compression Boots

- ❑ Maximizes circulation.
- ❑ Reduces inflammation.
- ❑ Pumps lymph and blood out of swollen tissue.
- ❑ Restricts blood flow during compression.
- ❑ Increases blood flow upon release.
- ❑ Can decrease muscle soreness.
- ❑ Increase sympathetic activity.
- ❑ Perceived recovery from fatigue.

# Massage

- ❑ Decreases passive and active stiffness.
- ❑ Increases joint range of motion.
- ❑ Increases skin and muscle temperature.
- ❑ Increases blood flow.
- ❑ Decreases stress hormones.
- ❑ Can increase sympathetic or parasympathetic activity, depending on type of massage performed.
- ❑ Decrease neuromuscular excitability.
- ❑ Decreases pain and spasm.
- ❑ Decreases anxiety.
- ❑ Increases relaxation.
- ❑ Some people are really sore after first massage and need to continue to do it to see benefits.
- ❑ Types: Deep Tissue, Sports Flush, ART, Reflexology

# Sauna & Steam Room

- ❑ Temperatures: Sauna - 140 to 200° Fahrenheit.  
Steam Room – Hot enough to produce steam, usually 212 degrees.
- ❑ Effective at increasing core temperature.
- ❑ Improves blood flow.
- ❑ Increases sweat gland activity which helps rid the body of toxins.
- ❑ Must consume plenty of fluids post sauna.
- ❑ In the absence of hot/cold tubs, a contrast with sauna/cold shower can produce similar results and shock the CNS.

# Low-Level Cardio

- ❑ Bike, Arc trainer, Elliptical, Treadmill.
- ❑ Improves cardiovascular function.
- ❑ Maximizes blood flow to the left ventricle.
- ❑ Improves blood flow and circulation to muscles.
- ❑ Less stressful on joints than running.
- ❑ Decreases sympathetic drive (promotes relaxation).
- ❑ Increases aerobic capacity.
- ❑ Can help decrease muscle soreness.

# Remember.....

- ❑ Training is supposed to be hard, we are supposed to make the athletes over-reach. They will likely be sore and have all of the effects of training.
- ❑ In an attempt to help the athletes ‘recover’, let’s be sure not to stunt the natural adaptations that must occur for training to be effective.
- ❑ But let’s remember not to hurt them either!!!!

# QUESTIONS??

Thank you:

- Mike Cerimele
- SLUHN