

Flexibility: Pre-Performance Warm-Up

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Types of Stretching

Static Stretching

Static stretching is slow and involves holding the end point of tension for 20-30 seconds. This type of stretch targets the passive elastic component of the muscles.

Passive Stretching

A passive stretch is achieved by having an external force, such as a partner's push, wall, floor, machine, etc., applied in order to attain and hold the end position. Using a well trained partner can help to achieve greater ROM, and also to target specific muscle groups.

Types of Stretching

Active Stretching

Active stretching uses agonist muscle contraction in order to stretch antagonist muscles. This type of stretching uses the principle of reciprocal inhibition.

Dynamic Stretching

Dynamic stretching uses active contraction of the antagonist muscle, creating motion, in order to produce a stretch to the agonist muscle. This type of stretch targets the series elastic component of the muscles. Yamaguchi and Ishi have demonstrated an increase in power during leg extensions following dynamic stretching. This may be due to the rhythmic contraction of antagonist muscles raising the temperature, and may be also due to post activation potentiation - improvement in muscular performance following contraction. This study was performed only on recreationally active men, and not athletes. Therefore the effects of dynamic stretching on power in competitive athletes is not known (11).

Types of Stretching

Ballistic stretching

Ballistic stretching involves active motion through a joint and creating a bouncing motion at the end range of the stretched tissue. The goal is for the bouncing to cause an increase in motion past end range on every repetition. This type of stretching may be detrimental to the target or surrounding tissues. It is not suggested to repeatedly force a joint or a soft tissue through its end range, as this could cause irreversible laxity and instability in the non-contractile tissues of the joint (ligaments, joint capsule).

*This could also activate the stretch reflex, which would in turn cause the target muscle to respond by contracting, or tightening. This type of stretching is not recommended.

Types of Stretching

Proprioceptive Neuromuscular Facilitation Stretching

Proprioceptive Neuromuscular Facilitation (PNF) includes four different types of stretching techniques that combine muscle contraction and muscle relaxation in order to relax an overactive muscle and/or enhance the flexibility of a shortened muscle. PNF was developed by Herman Kabat MD, PHD, Margaret Knott PT and Dorothy Voss PT in the 1940's to treat paralysis patients. Over the years other forms of PNF were developed for treatment of orthopedic, as well as neurologic, disorders.

Post Facilitation Stretch

1. Target muscle is placed in midposition
 - Midrange of the muscles full contraction
2. Patient contracts isometrically for 10 seconds using maximum strength
 - Therapist must not allow muscle to bounce - positioning and leverage is key
3. Relaxation phase
 - Patient is instructed to let go
 - Therapist immediately stretches muscle
 - Patient may have to practice how to let go immediately
4. Stretch
 - Muscle is held at new barrier for 10 seconds
5. Repeat at new barrier
 - If no increase in ROM was achieved, start at midposition
 - *Increase in ROM due to autogenic inhibition

Types of Stretching

Post Isometric Relaxation

1. Engage barrier
 - This is done by lengthening the muscle until slight resistance is met
2. Isometric contraction
 - Patient is told to exert slight resistance (10-20% muscle contraction force) in the opposite direction
 - This is held for 10 seconds
 - It is important that the contraction is isometric, therefore, no movement must take place
3. Relaxation phase
 - Patient is instructed to relax
 - Wait at barrier for muscle to release and then initiate stretch
4. Stretch
 - Stretch until the next barrier is met and hold for 10 seconds
5. Repeat at new barrier
 - *Increase in ROM due to autogenic inhibition

Types of Stretching

PIR With Agonist Contraction

1. Same as PIR (Post Isometric Relaxation)
2. Same as PIR
3. Agonist contraction

-Following the isometric contraction, the agonist muscle is contracted as the target muscle is taken to its new barrier.

4. Repeat at new barrier

*Increase in ROM due to reciprocal and autogenic inhibition

Contract-relax

1. Same as PIR (Post Isometric Relaxation)
2. Concentric contraction

-Target muscle is contracted through its full range of motion against resistance.

3. Relaxation phase

-Patient is instructed to relax and let go

4. Stretch

-Stretch until next barrier is met and hold for 10 seconds

5. Repeat at new barrier.

*Increase in ROM due to autogenic inhibition

Note: It was assumed that the increased ROM of the muscle was based on muscle fatigue, reciprocal inhibition, muscle spindles and golgi tendon organs, etc. However, EMG studies have shown significant activity in stretched muscles after their contraction in PNF-type techniques. Therefore, this increased range of motion cannot be attributed solely to relaxation. It has been theorized that actively stretching allows the subject to feel as if they have more control, and as a result are more willing to extend their tissues into greater ranges.

What's wrong with going through a comprehensive static stretching routine prior to exercise?

What's wrong with going through a comprehensive static stretching routine prior to exercise...

- Scientific evidence demonstrates that static stretching of muscle decreases its isometric and dynamic muscle strengths at different velocities
- Isometric strength is important for stability during complex movements.
- Dynamic strength has obvious importance when it comes to actual movement.
- In plain English, this means you will be slower and weaker on tasks that are fundamental to high-level performance.

What's wrong with going through a comprehensive static stretching routine prior to exercise...

Static Stretching Acutely Impairs:

- Slow-speed, High Force Movements (Powerlifting)
- High-speed, Lower Force Movements (Jumping & Sprinting)
- Research also demonstrates that balance, reaction time and overall movement time are negatively affected.
- Endurance athletes will be interested to know that static stretching reduces muscular endurance as well.

Two Factors:

1. Muscle/Tendon
2. Neuromuscular

Muscle/Tendon

- Prolonged stretching can actually make the muscle and tendon overly compliant.
- Whenever we want to develop force in a muscle, it is important that we have plenty of stiffness as this allows for better use of stored, elastic energy in the muscle and tendon and ensures that everything lines up properly at the level of the muscle fibers.

Nervous System

- Due to motor control and reflex sensitivity, stretching makes it harder for the nervous system to tell the muscle to fire.

Problems With Static Stretching

- As mentioned earlier, static stretching reduces elasticity and contractibility of the muscles and impairs reaction time, balance and coordination
- It won't have much effect on the respiratory and cardiovascular systems
- It may even relax you to the point of impairing concentration and mellowing you out when you need to be fired up

Stretching Principles

- ♦ ***The Stretch Reflex***
- ♦ The stretch reflex is the neurological process with which the body responds to a sudden change in the length of a muscle. This pathway includes the muscle fibers, receptors and sensory and motor neurons of the spinal cord.
- ♦ Stretch receptors (muscle spindles) located within the sarcomere, or muscle cell, when lengthened send a signal to the spinal cord through sensory neurons. These neurons synapse, or transfer the signal to motor neurons that control the muscle being stretched. This causes contraction of the muscle in order to maintain its resting length.
- ♦ ***Autogenic Inhibition***
- ♦ Autogenic inhibition is the neurological process whereby proprioceptors (golgi tendon organs) located at the musculotendinous junction detect an increase in tension in that muscle. When a certain amount of tension is detected, the muscle is then inhibited in the spinal cord, preventing it from contracting. As a result, the muscle will relax.
- ♦ ***Reciprocal Inhibition***
- ♦ Reciprocal inhibition is the process by which the contraction of an antagonist muscle neurologically inhibits the contraction of the antagonist muscle. This occurs as a motor neuron that causes contraction in the agonist muscle synapses, or transfers its signal to an inhibitory neuron that will inhibit the antagonist muscle. In other words, the antagonist muscle will relax, or be prevented from contracting.
- ♦ Reciprocal inhibition may also contribute to muscle imbalances. If an agonist muscle is hypertonic, or overactive, its antagonist will be inhibited, causing lengthening and a decrease in functional control. This will further allow the agonist to tighten, or shorten, creating a cyclical pattern of dysfunction.

Cramping

- ◆ Muscle cramps are involuntary and often painful contractions of the muscles, which result in shortening. It is a common misconception that cramps originate in the muscle itself, and that the muscle fires randomly. In actuality, cramps have been found to be a primarily neurological activity in which the motor neuron that controls a muscle fiber fires at a high frequency, causing this involuntary contraction.
- ◆
- ◆ *Some Causes of Cramps May Be:*
 - ◆ ● Heavy exercise
 - ◆ ● Pregnancy
 - ◆ ● Hypothyroidism
 - ◆ ● Depleted magnesium or calcium stores or other metabolic abnormalities
 - ◆ ● Alcohol consumption
 - ◆ ● Kidney failure leading to uremia
 - ◆ ● Medications
 - ◆ ● Muscle fatigue
 - ◆ ● Dehydration
- ◆ It is important to note that although cramps may be benign, they may also be red flags of serious neurological, endocrine or metabolic disorders. Cramping should always be evaluated by a professional.

Fasciculations

Fasciculations are single, involuntary firings of motor neurons that will cause brief twitches in the muscle fibers that they innervate. These twitches usually are low in intensity and will usually not produce motion at a joint.

- ◆ Like cramps, many fasciculations are benign and do not indicate pathology. It is very common for healthy people to experience benign fasciculations. Common areas of fasciculations are eyelids and thumbs.
- ◆ More serious causes of fasciculations -- such as motor neuron disease, or denervation due to radiculopathy -- are usually accompanied by weakness and atrophy of the affected muscle group. These pathological fasciculations generally tend to occur randomly, where benign fasciculations tend to occur repetitively at the same sight. As with cramping, it is suggested that fasciculations be evaluated by a professional to determine whether or not they are benign.

Problems With Static Stretching

- Nonetheless, people insist that 2-3 minutes on the stationary bicycle and some static stretching can't be beat when it comes to training preparation
- What these individuals fail to realize is increasing body temperature alone will meet most of the aforementioned goals of the warm-up so they stick with what they have always done
- Unfortunately, improvement and optimization are not one and the same

Goals for the Warm-up Period:

- Improved elasticity and contractibility of muscles
- Greater efficiency of the respiratory and cardiovascular systems
- Shorter reaction time
- Improved perception
- Better concentration
- Improved coordination
- Regulation of emotional states

Kurz, 2001

Facilitated Stretches

- ◆ Each stretch should be performed with the same method.
- ◆ Find patients first barrier, then have them push for 5-8 seconds, take a deep breath while still pushing, and release to next barrier.
- ◆ Perform this 3 times or more on each muscle group.

Hamstrings

- ◆ Client is supine and stretcher grasps under the ankle and stabilizes the knee to prevent flexion.



Long Adductors

- ◆ The client lies supine on the table. Position yourself to lightly stabilize the clients hip against the table, using your other hand to control the clients other leg. Slowly walk the clients leg out.



Short Adductors

- ◆ The client lies supine on the table. Position yourself to lightly stabilize the client's hip against the table, using your other hand to control the client's other leg. The client bends his knee, places the sole of his foot against the inside of his other knee, and lowers his leg toward the table as far as it will go. Place hand on inside of knee. Direct the client to begin slowly to attempt to push his knee toward the ceiling.



Short Adductors

- ♦ The client lies supine on the table with soles of feet touching. Hold both knees to control the clients legs. Direct the client to keep his hips flat on the table during the entire sequence. With your hands on the knees, direct the client to begin slowly to attempt to bring his knees together.



Piriformis

- ◆ The client is supine, with one hip flexed about 45 degrees, and knee flexed to 90 degrees and drawn up toward opposite shoulder, the other leg rests on the table. Then rotate the thigh laterally by bringing the foot closer toward the shoulder while maintaining flexion at the hip. Place one hand on the clients lateral knee and the other hand on the lateral ankle. Make sure the client keeps low back on the table. Direct the client to begin slowly to push the knee and ankle toward you diagonally, then by adding more lateral rotation to deepen the stretch.



Rectus Femoris

- ◆ Have client lie on side supporting the lower back with hand closest to clients head. Hook foot of the bent leg onto your upper quad. Reach over knee and place hand on table or leg and gently pull back, while pushing heel to glutes.



Psoas

- ◆ Have client lie on side supporting the lower back with your hip. Hook outer arm under upper leg above the knee. With other arm grasp table and gently twist back.



Trapezius

- ◆ Stand at the head of the table. Client is supine with hands relaxed at the sides. The client's head is placed into contralateral lateral flexion, ipsilateral rotation. Then depress the shoulder on the side being stretched.



Levator Scapulae

- ◆ Stand at the head of the table. Client is supine with arms along side of the body. Rotate the client's head 10-15 degrees away from the side being stretched, then flexed in the direction the nose points. Contact the trapezius and depress it.



Gastrocnemius -Supine

- ◆ Have client lay supine on a table, elevate one leg to a 45° angle, knee should be locked. One hand hooks on the calcaneus and pulls toward you. The other hand contracts the plantar surface and pushes the foot up into dorsiflexion.



Gastrocnemius - Prone

- ◆ Have client lay prone on a table with foot resting on your quad, flex knee to a 45° angle. One hand hooks on the calcaneus and pushes down. Push your knee toward the client to contract the plantar surface and push the foot into dorsiflexion.



Soleus - Supine

- ◆ Have client lay supine on a table, elevate one leg, knee should be bent to a 90% angle. Have client contract the muscles at the front of the leg in the shin (dorsiflex) area. Hold with one hand behind the ankle and push down on the front part of the bottom of the foot with the other hand.



Soleus - Prone

- ◆ The client is prone with knee flexed to 90 degrees. Hook under the calcaneus with the superior hand and pull up, while the inferior hand contacts the plantar surface of the foot and pushes down.



Quadriceps

- ◆ Have client lie prone with knee flexed to 90°. Place one hand under the clients knee and the other hand around the foot. Gently pull in an upward motion.
- * May cause low back pain, also be careful with the knee.



Quadratus Lumborum (QL) Using Elbow Lock

- ◆ The client lies on side, with back at the edge of the table. Stand behind the client. Make sure the hips are vertically stacked. Grip your hands together and place the elbow closest to the knees on the iliac crest and the elbow closest to the clients head on the lateral aspect of the rib cage. Apply resistance from both directions with elbows.



Quadratus Lumborum (QL)

- ◆ Have client lie on side. Place arm closest to head on bottom of rib cage and other hand below knee. Elongate and push down with both hands.



Quadratus Lumborum (QL) Using Hands

- ◆ Have client lay on side with back at the edge of the table. Stand behind the client. Make sure the hips are vertically stacked. Place the hand closest to the knees on the iliac crest and the hand closest to the clients head on the lateral aspect of the rib cage. Apply resistance in opposite directions with both hands.



Pectorals

- ◆ Client is on side. Stabilize the client by placing the inferior arm on the sternum. The client's arm is abducted and the superior hand is above the wrist and gently pushes down.



Pectorals - Seated

- ◆ Have client in a seated position with arms extended out to the side with palms faced out. Place ball between clients back and your chest. Grab just above wrist and gently pull back.



Tensor Fascia Lata/ITB

- ◆ Have client lie on side. Place hand closest to patients head on the hip and other hand below the knee. Elongate and push down with both hands.



Tensor Fascia Lata/ITB - Supine

- ◆ Have patient lie supine while holding leg and ankle. Extend straight leg up and across the body without torso rotating.



Sternocleidomastoid/Scalene

- ◆ Have client seated at edge of table, clients hand is holding on to table. Turn head away from that arm. Client places opposite hand so that thumb is on the collarbone, then gently press head to the side and backward.



Dynamic Stretching

- Improves performance in sprints, jumping tasks and agility tests
- Increases dynamic range of motion
- Reduces injury rates when compared with a static stretching program
- Exercises are grouped into three categories:
 - Easy
 - Medium
 - Difficult
- All sessions should begin with easy and progress to difficult
- 8-10 drills per session are sufficient in a single session

Dynamic Stretching

“controlled movement through the active range of motion for each joint.”

Fletcher and Jones, 2004

- Dynamic flexibility drills serve as a fantastic way to transition from rest to high intensity exercise that is performed through full ranges of motion

Cat/Camel

Start



Finish



Category: Easy

Cat/Camel

- Hands under shoulders, knees under hips
- For "Cat" lift head and chest and let stomach sink
- For "Camel" round the back and bring head and hips together
- Avoid bending elbows and moving the body forward and back
- Perform **12** reps

Yoga Twist

Start



Finish



Category: Easy

Yoga Twist

- Lay on back with arms straight out to the side, legs straight, one ankle over the other
- Twist at the hips, gently moving from side-to-side
- Perform the allotted reps, then switch top legs
- Don't force the range of motion
- Perform **8** reps on each side

Side Twist

Start



Finish



Category: Easy

Side Twist

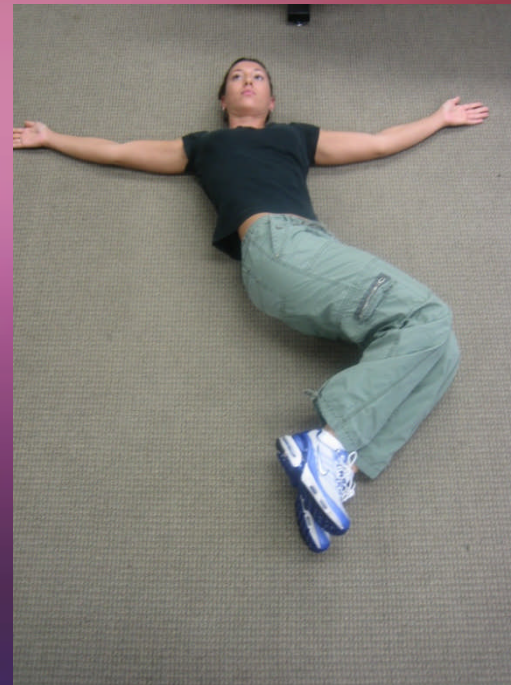
- Start on side with head propped up by the hand, torso and upper legs in a straight line, knees bent at a 90-degree angle, opposite hand on floor in front of torso
- Initiate the movement from the hips, “flipping” the feet over through a comfortable ROM
- Avoid excessive torso rotation; keep the movement around the hips and low back
- Perform **8** reps on each side

Bent Knee Twist

Start



Finish



Category: Easy

Bent Knee Twist

- Start on back, knees bent, feet flat on the floor
- With the feet and knees together, allow the knees to fall gently side-to-side
- Don't force the range of motion and gently work through a ROM
- Keep the shoulders down
- Perform 8 reps on each side

Quadriped Arm Leg Raise

Start



Finish



Category: Easy

Quadruped Arm Leg Raise

- Start on all fours, knees under hips, hands under the shoulders
- Brace the stomach, squeeze the glutes, press the heel straight back to straighten the leg
- Keep the torso level
- Perform **10** reps on each side

Side-Lying Trunk Twist

Start



Finish



Category: Easy

Side-Lying Trunk Twist

- Start on side, arms outstretched, hips and knees flexed to a 90-degree angle
- Reach back and across the body with the top arm until you get a stretch in the middle and lower portion of the back
- “Down” knee should not come off the ground
- Perform 8 reps on each side

Calf Stretch

Start



Finish



Category: Easy

Calf Stretch

- Start in the “pike” position, hips high
- Place left foot behind right ankle
- With legs straight, press heel of right foot down to stretch
- To emphasize soleus, bend the knee and repeat movement
- Perform **10** reps on each side

Fire Hydrants

Start



Finish



Category: Easy

Fire Hydrants

- From all-four position, abduct the thigh on one side as high as possible
- At end range, extend the leg back completely, and then return to the starting position
- Perform **10** reps on each side

Supine Bridge

Start



Finish



Category: Easy

Supine Bridge

- Start on the back, arms at sides, knees bent, feet flat on the floor
- Squeeze butt throughout the movement, going up as high as the glutes will take you
- Lower under control to a point just above ground, then repeat for necessary reps
- Don't go up too high and use your low back. If you feel it in the hamstrings, place your hands on your quads to reciprocally inhibit the hamstrings
- Perform **10** reps on each side

Single Leg Supine Bridge

Start



Finish



Category: Medium

Single Leg Supine Bridge

- Start on the back, arms at sides, knees bent, feet flat on the floor
- Squeeze butt on the plant side and pull opposite leg up to the chest; go only as high as your glutes will take you
- Lower under control to a point just above ground, then repeat for the necessary reps
- Make sure to squeeze the glutes hard throughout and especially at the top of the movement
- Don't go up too high and use your low back. Avoid rounding the back when grabbing the shin (the head should not come up off the floor). If you feel it in the hamstrings, place your hands on your quads to reciprocally inhibit the hamstrings
- Perform **10** reps on each side

Anterior-Posterior Leg Swings

Start



Finish



Category: Easy-Medium

Anterior-Posterior Leg Swings

- Holding onto an immovable object, rhythmically swing thigh forward and backward; go further as you loosen up
- Maintain good posture; chest out, shoulders back, and eyes looking straight ahead
- Keep the movement around the hips!
- Think of “muscling” the leg back, but letting it swing forward (activate glutes while stretching hip flexors and hamstrings)
- Perform **10** swings in each direction

Side-to-Side Leg Swings

Start



Finish



Category: Easy-Medium

Side-to-Side Leg Swings

- Holding onto an immovable object, rhythmically swing the leg from side-to-side; go further as you loosen up
- Maintain good posture; chest out, shoulders back, and eyes looking straight ahead
- Keep the movement around the hips!
- Think of “muscling” the leg to the side, but letting it swing to the middle (activating abductors while lengthening adductors)
- Perform **10** swings in each direction

Supine Scorpion

Start



Finish



Category: Medium

Supine Scorpion

- Start on your back, arms outstretched to sides, legs straight
- Keeping the legs straight, take one leg up and across the body and touch toes on the opposite side
- Keep shoulders down!
- Perform **8** reps on each side

Prone Scorpion

Start



Finish



Category: Medium

Prone Scorpion

- Start on your stomach, arms outstretched to sides, legs straight
- Squeeze glutes and swing one leg back and over opposite leg/torso until toe touches ground
- Keep shoulders down!
- Perform **8** reps on each side

Glute Med Hip Hikes

Start



Finish



Category: Medium

Glute Med Hip Hikes

- Standing on one leg, let hip on balancing side “poke out”
- Hold for two seconds, then “correct” back to the starting position
- Keep your torso level and don’t let body rotate
- Perform **8** reps on each side

Windmills

Start



Finish



Category: Medium

Windmills

- Set up with a wide stance, upright torso
- Rotate and flex at the hips, reaching your right arm to left foot
- Rhythmically transition, with rotation to right side with left arm
- Keep proper posture, making sure to focus on hip flexion rather than lumbar flexion
- Perform **8** reps in each direction

High Knee Walks

Start



Finish



Category: Medium

High Knee Walks

- Step forward and raise one knee
- Actively pull knee up and in with both hands and come up on toes of opposite foot
- Maintain good posture, avoiding forward lean
- Perform **5** reps on each side

Pull-Back Butt Kicks

Start



Finish



Category: Medium

Pull-Back Butt Kicks

- Take a step forward and curl one leg up towards your glutes
- Using the same hand, actively pull heel into your glutes and come up on toes of opposite foot
- Maintain good posture (avoiding forward lean) and don't allow the leg to move too far to the side
- Perform **5** reps on each side

Glute Med Band Side Step

Start



Finish



Category: Medium

Glute Med Band Side Step

- Wrap a thera-band around legs above/at the ankles
- Keeping your toes pointed inward and a slight bend in the knees, step to the side
- Perform **10** steps in each direction

Cradle Walks

Start



Finish



Category: Medium

Cradle Walks

- Step forward and pull your instep upward
- Maintain good posture and actively pull the foot up rather than just grasping it
- Perform **5** reps on each side

Serratus Push-Up Plus

Start



Finish



Category: Medium

Serratus Push-Up Plus

- Set up in a push-up position (if you lack the strength to do the movement from this position, you can do it from your knees or standing with your hands on a wall)
- Allow shoulder blades to come together; drop about two inches toward the floor
- Protract shoulder blades to return to starting position
- Perform **12** reps

Overhead Broomstick Dislocations

Start



Finish



Category: Medium

Overhead Broomstick Dislocations

- Hold a broomstick or dowel in front of hips with a wide overhand grip
- Smoothly arc the bar overhead while keeping arms straight, stretching chest, shoulder and hips
- Continue in this path until bar meets the back of hips
- Reverse the motion along the same path
- Perform **8** reps, gradually moving your hands in as you warm up

Toy Soldiers

Start



Finish



Category: Difficult

Toy Soldiers

- Reach out in front of you and actively “kick” one foot up at a time toward your hands
- Attempt to get your swing leg up to touch your opposite hand
- Maintain good posture
- Perform **5** reps on each side

Single Leg Hip Hinge

Start



Finish



Category: Difficult

Single Leg Hip Hinge

- Step forward with weight on heel
- With a slight knee bend and good posture, push butt back and lower torso to perform a toe touch as opposite leg swings back
- Maintain good posture throughout, keep eyes up
- Perform **5** reps on each side

Reverse Warrior Lunge with Twist

Start



Finish



Category: Difficult

Reverse Warrior Lunge with Twist

- Take a long stride backward into a lunge with knee just above ground
- Reach across front leg
- Drive off front heel to return to starting position
- Make sure it is an *exaggerated* step backward and the back knee gets down sufficiently
- Perform **5** reps on each side

Walking Spiderman

Start



Finish



Category: Difficult

Walking Spiderman

- Take a long stride forward into a deep lunge position and lower opposite side elbow to heel on forward leg
- From lunge position, drive back up to the upright position and then repeat with the opposite arm/leg
- Keep chest up and lower back flat (no rounding)
- Perform **5** reps on each side

Alternating Lateral Lunge

Start



Finish



Category: Difficult

Alternating Lateral Lunge

- Step directly to side, land on heel and sink into a lateral (side) lunge
- Keep chest up, weight on heel, and trailing leg straight
- Toes of both feet should point forward with feet flat on floor
- Maintain good posture & keep heels down
- Perform **5** reps on each side

Squat To Stand

Start



Finish



Category: Difficult

Squat To Stand

- From a stance just outside shoulder-width, bend over and grab the bottom of your toes/shoes
- Actively “pull” yourself into a deep squat position with chest up, knees out, lower back slightly arched
- Hold at bottom briefly, then return to toe-touch position, and ultimately upright position
- Don’t allow poor movements! Get deeper and improve posture with each repetition
- Perform **8** reps

Crossover Overhead Reverse Lunge

Start



Finish



Category: Difficult

Crossover Overhead Reverse Lunge

- Start with feet shoulder-width apart and arms at sides
- Reach overhead as you stride backward and behind you with one leg; shin on the other leg should be completely vertical
- At the end of ROM, you should feel a stretch in lateral thighs and hip flexors
- Drive off front leg to “pull” yourself back to starting position with glutes of support leg
- Transition immediately into same movement on opposite side
- Perform **8** reps

Running Butt Kicks

Start



Finish



Category: Difficult

Running Butt Kicks

- Kick heel to butt by firing hamstrings
- Perform 8 reps

High Knee Skips

Start



Finish



Category: Difficult

High Knee Skips

- Skip with exaggerated arm swinging; get knees high
- Think of arms and legs working together, with core musculature transferring momentum between shoulders and hips
- Perform **8** reps on each side

Deep Wideout Drops

Start



Finish



Category: Difficult

Deep Wideout Drops

- From a shoulder-width stance, quickly but smoothly drop into a wider stance deep squat (feet should momentarily leave the ground)
- At landing, sit into a deep squat with arms reaching out in front of you
- Use glutes and hamstrings to help quads cushion the drop, then “pop” up to a starting stance
- Keep down, chest up, and lower back flat. Make it rhythmic!
- Perform **10** reps

Supine Leg Whips

Start



Finish



Category: Difficult

Supine Leg Whips

- Lay on your back and push your hips up by activating your glutes
- With hips up, raise one leg to a point where it's straight up (perpendicular to the ground)
- Lower the leg directly to side, then "whip" it back up to a starting position
- Don't let the hips drop or tilt too far
- Perform **6** reps on each side

Recommended Static Stretches

- There are only three static stretches that are recommended
- Holding each for 15 seconds on each side is sufficient

Warrior Lunge Hip Flexor Stretch



- Assume a lunge position and reach overhead
- The torso remains upright and there is no hyperextension at the lumbar spine
- The stretch is felt on the front of the trailing legs hip
- The stretch can be increased by rotating toward the front leg

Prone ITB/TFL Stretch



- Begin in a pushup position
- Bend one knee and bring instep underneath towards the opposite hip
- The hips remain level and the knee is at the midline of the body
- Lower by using bodyweight to increase the stretch which is felt on the lateral aspect of the thigh on the lead leg
- Keep back flat during the duration of the stretch

Levator Scap/Upper Trap Stretch



- Start by bringing the right hand behind your back as though you are being handcuffed
- Use the left hand to gently pull the head to the left
- This stretches the upper trap on the right side. Hold for 15 seconds
- Next, gently pull the head into the left armpit with the left arm. Hold for 15 seconds
- This stretches the right side levator scapula
- The secret with both of these stretches is to keep the shoulder blade pulled down