

GPXC Strength Conditioning

A Side

Complete 2 rounds

- Mini Band walks; feet and ankle - 20 steps each direction
- Side step squats - 10 each way
- Inch worms - 5
- Dead bug - 8 each side
- Front lunge → backward lunge - 10 each side
- Up down planks (knees or feet) - 10 each side
- Side lunges - 10 each leg
 - Cossack Squats
- Shoulder taps - 10 each arm
- Plank - 60 seconds
- Backward lunges to knee drive hop - 12 each side
- Side plank hip lifts - 15 lifts each side
- Bridge Marches - 10 each leg
- Frog pumps - 20

*Advanced level, must get permission to do this

GPXC Strength Conditioning

B Side

Complete 2 rounds

- Mini band karate chops - 10
- Mini band pass thrus - 10
- Bear crawl - 20 steps
- Knee or full Push Ups - 12-20
- Squats with 5 pulses at end range each repetition - 12
- Curtsy lunges - 10ea side
 - Curtsy lunge → squat → lunge (staying low, not fully standing)
 - Curtsy lunge to squat jump
- Step Jack Plank - 10
- Prisoner squats - 10 each leg
- Glute Bridge - 20 **OR** Single leg bridge - 12 each leg
- Adductor mobilizations - 12 each leg
- Rowers - 10
- Russian twists - 10 each side
- Calf Raises - 20 **OR** Single leg calf raises - 10 each leg

*Advanced level, must get permission to do this

Glute Finisher Workout

- Band Walks Foot - 20
- Band Walks Ankle - 20
- Band Walks Base of Thigh - 20
- Banded Squats - 15
- Monster Walks - 10 steps forward and 10 back
- Clamshells - 20
- Side Lying ABD - 15
- Side Lying ADD - 15
- Glute Bridge with band + pulses - 20 each
- Double leg bridge to Single leg lowering - 10, plus 10 SL bridges
- Fire Hydrants - 10 each
- Bird Dog - 12 each

Water/Hydration

What are Water's Functions in the Body?

- Water makes up about 60% of your body weight
- Water flushes out waste products from the body
- Carries nutrients and oxygen to each cell
- Lubricates joints
- Regulates your body temperature
- Prevents constipation
- Eases the burden on your kidneys and liver among many other crucial functions

Why is it Important to Drink Water?

- Your body regularly loses water through urination, sweat, breathing and bowel movements. Therefore, you must constantly replenish the lost water by consuming liquid and eating water dense foods.

Dehydration: is a condition where the body doesn't have enough water and can cause:

- Dry or sticky mouth, where the body doesn't produce adequate saliva.
- Decreased urine output; concentrated urine is dark yellow or amber in color and often accompanied by an odor.
- Dizziness or lightheadedness along with a headache can occur and become more severe if dehydration is not reversed.
- Excessive thirst; often dehydration can start before an individual becomes thirsty
- Low blood pressure accompanied by a rapid heartbeat and/or rapid breathing.

How Does Water Affect Our Organs?

Brain: Drinking an adequate amount of water helps boost memory, attention, and lessens your likelihood of having headaches.

Kidneys: Being properly hydrated allows the kidneys to excrete metabolic waste and keeps urine a pale yellow color. A chronically low water intake has been linked to an increased risk of developing kidney stones while increasing the stress on this organ.

Heart: The heart requires blood to be a certain thickness (viscosity) to work optimally. When a person is properly hydrated the heart efficiently pumps the blood throughout the body without **extra** effort. While dehydrated, the heart has to work *harder*, resulting in a rapid heartbeat and inefficient delivery of oxygen to the organ systems.

How do you know if you're hydrated?

- Urine should be a pale yellow color (NOT clear)
- Drink fluids consistently throughout the day, not in large chunks
- Keep electrolyte balance by adding electrolytes to your water after sweating
 - Avoid sugary electrolyte drinks like gatorade
 - A great option is LMNT (Coach Isaac and Haley's favorite [Click here to buy a sample pack!](#))

Sleep

What are the Functions of Sleep?

- Muscle repair
- Memory consolidation
- Release of hormones to regulate a wide range of bodily functions
- Help control appetite
- Contribute to a robust immune system
- Keep us alert and attentive

How much sleep do you need?

14-18 year olds need **8-10** hours of sleep every night.

What are the Consequences of Inadequate Sleep?

Adequate sleep is vital to critical thinking skills, learning, problem solving, reasoning, alertness, coordination and more. Chronic inadequate sleep can cause the body to release more of the stress hormone cortisol. Elevated cortisol levels increase appetite, which causes cravings for sugar and carbohydrate foods. Elevated cortisol levels also increase STRESS, which in turn causes your body to function at a lower capacity in school and athletics.

Stages of Sleep:

Stage 1: Light sleep

Stage 2: Onset of sleep

- Body temperature drops
- Breathing and heart rate become regular
- Arousal is more difficult by sound, light, and movement

Stage 3: Most restorative sleep

- Delta or slow brain wave sleep
- Blood pressure drops, breathing is slower
- Muscles relax and receive increased blood flow
- Tissue growth/repair occurs
- Hormones are released

Stage 4: Rapid Eye Movement (REM) Sleep

- Body becomes immobile
- Brain is as active, or more active, than when awake, dreams can occur
- Supports daytime learning of complex tasks
- Muscles relax and receive increased blood flow
- Tissue growth/repair occurs
- Hormones are released.

How to get good sleep:

- Set a regular schedule - our bodies operate on circadian rhythm and love routine
- Avoid caffeine after 2pm
- Avoid electronics 1 hour before bedtime
- Keep the room cool

Nutrition

The average individual should consume about 60-65% of their calories from carbohydrates, 20-25% from protein and 10-15% from fat. As runners, more carbohydrates are necessary to perform at your best. Eating as many whole foods as possible (not processed) will make your body function at its best. If you can't pronounce or know what an ingredient is, you might want to rethink choosing that food.

A healthy diet consists of 3 macronutrients: Carbohydrates, Protein, Fat

Carbohydrates:

- Fruits and Vegetables
- Starches: Rice, potatoes, pasta
- Grains: bread
- Legumes/beans
- Some dairy
- Sugar (and most drinks)

Protein:

- Meat
- Fish
- Some dairy; low fat cheese/greek yogurt

Fat:

- Oils. Avocado and olive are best
 - Avoid canola, palm kernel, soy, corn, cottonseed, safflower/sunflower oils
- **REAL** butter. **No** country crock or margarine
- Avocado
- Nuts/Nut butters
- Some dairy

Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (55g)	
Amount per serving	
Calories 230	
	% Daily Value*
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

1. Always check the serving size, as that is what the nutrition label is communicating. A per serving breakdown, not necessarily for the whole package/can.
2. Whichever macronutrient has the highest amount of grams, is what the food is "classified" as. If fat has 10g and there are 5g carbs and 3g protein. The food falls within the fat category. Ex. Peanut butter is a fat, not a protein, even though it has protein in it.
3. Pay attention to the carbohydrate label. It will list 3 things: dietary fiber, sugars and ADDED sugars. You want to avoid ADDED sugars. Natural sugars found in whole foods like fruits and vegetables are not added sugars.
 - There are many different names for added sugars; words like syrups, sucrose, fructose, dextrose, glucose, erythritol, Splenda, and cane sugar
4. Read the ingredient list. You should recognize everything you read.
5. Avoid food dyes

*Special notes:

- Soy should be avoided as much as possible, especially for female athletes!
- Red meat is an important source of iron and B vitamins which are necessary for proper red blood cell function (red blood cells carry oxygen to our muscles, very important for a runner!) A vegetarian or vegan **cannot** get the adequate nutrition needed for proper functioning, athlete or otherwise.
- Supplementation should only occur if a person is deficient even after eating a diet filled with foods with the vitamins and minerals needed. Food **first**, supplementation second/in addition to.

SMR/ Mobility/ Stretching

Importance of warming up:

Imagine your muscles as silly putty. When you first grab silly putty and try to pull it apart as it's cold, what happens? That's right, it snaps in half. HOWEVER, if you massage the putty in your hands for a little while and make it warm, what happens if you pull it apart then? It stretches and doesn't snap apart. Our muscles are exactly like this. If we try to stretch on cold muscles or start exercises before warming up, we are more susceptible to injury. Muscle strains and sprains, ligament tears, etc.

*Dynamic stretching (movement) and SMR can be done **BEFORE** exercise. Static stretching always **AFTER**.

SMR: Self-Myofascial Release (myofascial means muscle fascia)

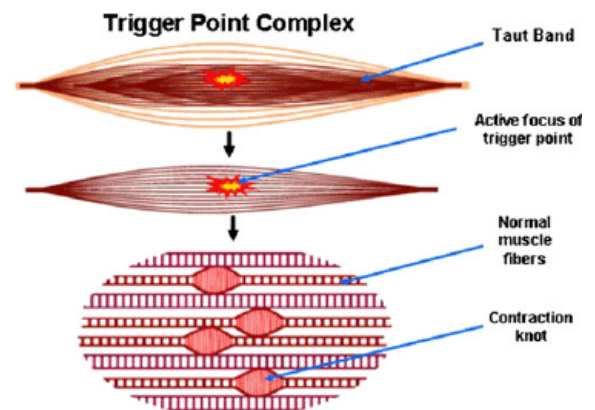
~> Muscle fascia is a connective tissue that surrounds all muscles from the bottom of your feet to the back of your neck. It's all connected! It looks kind of like the spider netting people hang at halloween. SMR is typically performed using modalities such as a foam roller, lacrosse ball/massage ball, theracane (S Hook) and stick roller.

~> SMR is a type of self massage that helps to release tension and rigidity in your muscles. We often think of these as "knots" or "trigger points." These can cause discomfort or pain that can lead to:

- Muscle imbalances
- Tension
- Decreased range of motion/flexibility
- Soreness and sensitivity in an area

Causes of pain:

- Lack of warm up before movement
- Improper movement techniques
- Overworking muscles for long period of time
- Tight fascia
- Contraction of damaged tissue/trigger point



Why SMR?

- Increases blood flow/circulation which leads to increased tissue healing
- Corrects muscle imbalances
- Increases flexibility
- Good warm up for activity
- Aids in recovery post workout
- Muscle relaxation

Video Library:

Mobility exercises:

Inch worms - <https://youtu.be/M1zqolUOsQE>
Lateral band walks knees - <https://youtu.be/cxs7ojNH2Lo>
Lateral band walks feet - <https://youtu.be/hkn5IDzS38>
Monster Walks - <https://youtu.be/smcGGhuqWHE>
Walkouts - <https://youtu.be/HkLq5UfL7xU>
Single leg Walkout - <https://youtu.be/YagnpB4r4EI>
Glute bridge - <https://youtu.be/8iXtewxBZqU>
Single Leg Hip Lift - <https://youtu.be/ZiF66Nf6FE8>
Double Leg to Single Leg Lower - <https://www.youtube.com/shorts/ORvJ5E1v8sw>
Hamstring Floor Slides - https://youtu.be/bc3IGc_zmY
Frog pumps - <https://youtu.be/IYEH2bTxxEw>
Side lying clam shell - <https://youtu.be/4KYk0l1DoCw>
Side leg Lifts ABD - <https://youtu.be/TIZ9AnTOfQc>
Side leg lifts ADD - <https://youtu.be/xsV9BnaRRfM>
Fire Hydrant - <https://www.youtube.com/shorts/CtKY90qVlg8>
Single Leg Reach + Knee to Chest - <https://youtu.be/BfY0AEbzDc4>
90/90 hips - <https://youtu.be/vl4Oxnosl38>

Foam Rolling:

Foam rolling - Quads - <https://youtu.be/G2wn-MkfUus>
Foam rolling - Hamstrings - <https://youtu.be/gZmRD3gj8jQ>
Foam rolling - Calves - <https://youtu.be/opUwZyPNCLc>
Foam rolling - Back/lats - https://youtu.be/37eBQuBG_HI
Foam rolling - IT band - <https://youtu.be/7GCbBcpwUOo>
Foam rolling - Glutes - <https://youtu.be/GDK9okrKZ3g>
Lying hip extension on foam roller - <https://www.youtube.com/shorts/9WiZt9rfIAo>

Stretches:

Bird dog - <https://youtu.be/ORA5mkryD6U>
Cat cow - <https://youtu.be/1VDslailEIs>
Child's pose - https://youtu.be/aR3_lZfCpEw
Quad stretch - <https://youtu.be/11Xtq6YVilg>
Hamstring stretch - https://youtu.be/BcvS08j_f0s
Worlds greatest - <https://youtu.be/GeOBwUw4PJg>
Hip Flexor Stretch with Pelvic Tilt - https://www.youtube.com/shorts/o_wL7PYori8
Figure 4 stretch on back - <https://youtu.be/7WDXDKjzwQA>
Seated Glute Stretch - <https://www.youtube.com/shorts/tHliew-x3Fs>
Pigeon Stretch - <https://www.youtube.com/shorts/VO2knmAza9U>
Adductor stretch straight leg - <https://www.youtube.com/shorts/16zhADpFx2M>
Adductor stretch bent knee - <https://www.youtube.com/shorts/UwXaH2BK8NI>
Butterfly stretch - <https://www.youtube.com/shorts/tDYdcMMKhB8>
Calf stretch - <https://youtu.be/8Fh3EtLiyjU>
QL stretch in 90/90 - <https://www.youtube.com/shorts/E9NDoRqBKhs>
Thoracic Mobility Stretch - <https://youtu.be/Wpu3WCyyxmg>

Muscle Anatomy (Upper Leg)

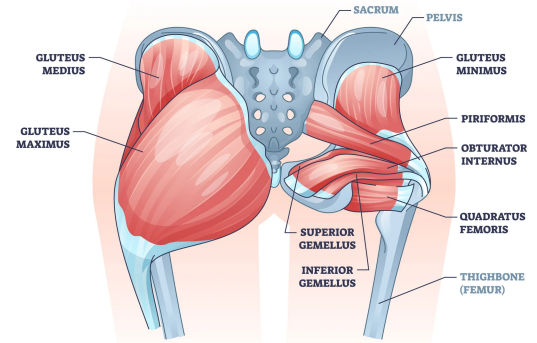
Glute Muscles:

- Gluteus Maximus, Gluteus Minimus, Gluteus Medius, Piriformis, Superior and Inferior gemellus, Obturator Internus, Quadratus femoris

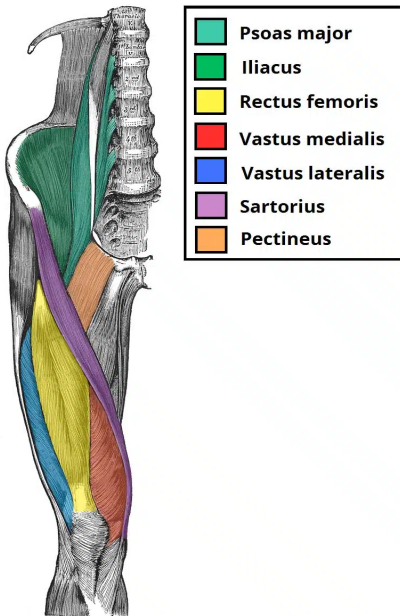
Actions: hip extension (maximus only), external rotation, and hip abduction

Stretches: Figure 4 stretch, foam rolling glutes, leg swings, knees to chest, Pigeon stretch

GLUTES



POSTERIOR VIEW



Hip Flexor Muscles:

- Psoas and Iliacus (also a **DEEP CORE** muscle!)

Action: Flexion and lateral rotation of the thigh and

Stretch: lacrosse ball in hip, lying hip extension, kneeling lunge with pelvic tilt

- Sartorius:

Action: Hip flexion, external rotation and abduction of the thigh as well as internal rotation and flexion at the knee

Quadricep Muscles:

- Rectus femoris, vastus lateralis, vastus medialis, vastus intermedius

Action: knee extension and hip flexion

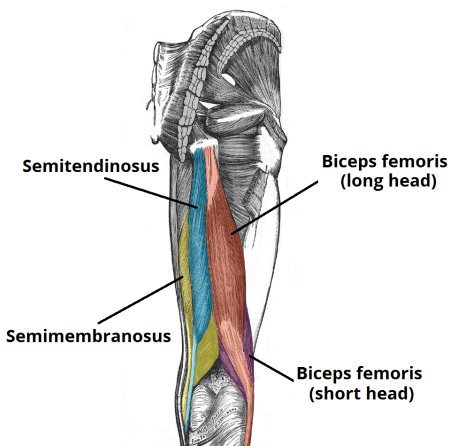
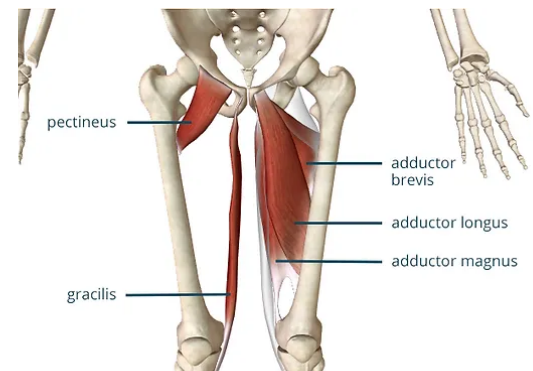
Stretch: quad stretch, kneeling lunge, foam roll

Adductor Muscles:

- Pectineus, Gracilis, Adductor brevis, adductor longus, adductor magnus

Actions: Hip adduction, internal rotation

Stretches: Butterfly stretch, lateral lunge, wide leg adductor stretch (standing or sitting), bent knee adductor stretch, hurdle stretch



Hamstring Muscles (3):

- Biceps femoris, semitendinosus, semimembranosus

Actions: Knee flexion, Hip extension

Stretch: Hamstring stretch, foam roll

Muscle Anatomy (Lower Leg)

Calf Muscles:

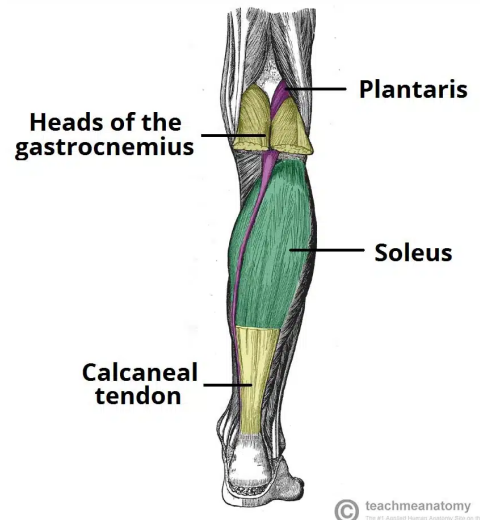
- Gastrocnemius, soleus, plantaris

Actions: plantar flexion of foot and ankle (pointing toe), slight knee flexion

- Popliteus

Action: lateral rotation of femur, medial rotation of tibia

Stretches: Calf stretch on wall or kneeling, downward dog, foam rolling



Anterior Muscles:

- Anterior tibialis

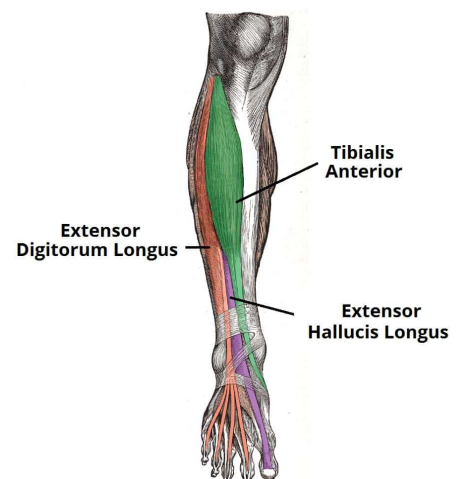
Action: Dorsiflexion of foot (toe to shin)

- Extensor digitorum longus

Action: Extends toes

- Extensor Hallucis longus

Action: Extends big toe, dorsiflexes foot and inverts the foot (supination)



Foot Anatomy:

- This photo shows where the muscles of the lower leg cross the foot.
- Fibularis longus and brevis are located on the outside of the lower leg

Action: Plantar flexion of foot and Pronation/Eversion of foot

