Mobility Ebook

Volume 1

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A Step-by-Step Guide to Pre/Post Workout Mobility and Injury Prevention

The Overview

What is mobility?
Mobility is the ability to move a joint or series of joints actively through a range of motion and allows a perfect interaction between muscles, joints and the central nervous system.

What does this mean?
This means that you don't only try to passively increase the range of motion like for flexibility but instead, work with exercises which move your joints actively while improving your strength at the same time.

Flexibility vs. Mobility:
A misconception that people have is that flexibility won't help you to stay free of injuries or fix a mobility problem. The reason is that passive flexibility movements won't improve your active range of motion. It's very important for our bodies to be able to move actively and freely. For that reason you need mobility training. When mobility is poor in a certain region of the body, the joint is limited and works only in a specific part of the motion. This means that the unused parts get kind of rusty. An even distribution of pressures over the full range of motion is necessary to supply your joints in an optimal way. Your articular surfaces will wear out much faster if the joint only gets moved in a small range and the pressure keeps applied to the same few areas. The lack of mobility in the joint is closely connected to a restriction of functionality in the muscles and the activation by the nervous system. They can stabilize the joints much worse when the range of motion gets wider so it can lead to injuries if you suddenly reach an unusual range of motion in your training. Your muscles also adapt to a bad functionality of a joint which may lead to muscular knots. In turn they can lead to impact to your joint which creates a vicious cycle.

Benefits of Mobility:
Most importantly, mobility aids in decreasing your risk of getting injuries. Restrictions of any sort of freely moving joints can pose a risk for injury. One of the important factors of mobility is warming up the joint itself. When going through the motion of the mobility movement, this allows for an increase of blood flow within the surrounding tissues and synovial fluid (naturally occuring fluid in a joint region that allows it to move smoothly). For example, when you are performing hip circles, blood flows into the region of the mechanical movers of the leg (hip flexors, external rotators, glutes) and synovial fluid is lubricating/ hydrating the joint in preparation for exercise.

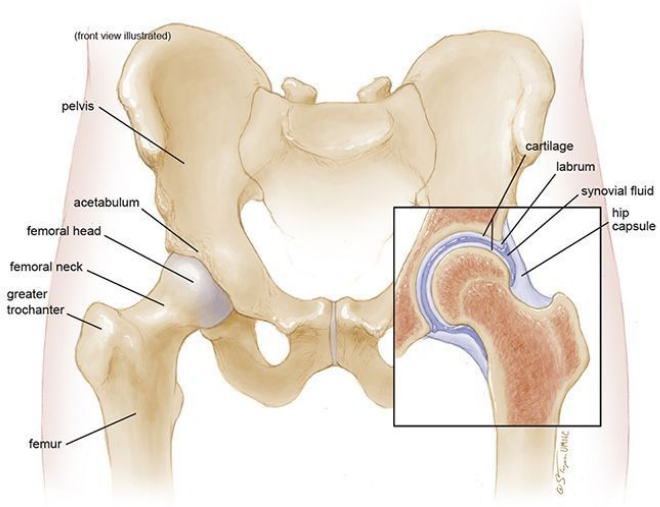
Another important factor of overall mobility is strength. For example, if your lack of mobility is preventing you from going through the full range of motion in a squat, then you are not strengthening all parts of the movement which means you are missing out on both strength and hypertrophy of the muscle groups you're working. Lastly, mobility exercises are highly efficient. A pre or post workout routine can take anywhere from 5-10 minutes and the movements are very simple.

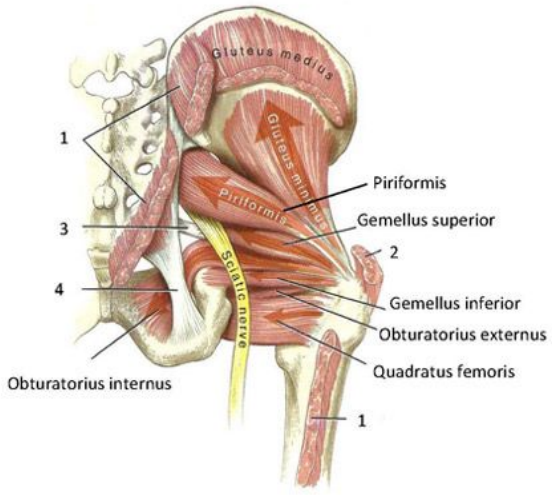
My Goal:
Anyone who has this ebook is to learn, develop and share from the things that are provided in this program. Once you have read and a understood the ebook, you will be able to achieve full, stable and pain free range of motion throughout the body and to maximize your performance in and out of the gym and throughout all aspects of your life (mentally and physically).

The 6 Key Areas:
Okay, let's get to the good stuff… The ebook is broken up into 6 key areas of focus. These areas include the Neck, Shoulders, T-Spine, Wrists, Hips and Ankles. These mobility drills are broken up into these regions to benefit you. Depending on your own weaknesses or injuries; you will have easy access and the ability to pinpoint what area of this ebook you will want to focus on and emphasize in your own personal mobility/rehabilitation routine.

Hip Mobility:

Note: The region of the hip is anatomically complex and has many moving parts that work together to allow the hip joint to move in full range of motion. The hip is comprised of 15 muscles. If any of these muscles are tight then there can be immobility in the hip thus leading to a lack of range of motion. Lack of mobility in this area can cause athletes to compensate with other muscle groups and put tremendous strain on the lower back muscles. This musculature, if immobile, is susceptible to injury especially while lifting heavier loads. An athlete or coach should implement simple or complex mobility exercises into a strength program to improve hip mobility to increase performance and prevent injury.

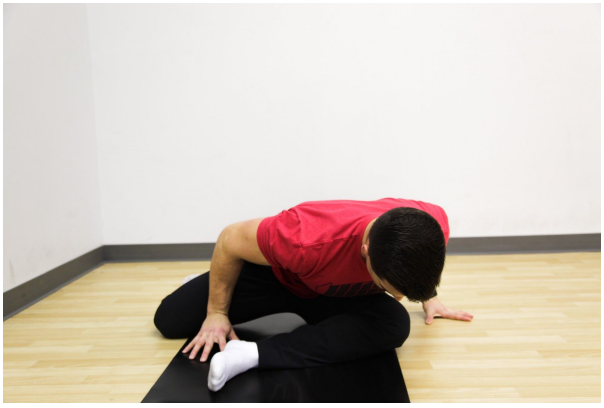




Movement #1

90/90 stretch (in and out of stretch)

- Puff your chest up
- Backhand in supinated position
- Keep spine in neutral alignment
- Hold stretch for three to five seconds, passively coming in and out of the stretch.
- Three angles of motion: Bend to knee, then the calf and lastly, the foot.
- 10 to 15 repetitions for each angle



Movement #2

Lizard with Rotations

- Start off with split stance position
- Drive knee forward to open up the groin
- Point elbow towards the ground then rotate towards the sky (fully thengthening the arm)
- Keep the motion slow and controlled
- Going to open up the thoracic region of the spine, as well as your shoulder, glutes and piriformis and even the hamstrings
- Great for pre-leg workout warm-up

Movement #3

Dynamic Hip Rotation

- One knee bent with foot planted on the ground
- Cross at about a 90° angle with your ankle overlapping your knee
- Hold top of foot with one hand while grabbing your knee with the other hand
- Push your knee in and out of stretch. You don't want to aggressively push through the stretch. 3 to 5 seconds at the top portion of the stretch.
- Make sure you are forcing your lower back against the ground. Always concentrate on keeping as much contact as possible between your lower back and the ground. Your spine should be in neutral alignment.

Movement #4

Banded Distraction

- The band is used to distract the joint to open up the hips a bit.
- Place the heavy resistance band near your glute/hamstring tie in (at the top of your groin)
- Have the band in an elevated position, which will allow you to lean forward and take some of your bodyweight out of the stretch
- To intensify the movement, you can add a band to the foot which will add tension to the motion
- Lean forward and relax into the band
- Spend a good 1 to 2 minutes in position to open up the joint capsule and then you can pull that band around your foot to add even more tension

Movement #5

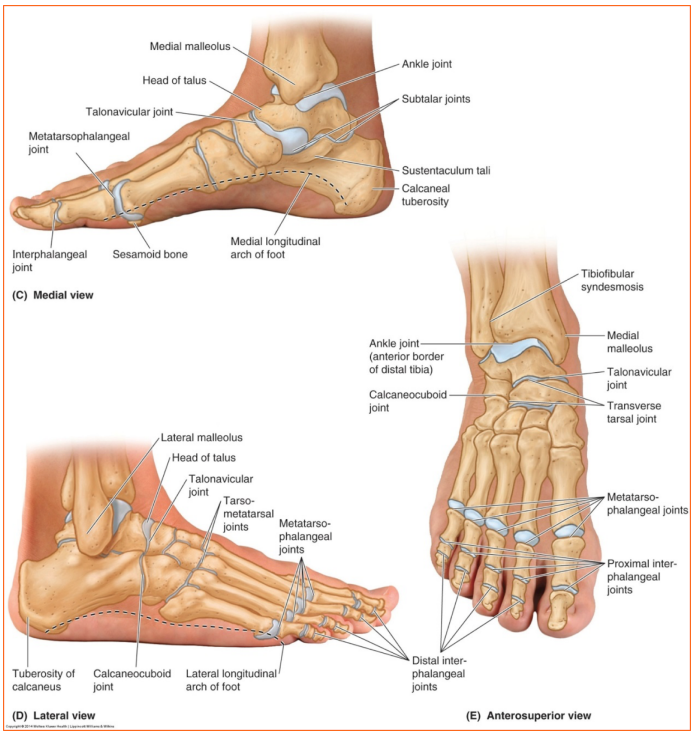
Bulldog Circuit (3 drills in one circuit)

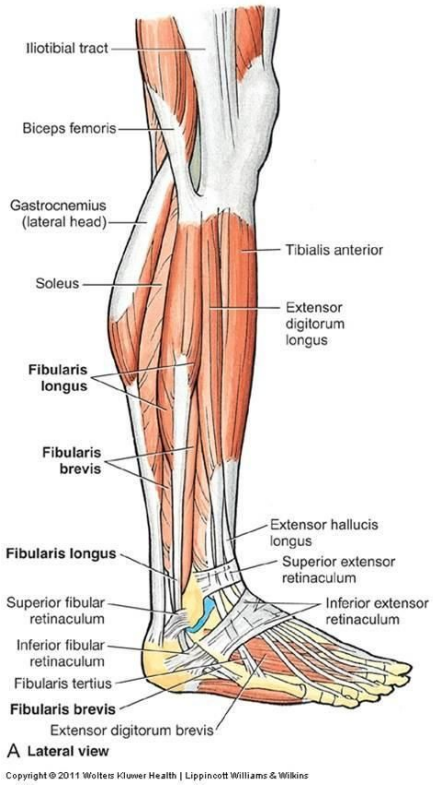
- This focuses on opening up the hip capsule. With this bulldog circuit, we want to focus on keeping our hips and shoulders squared up with one another
- Within the circuit, we have three motions to move through
- First, we have the 90° tilt. Lift one leg out to the side of your body, maintaining that 90° angle in the knee joint.
- Once you hit the end range of motion, that is when the glutes will fire and you can press your leg further towards the ceiling
- Perform five on each leg for this first motion
- Second, we have the kick back to rotation. Extend your leg out in a straight line behind your body

- Once the leg is fully extended and the glute is firing, then rotate that same leg into a 90° angle with your knee pointed outwards away from your body.
- Keep that leg as high as possible while moving the knee forward and then back into your starting position. Perform 5 reps per leg.
- Lastly, we have the same movement but in reverse order. You're going to start by bringing one leg out to your side at a 90° angle.
- Once you reach the top range of motion, allow your leg to travel backwards while still holding your leg at the same height.
- Once your knee passes your hips, start to extend your leg until it's directly behind your body and is parallel with the opposite leg. Then move your leg forward and back into its starting position.

Ankle Mobility

Note: A big issue in athletes is the mobility of their ankles, especially for big lifts like the squat and deadlift. There are a number of contributing factors. Tightness in the various lower leg muscles that can limit ankle dorsiflexion such as the flexor hallucis longus, flexor digitorum longus, soleus and tibialis posterior. Below, SMR (self-myofascial release) and mobility drills will be prescribed to aid in an increase of ankle mobility.



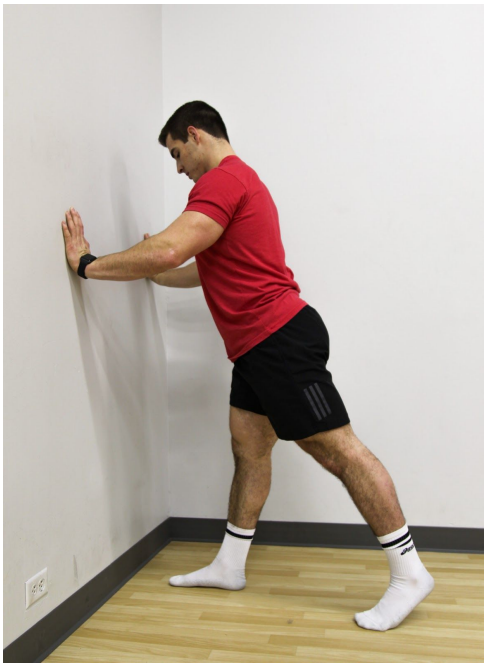


Ankle Mobility Test:

For squatting/deadlifting variations, ideally, 40 degrees of dorsiflexion is needed for adequate ankle mobility (keep your heels planted to the ground). A quick and simple way to test for this is to perform the “Knee to Wall Test”. Shown below:

- Place your foot 4 inches away from the wall
- Keep foot in a neutral position
- Do your best to touch your knee to the wall without going into valgus or varus collapse (keeping your knee in line with your hips)
- Do not let your heel come off the ground

- If you can perform this without letting the knee move medially/laterally or letting your heel come off the ground, you have the prerequisite ankle mobility to be performing lower body training.



Movement #1:

Banded Ankle Mobilization

- Place band at the ankle joint line, at the level of medial and lateral malleoli
- Create tension in the band by moving your ankle forwards
- Bring knee anteriorly without letting your heel rise off the ground
- Perform 8-10 reps with 2-3 second holds

Movement #2:

Self Tibial Internal Rotation (IR) Mobilization

- Place hands around superior aspect of the tibia
- Compress with moderate force
- Internally rotate tibia as you translate tibia anteriorly
- Do not go into valgus collapse
- DO NOT perform if knee pain is present
- Perform 8-10 reps

Movement #3:

Barbell Calf "Smash"

- It is best to use a lighter barbell or foam roller first if you do not have experience with rolling your calves out
- Get into a runners lunge position (back and foot- shoe laces facing the ground)
- Place the head of the barbell on the base of your calf
- Reach behind you and slowly roll the barbell up your calf towards your knee
- The barbell will take gravity and create a "mashing" stimulus to the muscle fascia
- Slowly roll the barbell up and down the calf muscles
- In areas with more intense pain, hold barbell at that spot for 4-5 seconds then continue rolling motion

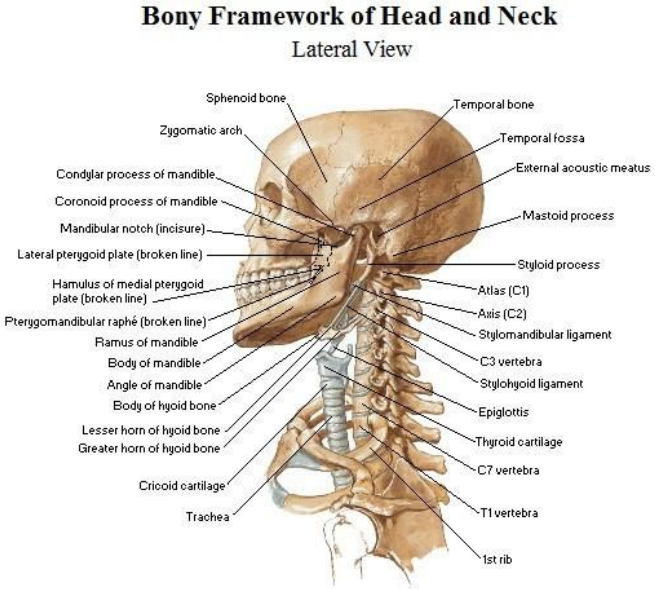
Movement #4:

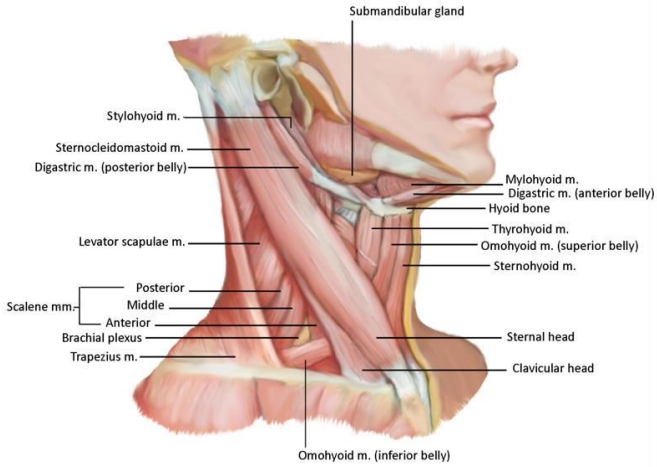
Low Dragon Stretch

- Go into an extended lunge position
- Lean your body weight into your front leg, lying your chest on your knee
- Allow that front leg to relax and go deeper into the stretch
- Keep your front heel on the ground and allow your body weight to drive that front knee forwards
- Slowly, your body weight will take your ankle further into dorsiflexion (closing the gap between your shin and toes)

Neck Mobility

Note: Neck Mobility effects almost everyone. In today's age with many people sitting at a desk or looking down at a phone, the neck needs more attention than ever. Your neck is the power behind your head and is more important than you probably think it may be. You need to both mobilize it and strengthen it. While it is important to maintain good posture, it is equally important to build a strong neck. This will prevent pain and injury that can occur as a result of having bad posture. This also trains/teaches your body to have better posture. Having a strong neck will also prevent injury that can occur from lifting heavy objects overhead whether its exercise related or not.





Movement #1:

Neck Flexion and Neck Protraction

- Lie on your back (supine) on the edge of a bench or bed to allow your head to move freely
- Neck Flexion is when you keep your neck in line with your spine and only move your head like you're nodding “yes”.
- Neck protraction is when your entire neck is moving forwards and back. Keep your head stationary. Combine both of these motions into one fluid motion

Movement #2:

Neck Extension and Retraction

- Lie on your stomach (prone) on the edge of the bench or a bed to allow your neck to move freely.
- In neck extension, only your head moves and the rest of your body stays stationary
- In neck retraction you are pulling the entire neck behind. You should be tucking your chin into your clavicle.
- Here we are focusing on the erector spinae, splenius capitis and the upper fibers of the trapezius.

Movement #3:

Neck lateral flexion

- Lie on your side on the edge of a bench or bed to allow your head to move freely
- This will also target the sternocleidomastoid, erector spinae and upper traps.
- Avoid using any upper body movement
- Move only your neck and focus on slow and controlled repetitions

Movement #4:

Wrestlers Neck Bridge

- This moment puts tremendous strain on your neck, which is why focusing on mastering the first three movements prior to trying the wrestlers bridge is best to prevent injury.
- To start, you can use your arms as assistance to take some weight off of your neck.
- Start with isometric holds for 10-30 seconds per set, 3-4 sets total.
- Once you have strengthened your neck overtime, you can start to try back and forth movements. Use your legs and neck to push and pull through the movement.

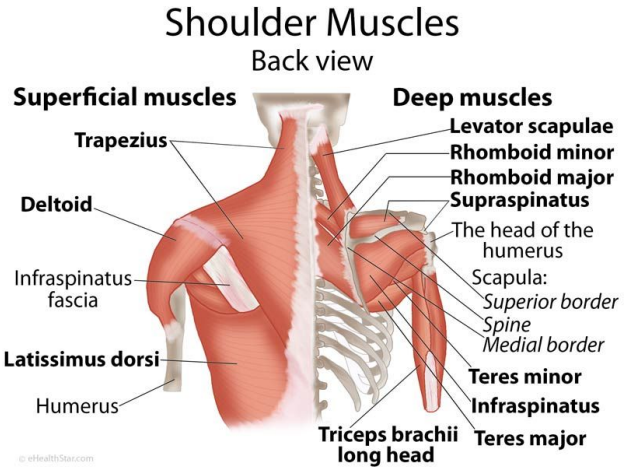
Movement #5:

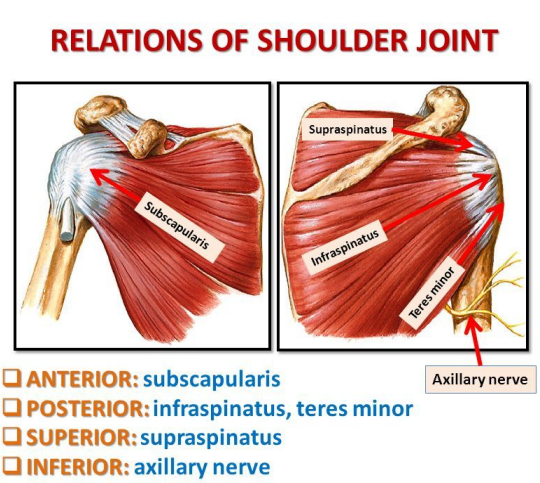
Front Bridge

- This is also an advanced movement and I do advise you to master the first three movements beforehand, to strengthen your neck.
- This movement is opposite of the wrestler's bridge.
- Start with isometric holds at first and also use arms for assistance to allow your neck to get acclimated to the tension caused by your bodyweight.
- You can perform lateral flexion movements by going side to side. Use your arms to guide you through movement and also prevent injury especially if you are doing this for the first time.

Shoulder and Thoracic Spine Mobility

Note: The shoulder complex is very unique in design. It is essentially a floating system of muscles, joints, bones, tendons, ligaments and nerves. This complex region must stay supple, strong and stable in order to function properly. Depending on the position that the athlete puts their arm into, it can put them at risks for shoulder injuries such as impingement or rotator cuff injuries. Proper mobility in the shoulder, thoracic region and cervical spine can lead to increased performance and longevity. Immobility in these regions can lead to compensation of other muscles resulting in imbalances and injuries.





Movement #1:

Unilateral Standing Shoulder and Chest Opener

- Stand up next to a wall with your arm fully extended, out to your side and your palm pressed up against the wall with your fingers spread wide.
- Wrist joint should be in line with your shoulder joint and your elbow should be softly locked out.
- Feet need to be shoulder width apart and in line with your hips with your toes pointed forward.
- Draw your shoulder blades in towards your spine thus lifting your chest.
- Once you are in that position, you want to twist your arm in and out. Complete sixty repetitions total (you can break this up into three sets of twenty repetitions per arm)
- With this movement, you want to focus on moving the eye of your elbow (antecubital fossa or elbow pit) up and down slowly (internal and external rotation).

Movement #2:
Cow-Face

- With one end of a towel in your hand, reach your right arm behind your head, bending at the elbow joint.
- Move your left arm behind your back and bend the arm, letting the back of your left hand rest against the right shoulder blade.
- Reach to grab the opposite end of the towel (or the fingers of your right hand if you are able to do so)
- Slowly work your way up the towel, trying to bring your hands to meet each other while maintaining good posture.

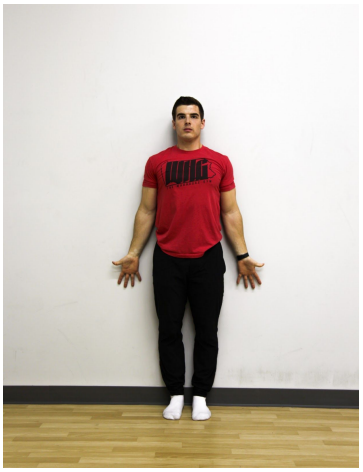
Movement #3:
Side-lying Thoracic Rotation Stretch

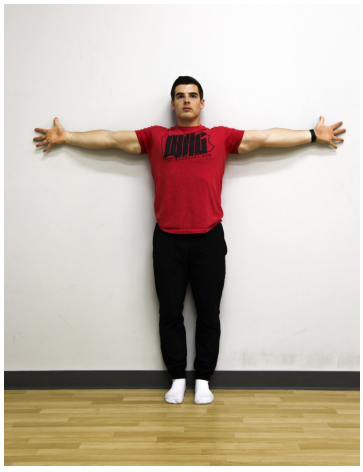
- Lie on the side of your body with your legs bent at about a ninety degree angle.
- Keep your spine in neutral alignment with your bottom arm fully extended and perpendicular to the body.
- With your top arm over bottom arm, push top arm slightly forward first. Then lift it straight up towards the ceiling then rotate it back behind your body, making a large arch in the air.
- Let the top arm fall behind your body as far as possible without allowing your hips to move in the direction of your rotating arm.
- Allow your nose/gaze to follow the arm that is rotating.
- Exhale as you reach back and hold the stretch for three seconds before returning to the starting position. Repeat ten times then switch sides.

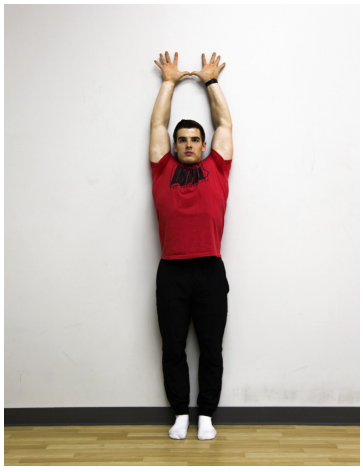
Movement #4:

T,Y,I Wall Rotation

- With your back up against a wall, stand with your palms facing out.
- Your goal here is to keep as many points of contact between your body and the wall itself.
- With your arms and hands against the wall, slowly raise your arms out to your sides to create a ‘T” shape, then higher to create a “Y” and lastly an “I” shape at the top of the motion. Keep the movement slow and controlled. No reason to rush.





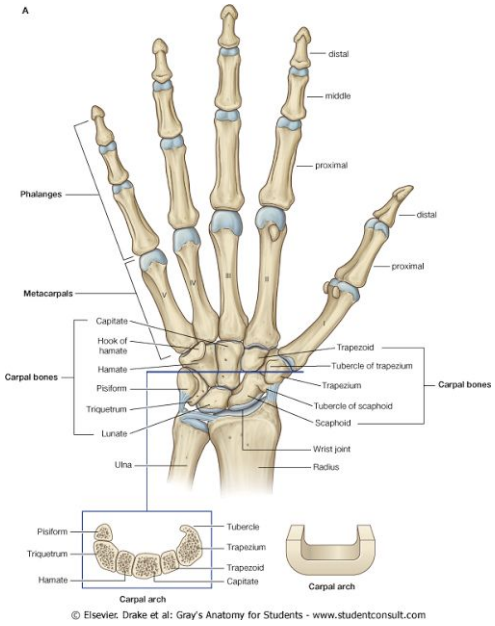


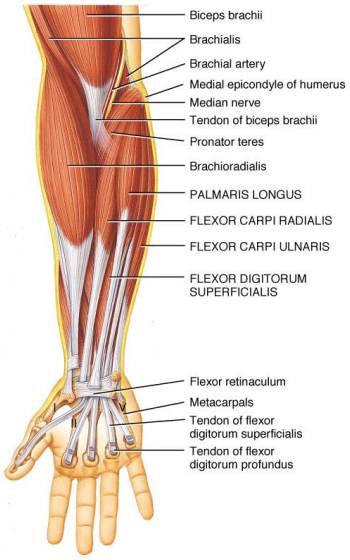
Movement #5:
Thread the Needle

- Start on all fours. Hips and shoulders should be aligned with your hands neutral to your spine to start.
- Hands should be stacked underneath your shoulders
- Lift your left hand off the ground and “thread” it through the space between your right arm and right leg, allowing the back of your left hand to glide along the ground.
- Allow the thoracic spine to naturally rotate toward the right side of your body, but keep your hips level and square.
- Once your hips start to open to the right, that is the point where you stop forcing your hand through the motion. We don't want to over extend and put unneeded stress on the thoracic spine.

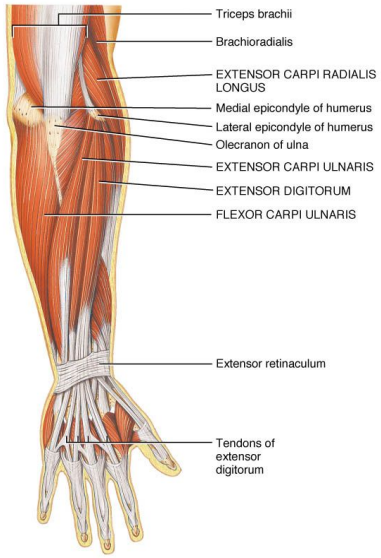
Wrist Mobility

Note: The wrists are one of the most complex joints in the human body, but ironically, they are usually forgotten or neglected until problems arise. The wrist joint, like many others, are made up of bones, ligaments, connective tissue and nerves. Our wrists are used all day and are essential for day to day tasks. The complex structure of the wrist allows us to do many different forms of movement, but when it becomes stiff and immobile, problems arise. A simple muscular release and mobility drill protocol can keep us from these issues and prevent injury.





(a) Anterior superficial view



(b) Posterior superficial view

Movement #1:

Wrist Rolls

- Start with wrist rolls for our wrist mobility sequence because this is the least aggressive movement of the four that we will be performing.
- First you want to interlace your fingers with your palms facing one another.
- As you raise your elbows, you want to focus on extensions and flexion of the wrist joint.
- Complete twenty-five rotations in both directions (fifty total rotations). This is a great warm up for any upper body workout.



Movement #2:

Flexor Stretch

- This technique focusing on the flexors of the wrist and the forearms. It is an excellent exercise to perform for those who have lack of mobility in the front rack position.
- Starting on all fours. Stack both hands underneath your shoulders with you palms planted on the ground and fingers facing your knees. Softly lock your elbows out and keep head neutral with spine.
- Focus on dynamic movement instead of static since this is meant for a pre workout mobility drill and we don't want to lose the elasticity of the connective tissue.
- Rock back from the hips comfortably until you feel a good stretch in the forearms and wrists for four to five seconds. Then rock forward back into the starting position. Complete ten to fifteen sets total.


Movement #3:

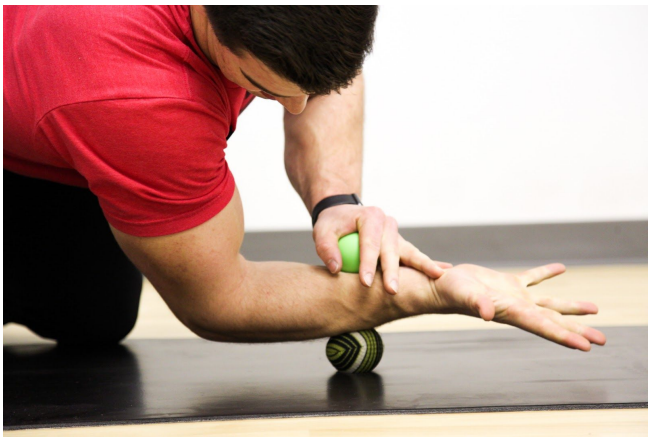
Banded Wrist Distraction

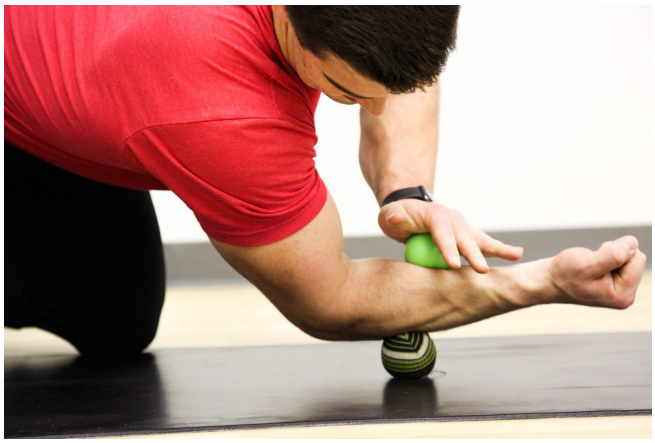
- Oscillating in and out of end range to improve the dynamics of the joint. This is beneficial for those with wrist pain.
- Wrap the resistance band around your wrist with your fingers pointed in the opposite direction of the anchor point.
- Move your hand forward to create tension within the band thus distracting your wrist joint into a good position.
- Using your left hand, press down on the base of your right to plant to the ground
- Block your right wrist with your left hand. From here you want to fully extend your right arm over your right hand. One straight line from the shoulder joint down to the wrist.
- Floss in and out of end range until there is change in wrist joint.

Movement #4:

Forearm Stack and Smash

- This focuses on both the anterior and posterior compartments of your forearm. Use two lacrosse balls to break up adhesions and tight spots in your forearms, finding tender areas to focus on.
- Position a ball underneath your forearm with your palm facing the ceiling. You can start in any area of the posterior region.
- Position another ball directly over the bottom lacrosse ball creating a “sandwiching” effect in the tight tissue.
- Maintain constant downward pressure with top arm/lacrosse ball while rotating and flexing your right wrist.
- Make circular motions, flex, extend and move your hand in any direction. You want to find tight spots and apply pressure there with both lacrosse balls.





Pre Workout Mobility Protocol:

Note: You now have the tools and knowledge to add these mobility techniques to your training regimen. This section is meant to tie all of those techniques together and complete your training.. Here are some pre workout mobility routines (examples) to start and best suit your training sessions to maximize performance in or out of your training facility.

Training Session Breakdown:

Leg Training

1. Low Dragon Stretch
2. Bulldog Circuit
3. Lizard with Rotations

Back

1. Thread the Needle
2. Side-lying Thoracic Rotation Stretch
3. Lizard with Rotations

Chest

1. Unilateral Standing Shoulder and Chest Opener
2. Flexor Stretch
3. T,Y,I Wall Rotation

Shoulders

1. Cow-Face
2. T,Y,I Wall Rotation
3. Wrist Rolls

Arms

1. Unilateral Standing Shoulder and Chest Opener
2. Forearm Stack and Smash
3. Banded Wrist Distraction

Thank you

If you are reading this… it means you have reached the end of the ebook. First, I want to say thank you for taking the time out of your busy agenda to read my work. I hope that you have found this to be beneficial and can take some knowledge away after reading and can implement it into your daily life. Anybody can use this information as a tool in their arsenal to enhance performance, prevent injury and most importantly, maximize the experience of their training. I wanted to take my time to do it right and to give everyone the best work I have to offer. If you have any questions about anything pertaining to the text, then please reach out. I'd love to answer any questions that you have. If you have any feedback, positive or negative, do not hesitate to share it with me. I appreciate any feedback and will be sure to use it when creating my next ebook. I wish you the best of luck with your training. Train **Smart**. Train **Hard**. Train with a **Purpose.**

-Chad Sheehan

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