

EXERCISE TECHNIQUE GUIDEBOOK

Ryan Eckert, MS, CSCS, USAT Level I

Contributions by
John Preston, MS, EP-C



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DYNAMIC WARM-UP EXERCISES

Exercise: Shoulder pass-throughs

Muscles Targeted: Chest, shoulders, latissimus dorsi, biceps, triceps

How to Perform:

1. Begin in a standing position while holding either a yoga/stretching strap, PVC pipe, or a wooden dowel
2. Have your hands wider than shoulder width and in a position that allows you to rotate the strap/pipe/dowel over and behind your head
3. If your flexibility allows, continue to rotate the strap/pipe/dowel a full 360 degrees until it touches your lower/mid-back
4. Continue to perform this motion by taking the strap/pipe/dowel from the front to the back of the body in a slow and controlled motion

Be careful not to over-do this mobility exercise if you are particularly tight in the shoulder girdle region or if you are not warmed-up as it can be a rather intense stretch for the shoulder girdle muscles.



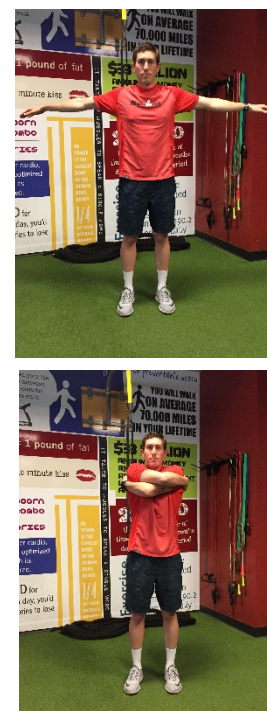
Exercise: Arm crossovers

Muscles Targeted: chest, shoulders, biceps, triceps

How to Perform:

1. With your arms shoulder level and horizontal to the ground, swing your arms out as wide as you can
2. Swing your arms across your body as if you were giving yourself a hug
3. Continue to swing your arms outward and inward in a dynamic fashion

The key is to keep your arms relaxed while swinging them back and forth, generating momentum with each inward and outward swing. This allows you to take your shoulders through their entire range of motion.



Exercise: Knee hugs

Muscles Targeted: glutes, hamstrings, groin

How to Perform:

1. Begin in a standing position with your arms at your side
2. Grab one leg with both hands just below the knee cap and hug this leg in towards your chest until you feel a stretch in the glutes (butt), hamstrings (back of the leg), and groin

Maintain an upright posture when hugging the knee towards the chest. In other words, avoid rounding the back when pulling the knee towards the chest.

This stretch is a **great one to do before doing squats or deadlifts** as it does a great job at loosening up the muscles in the groin, which are stretched rather intensely during a squat or deadlift.



Exercise: Straight-leg kicks

Muscles Targeted: hamstrings

How to Perform:

1. Begin in a standing position with one hand resting on a wall (you don't need a wall, but it helps to maintain balance)
2. Take one leg and swing it back behind your body, quickly swinging it forward as high in front of your body as you can while keeping the leg straight
3. Continue to swing your leg back and forth with the momentum that you have generated

Maintain an upright posture when swinging the leg back and forth. You should feel the back of the thigh (hamstrings) when at the top of the leg swing.

This is a **great stretch to do before doing any kind of lower body resistance exercise (e.g., squat, deadlift, lunge, etc.) or any type of hard cycling or running sessions** as you will want this muscle group to be loose and ready to work.



Exercise: Lateral hip swings**Muscles Targeted:** Hip abductors and hip adductors (inner & outer thighs)**How to Perform:**

1. Stand upright and hold onto either a wall or a pillar for support.
2. Begin by swinging one leg out to the side as far as you can.
3. Swing your leg back across the midline of your body as far as you can.
4. Take advantage of momentum with this exercise and swing your leg back and forth in order to feel a stretch in the inner thigh on the “out” swing and a stretch in the outer thigh in the “in” swing

Avoid tilting or rotating your hips when performing this exercise in order to keep the stretch on the inner and outer thighs. In other words, think of keeping your hips facing forward and staying level as you swing your leg back and forth.

**Exercise:** Scorpions**Muscles Targeted:** lower back and hips**How to Perform:**

1. Begin by lying face down with your arms pointing out to either side of your body
2. Rotate through the lower back and the hips by taking one foot and reaching for the opposite hand
3. Keep your chest on the ground and avoid letting your shoulders come off of the ground as you rotate through your lower back and hips
4. Repeat this for each side and continue to rotate from one side to the other

This is an **excellent exercise to loosen up the lower back and the hips.** This exercise is a great dynamic warm-up exercise to get used to doing prior to any type of exercise.



Exercise: Burpees**Muscles Targeted:** total-body**How to Perform:**

1. Begin in a standing position with your arms resting at your side
2. Place your hands on the ground directly in front of your feet and then kick your feet back so that you are in a push-up position
3. Lower your body so that your chest rests on the ground
4. Press yourself back up into a push-up position and then kick your feet back towards your hands
5. Raise your hands overhead and jump up off of the ground
6. Repeat the movement

This is a **great total-body exercise** to include at the end of a dynamic warm-up set. It is rather intense, however, and if you tend to get dizzy moving up and down quickly with this exercise, it may be best to avoid it.

**Exercise:** Deep lunge**Muscles Targeted:** groin/inner thigh, hip flexors**How to Perform:**

1. Begin in a standing position
2. Step back into a lunge position while dropping both hands down onto the floor on the inside of the front leg
3. Drop the chest down on the inside of the leg as low as you can in order to feel a stretch in your inner thigh/groin
4. If it is too challenging to maintain this position with the back knee up off the ground, feel free to drop the back knee so that the leg is resting.
5. Step out of the lunge and repeat on the other side

This is a **great warm-up exercise** to perform prior to doing a lower body workout or prior to any cycling or running workout. It will do a fantastic job at loosening up the inner thigh, which can be a source of much tightness for endurance athletes.



Exercise: Deep lunge w/ trunk rotation

Muscles Targeted: groin/inner thigh, hip flexors, chest, shoulders, abdomen, lower back

How to Perform:

1. Begin in a standing position.
2. Step back into a lunge position and drop either a) the opposite hand of the leg that is out in front down onto the ground or b) the hand that is on the same side as the leg that is out front down onto the ground.
3. For option a), rotate towards the front leg and try to raise the other hand towards the ceiling
4. For option b), rotate away from the front leg and try to raise the other hand towards the ceiling
5. Step out of the lunge and perform the same movement on the other side

Focus on opening up the hips and core region with this movement.

Option A



Option B



Exercise: Inch worms

Muscles Targeted: hamstrings, calves, glutes, shoulders, core

How to Perform:

1. Begin in a push-up position with your hands on the ground directly underneath your shoulders
2. While keeping your heels pressed down towards the ground, inch your feet closer to your hands
3. Continue to inch your feet closer to your hands until you can no longer inch your feet further without bending your legs
4. Walk your hands back out so that you are back in a push-up position; repeat this movement

You should feel a great stretch in your hamstrings and calves (back of the upper and lower legs) if this movement is done correctly. This is a **great warm-up exercise for those with tight hamstrings.**



Exercise: Mountain climbers

Muscles Targeted: hip flexors, quadriceps, chest, shoulders, core

How to Perform:

1. Begin in a push-up position with your hands placed on the ground directly underneath your shoulders
2. While keeping your hips level, draw one knee up towards your elbow
3. Repeat this same movement on the other side, alternating between knees

This is a great total-body warm-up exercise to perform at the end of a set of dynamic stretches as it will **get the heart rate elevated** in preparation for the main workout.

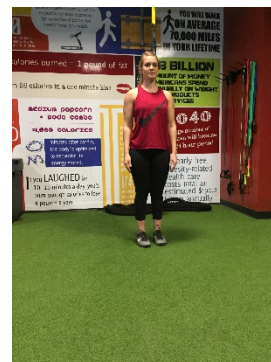
**Exercise:** Jumping jacks

Muscles Targeted: total-body

How to Perform:

1. Begin in a standing position with your arms resting at your sides
2. Kick both feet out to the side while simultaneously raising your
3. hands out to the side of your body in a “V” position
4. bring your hands and feet back in towards the midline of your body; repeat this movement quickly

This is another great total-body warm-up exercise to perform in preparation for the main workout as it will **get the heart rate elevated and it will get blood flowing to all the major muscle groups in the body.**



PRE-HABILITATION EXERCISES

Exercise: Birddogs

Muscles Targeted: shoulders, core, and hips; whole-body coordination/balance exercise

How to Perform:

1. Begin on all fours with your hands placed directly underneath your shoulders and your knees placed directly underneath your hips
2. Keeping your abdomen tight, extend one arm out in front of you to shoulder height while simultaneously extending one leg out behind you to hip height
3. Hold this position for a brief moment before returning to the starting position
4. Repeat on the other side

Maintain a tight abdomen/core throughout this movement and focus on a slow and controlled motion. The goal for this exercise is to teach stability, control, and balance while simultaneously warming up the core musculature.



Exercise: Glute bridge

Muscles Targeted: hamstrings, glutes, lower back

How to Perform:

1. Begin by lying on your back with your arms at your side, your knees bent to approximately 90 degrees, and your feet flat on the floor hip width apart.
2. Press your hips up towards the ceiling until your hips are pressed upwards as far as you can press them.
3. Slowly lower your hips back down until your buttocks touch the ground.

Be sure to **focus on squeezing your glutes** at the top of the movement. Really think about activating your glutes at the top of the movement.



Exercise: Single-leg glute bridge**Muscles Targeted:** hamstrings, glutes, lower back**How to Perform:**

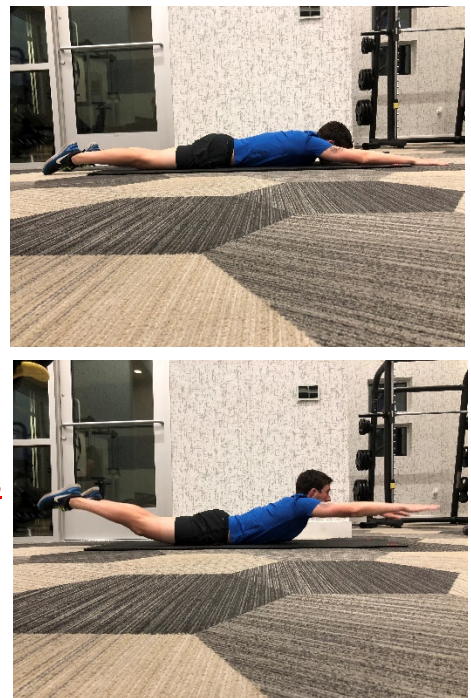
1. Begin by lying on your back with your arms at your side, your knees bent to approximately 90 degrees, and your feet flat on the floor hip width apart.
2. Lift one foot off of the ground slightly so that you have just one foot on the ground.
3. Press your hips up towards the ceiling until your hips are pressed upwards as far as you can press them.
4. Slowly lower your hips back down until your buttocks touches the ground.
5. Repeat on the other side.

Be sure to **focus on squeezing your glutes** at the top of the movement. Also, be aware of your knee throughout the movement and try to keep your knee in line with your hip and ankle throughout the entire movement.

**Exercise:** Supermans**Muscles Targeted:** hamstrings, glutes, lower back, shoulders**How to Perform:**

1. Begin by lying on your stomach with your legs extended straight and your arms extended directly overhead.
2. Slowly raise your arms and legs off of the ground as high as you can.
3. Slowly lower your arms and legs back down to the ground in a smooth and controlled motion.

Focus on activating your lower back, glutes, and hamstrings during this movement. This exercise is a great “core” exercise for maintaining lower back and hip strength.



Exercise: Rotator cuff internal rotations**Muscles Targeted:** internal shoulder rotator muscle group (subscapularis)**How to Perform:**

1. For this exercise, you will need a resistance band.
2. Begin by looping one end of the resistance band around a sturdy object, ideally a pole or pillar of some sort.
3. Stand a few feet away from the looped end of the band until there is some resistance.
4. Tuck your arm alongside your body and bend at the elbow until your forearm is perpendicular to your upper arm.
5. Keeping your upper arm tucked alongside your body, internally rotate at the shoulder joint as far as your range of motion allows.
6. Return to the starting position slowly and under control as far as your range of motion will allow without letting the upper arm leave the side of your body.
7. Repeat on the other side.

**Exercise:** Rotator cuff external rotations**Muscles Targeted:** external shoulder rotator muscle group (infraspinatus, supraspinatus, teres minor)**How to Perform:**

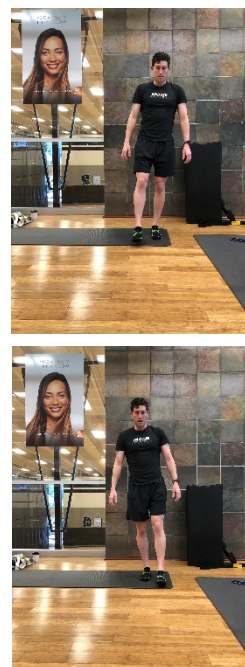
1. For this exercise, you will need a resistance band.
2. Begin by looping one end of the resistance band around a sturdy object, ideally a pole or pillar of some sort.
3. Stand a few feet away from the looped end of the band until there is some resistance.
4. Tuck your arm alongside your body and bend at the elbow until your forearm is perpendicular to your upper arm.
5. Keeping your upper arm tucked alongside your body, externally rotate at the shoulder joint as far as your range of motion allows.
6. Return to the starting position slowly and under control as far as your range of motion will allow without letting the upper arm leave the side of your body.
7. Repeat on the other side.



Exercise: Single-leg balancing**Muscles Targeted:** muscles of the hip, knee, and ankle; total body coordination/balance exercise**How to Perform:**

1. Begin in a standing position with your feet hip-width apart.
2. Feel free to have an object to rest your hand on for support if needed, such as a chair, wall, or pole/pillar.
3. Lift one foot slightly off of the ground while concentrating on balancing on the other.
4. Repeat on the other side.

Be sure to focus on **maintaining level hips** and the knee in alignment with the ankle and hip joint while balancing on one leg. Think about activating your glute and hip muscles while keeping a tight core. **To make this exercise more challenging**, perform it with your eyes closed.

**Exercise:** Scapular protractions**Muscles Targeted:** upper back and deep shoulder muscles (serratus anterior, subscapularis, latissimus dorsi)**How to Perform:**

1. Begin in a push-up position with your hands on the ground shoulder-width apart and your toes on the ground hip-width apart.
2. Begin by pressing your chest towards the ground while keeping the arms straight; moving the shoulder blades closer to each other.
3. Press your chest back away from the ground while keeping your arms straight and try to separate your shoulder blades as much as you can.
4. Repeat in a smooth and controlled fashion.

This is a tough exercise to master, and despite its seeming simplicity, it is challenging for your upper back and shoulders. While doing this movement, really **focus on squeezing your shoulder blades together when you lower your chest to the ground and separating your shoulder blades as you push away from the ground.**



LOWER BODY RESISTANCE EXERCISES

Exercise: Body-weight squat

Muscles Targeted: glutes, quadriceps, hamstrings, calves

How to Perform:

1. Begin by standing upright with your feet hip-width or shoulder-width apart.
2. Initiate the squat by pushing your hips back and dropping your buttocks towards the ground.
3. Continue to descend into the squat while keeping your chest up and your core tight and activated.
4. Descend until your thighs are parallel to the ground, and then push through the middle of your feet back to the starting position. *Be sure to keep your knees tracking out over your feet throughout the entire movement.*

This exercise, although seemingly simple, is difficult to master. For squat exercises, really focus on the quality of the movement and try to master the basic body-weight squat before progressing onwards to heavy weighted squats.



Exercise: Barbell back squat

Muscles Targeted: glutes, quadriceps, hamstrings, calves

How to Perform:

1. Walk underneath the barbell that is racked on a squat rack and set the bar on your upper trapezius muscle (upper back) in a comfortable position.
2. Push up to lift the bar off the rack; take one step away from the squat rack.
3. Set yourself in an upright position with your feet hip-width or shoulder-width apart.
4. Initiate the squat by pushing your hips back and dropping your buttocks towards the ground.
5. Continue to descend into the squat while keeping your chest up and your core tight and activated.
6. Descend until your thighs are parallel to the ground, and then push through the middle of your feet back to the starting position. *Be sure to keep your knees tracking over your feet throughout the movement.*



This exercise is a progression after mastering the body-weight squat. Technique should never be taken for granted and proper form and movement depth should always be prioritized over the amount of weight you can lift with this movement.

To learn more about how to perform a barbell back squat, click the following link:

<https://www.acefitness.org/education-and-resources/lifestyle/exercise-library/11/back-squat>



PEAK ENDURANCE SOLUTIONS

Exercise: Barbell front squat**Muscles Targeted:** glutes, quadriceps, hamstrings, calves**How to Perform:**

1. Walk underneath the bar and place it in a front rack position across your shoulders. *This position requires some flexibility and can be hard on your wrists if you do not have the flexibility to hold the position.*
2. Push up to lift the bar off the rack and take one step away from the squat rack.
3. Set yourself in an upright position with your feet hip-width or shoulder-width apart.
4. Initiate the squat by pushing your hips back and dropping your buttocks towards the ground.
5. Continue to descend into the squat while keeping your chest up and your core tight and activated.
6. Descend until your thighs are parallel to the ground, and then push through the middle of your feet back to the starting position. *Be sure to keep your knees tracking out over your feet throughout the entire movement.*

Technique should never be taken for granted and proper form and movement depth should always be prioritized over the amount of weight you can lift with this movement.

To view a video demonstration of the barbell front squat, click on the link here:

<https://www.youtube.com/watch?v=o7PBaYTTDeE>

Exercise: Smith machine squat**Muscles Targeted:** glutes, quadriceps, hamstrings, calves**How to Perform:**

1. Walk underneath the barbell that is racked on a smith machine and set the bar on your upper back in a comfortable position.
2. Lift the bar off the rack and set your feet slightly in front of your body.
3. Set yourself in an upright position with your feet hip-width or shoulder-width apart.
4. Initiate the squat by pushing your hips back and dropping your buttocks towards the ground.
5. Continue to descend into the squat while keeping your chest up and your core tight and activated.
6. Descend until your thighs are parallel to the ground, and then push through the middle of your feet back to the starting position. *Be sure to keep your knees tracking out over your feet throughout the entire movement.*

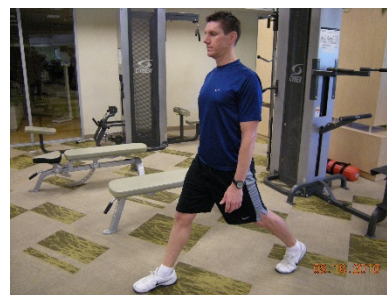


This exercise is a **great alternative to free weight barbell squats** as the smith machine provides a fixed track for the barbell to follow while squatting.



Exercise: Lunge**Muscles Targeted:** glutes, quadriceps, hamstrings**How to Perform:**

1. Begin in an upright standing position.
2. Step back so that you are in a split stance and your torso is about mid-way between your front foot and your rear foot.
3. Descend downward into the lunge until your front thigh is parallel to the ground. Push through the middle of your front foot and through your rear foot to ascend back to the start.
4. Perform this as a “static” lunge, where you simply perform one side at a time, or an “alternating” lunge in which you step back and perform a lunge on one leg, step back to a standing position, and then step back and perform a lunge on the other side.



Single-leg exercises are **great additions to an endurance athlete's training program** as they strengthen muscle groups that can sometimes be neglected or under-developed when performing repetitive, low-intensity endurance exercise such as running or cycling.

Exercise: Barbell deadlift**Muscles Targeted:** glutes, quadriceps, hamstrings, calves, lower back, upper back**How to Perform:**

1. Begin by placing your feet directly underneath the barbell with your feet about hip-width apart.
2. Bend over and grip the bar with a shoulder-width grip (the grip should be wider than your foot placement width).
3. Lower your hips and flatten your back so that you are in a good starting position for the deadlift.
4. To initiate the deadlift, drive your heels into the ground, tighten your core, and begin to push from the ground by extending your hips.
5. Continue to extend your hips and raise your chest simultaneously until you are standing up straight.
6. Your legs should be completely straight, and your chest should be upright at the top of the deadlift.
7. Lower the barbell back down to the ground under control and with good form. DO NOT lower the barbell with poor form (rounded back) as this may cause injury.



Click on the following link to learn more about how to perform a deadlift: <https://www.acefitness.org/education-and-resources/lifestyle/exercise-library/6/deadlift>

**PEAK ENDURANCE SOLUTIONS**

Exercise: Straight-leg/stiff-leg deadlift**Muscles Targeted:** glutes, quadriceps, hamstrings, calves, lower back, upper back**How to Perform:**

1. Begin by placing your feet directly underneath the barbell with your feet about hip-width apart.
2. Bend over and grip the bar with a shoulder-width grip (the grip should be wider than your foot placement width).
3. Tighten your core and flatten your back as you press your hips up until you only have a slight bend in your knee (this type of deadlift is performed with straight legs)
4. Lift the barbell from the ground by extending your hips, really concentrating on using your hamstrings and glutes to stand up.
5. AVOID rounding your back and using poor technique to pick up the barbell as this may cause injury.
6. Continue to extend your hips until you are standing up straight.
7. Your legs should be completely straight, and your chest should be upright at the top of the deadlift.
8. Lower the barbell back down to the ground under control and with good form. DO NOT lower the barbell with poor form (rounded back) as this may cause injury.

Click on the following link to view a video demonstration of the stiff-leg deadlift:

<https://www.youtube.com/watch?v=5ChN7CMDkMk>

Exercise: Bulgarian split squat**Muscles Targeted:** glutes, quadriceps, hamstrings, calves**How to Perform:**

1. For this exercise, you will need to find a bench to place your back foot on.
2. Place your back foot (top of your foot) on the bench about a foot or so behind you. Position yourself in a split stance position.
3. Lower yourself into a lunge until your front knee is approximately at a 90-degree angle at the bottom of the movement.
4. Press yourself back up to the starting position by pushing through your front foot.
5. Repeat on the other side.

This is a more advanced version of a standard lunge with both feet on the ground.

This exercise places more work onto the front leg and is a great single-leg exercise for endurance athletes to perform as it helps to balance out any strength discrepancies that you may have between legs. Throughout this movement, be sure to keep your front knee directly over your ankle at the bottom of the movement.



Exercise: Side lunge

Muscles Targeted: glutes, quadriceps, hamstrings, calves, hip adductors (inner thigh)

How to Perform:

1. Begin in a standing position with both feet about shoulder-width apart.
2. Step directly off to the side so that your feet are about double the width of your shoulders.
3. Lean your body weight to one side and press your hips back as if you are performing a squat.
4. Your body weight should be on one leg throughout this movement.
5. Continue to lower yourself until your thigh is about parallel to the ground.
6. Press yourself back up to the starting position.
7. Repeat on the other leg.

As you perform this movement with your body weight on one leg, be sure to keep the other leg straight and relaxed. The **benefit of this exercise comes from performing the movement one leg at a time.**

**Exercise:** Step-up (onto box/bench)

Muscles Targeted: glutes, quadriceps, hamstrings

How to Perform:

1. Find a box or bench that is high enough so that when you step onto it, your knee is bent at approximately 90 degrees.
2. Place one foot on the bench/box.
3. Step up onto the bench/box by pressing through the middle of your foot.
4. Place both feet onto the bench/box at the top of the movement.
5. Step back down onto the ground, but keep your one foot on the bench/box as you continue to perform step-ups on one leg at a time.
6. Repeat on the other leg.

During this exercise, **really focus on letting your one leg you are stepping up with do the work for you.** Press yourself onto the bench/box and place your other foot on the bench/box ONLY after you have completely straightened your other leg.



Exercise: Wall-sit**Muscles Targeted:** glutes, quadriceps, hamstrings**How to Perform:**

1. Find a wall or a pillar that is wide enough for you to rest your entire upper back alongside its flat surface.
2. Stand with your back to the wall/pillar.
3. Press your upper back against the wall/pillar and descend into a squat position with your hips and knees both at 90-degree angles.
4. Your upper back should remain flat against the wall/pillar and your feet should remain flat on the ground directly underneath your knees
5. Hold this position for the specified duration of the exercise.

Focus on **pushing into the ground through the middle or back of your feet** during this exercise. Avoid pressing through the toes and letting your body weight drift forward.



UPPER BODY RESISTANCE EXERCISES

Exercise: Push-up

Muscles Targeted: chest, shoulders, triceps

How to Perform:

1. Begin by placing your hands on the ground shoulder-width apart directly underneath your shoulders and your toes on the ground about hip-width apart.
2. Lower your chest towards the ground by bending at the elbows and shoulders.
3. Lower yourself until your elbows make a 90-degree angle.
4. Push yourself back up to the starting position.

To make this exercise easier, or to modify it, place your knees on the ground. **Be sure to keep your core tight throughout the movement** and keep your lower back from arching or your hips from rising up in the air.



Exercise: Pull-up

Muscles Targeted: upper back (latissimus dorsi), chest, biceps

How to Perform:

1. Stand directly underneath a pull-up bar.
2. Place your hands on the bar wider than shoulder-width.
3. Pull your chest towards the bar.
4. Continue to pull your chest towards the bar until your chin has passed the bar.
5. Lower yourself back to the starting position until your arms are completely straightened.

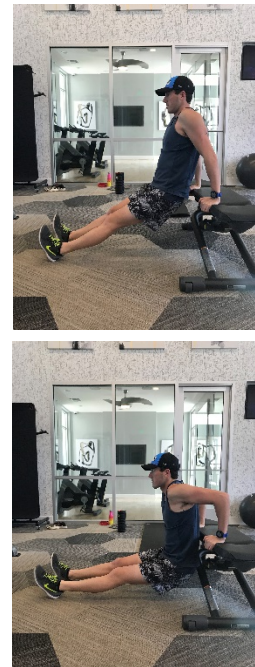
This is an advanced exercise and requires a significant amount of upper body strength to perform. **If you cannot perform pull-ups, using a “lat pulldown” machine/station in place of pull-ups is an appropriate alternative.** When performing lat pulldowns, avoid swaying back and forth as you pull the bar towards your chest, but rather keep a slight lean backwards at the hips throughout the entire movement.



Exercise: Triceps bench dip**Muscles Targeted:** chest, shoulders, triceps**How to Perform:**

1. You will need a bench to perform this exercise.
2. Begin by sitting on the bench with the palms of your hands placed along the edge of the bench just outside of your thighs.
3. Push yourself away from the bench so that your buttocks are hovering over the ground and your feet are extended straight out in front of you.
4. Lower yourself by bending at the elbows.
5. Continue to lower yourself until your elbows make a 90-degree angle.
6. Press yourself back up to the starting position until your arms are fully extended.

Throughout this movement, try to focus on dropping your hips straight down towards the ground and avoid pushing your hips forward as you lower yourself down towards the ground. Also, **to make this exercise easier, bend at your knees and place your feet flat on the ground directly underneath your knees.**

**Exercise:** Triceps dip**Muscles Targeted:** chest, shoulders, triceps**How to Perform:**

1. This exercise is performed specifically on a triceps dip station consisting of two bars that are positioned parallel to each other.
2. Place your hands on the bars and push yourself up so that your arms are fully extended.
3. Lower yourself by bending at the elbows and leaning forward slightly at the waist.
4. Continue to lower yourself until your elbows are approximately at a 90-degree angle.
5. Push yourself back up to the starting position until your arms are fully extended.

This is an advanced version of the “triceps bench dip” outlined above and requires a significant amount of upper body strength. If this exercise is too difficult to perform, begin by performing the “triceps bench dip.”

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=KdN8gEt58iE>

Exercise: Flat dumbbell chest press

Muscles Targeted: chest, shoulders, triceps

How to Perform:

1. With your dumbbells in hand, sit down on a flat bench.
2. Lay back with the dumbbells hugged alongside the outside of your chest.
3. Once flat on your back, press the dumbbells straight overhead until your arms are completely straightened.
4. Lower the dumbbells back to the outside of your chest.
5. Continue to lower the dumbbells until your elbows make a 90-degree angle. You can go a little lower than this position if you feel comfortable.

It helps to have someone spotting you during this exercise, particularly if you are new to this exercise. If your chest gets fatigued and you can't complete a repetition, the dumbbells may tend to fall inward towards your chest. A spotter will be able to guide your wrists up to the top of the chest press should you experience some trouble.



Exercise: Incline dumbbell chest press

Muscles Targeted: chest, shoulders, triceps

How to Perform:

1. With your dumbbells in hand, sit down on a bench angled to approximately a 45-degree angle.
2. Lay back with the dumbbells hugged alongside the outside of your chest.
3. Once on your back, press the dumbbells straight overhead until your arms are completely straightened.
4. Lower the dumbbells back down to the outside of your chest.
5. Continue to lower the dumbbells until your elbows make a 90-degree angle. You can go a little lower than this position if you feel comfortable.



The incline dumbbell chest press places a little more emphasis on the shoulders (deltoids) when compared to the flat dumbbell chest press. You will notice that you are not able to push quite as much weight in this position as you can on a flat chest press, and that is because you are shifting some of the focus away from your stronger chest muscles and to your smaller shoulder muscles.

Exercise: Seated shoulder press**Muscles Targeted:** shoulders, triceps**How to Perform:**

1. With your dumbbells in hand, sit down onto a bench that is angled to 90 degrees.
2. Begin with the dumbbells at the side of your head.
3. Press the dumbbells directly overhead until your arms are fully extended.
4. Lower the dumbbells back down to the side of your head slowly and with control.
5. Continue to lower the dumbbells until your elbows are at approximately 90 degrees.

It helps to have someone spotting you during this exercise, particularly if you are new to this exercise. If your shoulders get fatigued and you can't complete a repetition, the dumbbells may tend to fall inward towards your head. A spotter will be able to guide your wrists up to the top of the shoulder press should you experience some trouble.

**Exercise:** Standing shoulder press**Muscles Targeted:** shoulders, triceps**How to Perform:**

1. With your dumbbells in hand, begin in a standing position with your feet approximately hip-width apart.
2. Begin with the dumbbells at the side of your head.
3. Press the dumbbells directly overhead until your arms are fully extended.
4. Lower the dumbbells back down to the side of your head slowly and with control.
5. Continue to lower the dumbbells until your elbows are at approximately 90 degrees.

Be sure to keep your core tight and activated throughout this movement.

Try to avoid arching your lower back, especially as you get tired, as this places a lot of stress on your lower back and lumbar spine.



Exercise: Bent-over barbell row**Muscles Targeted:** upper back (latissimus dorsi), rear deltoids, biceps**How to Perform:**

1. Begin by grasping a barbell with a shoulder-width grip.
2. Tighten your core and inhale as you bend over at the waist with a flat back and shoulders pulled back.
3. Continue to lower yourself until the barbell is approximately in line with your knees. Your torso will be approximately a little above parallel to the ground.
4. Pull the barbell towards your abdomen.
5. Lower the barbell back to the starting position.

Be sure to keep your back flat throughout this movement. **DO NOT round your upper or lower back as this places a lot of stress on your spine.** It may help to have a mirror that you can look at while performing this movement to check your form.

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=jlm7-l8jxg4>

Exercise: Bent-over dumbbell row**Muscles Targeted:** upper back (latissimus dorsi), rear deltoids, biceps**How to Perform:**

1. This exercise is performed with one arm at a time.
2. Place a dumbbell on top of a bench and then place one knee and hand on the bench as pictured to the right.
3. Grab the dumbbell with your free hand and let it hang with your arm straightened directly below your shoulder.
4. Pull the dumbbell towards the outside of your abdomen.
5. Lower the dumbbell back to the starting position.
6. Repeat on the other side.

This exercise is a great alternative to the bent-over barbell row or a pull-up. **Be sure to keep your back flat and your core tight throughout this movement to avoid placing unnecessary stress on your spine.**



Exercise: Dumbbell shoulder front raise

Muscles Targeted: shoulders, biceps

How to Perform:

1. Hold a dumbbell in each hand and stand up tall.
2. Raise the dumbbells (palms facing down) in front of you until they reach the height of your shoulders.
3. Lower them back down towards the starting position until your arms are by your sides.

Avoid using momentum to swing the dumbbells up to shoulder-height as this takes away from the emphasis on the shoulder muscles. This movement should be very slow, deliberate, and controlled.



Exercise: Dumbbell shoulder lateral raise

Muscles Targeted: shoulders, biceps

How to Perform:

1. Hold a dumbbell in each hand and stand up tall.
2. Raise the dumbbells (palms facing down) to the side of your body until they reach the height of your shoulders.
3. Lower them back down towards the starting position until your arms are by your sides.

Avoid using momentum to swing the dumbbells up to shoulder-height as this takes away from the emphasis on the shoulder muscles. This movement, similar to the dumbbell front shoulder raise, should be very slow, deliberate, and controlled.



Exercise: Dumbbell rear delt raise

Muscles Targeted: rear deltoids

How to Perform:

1. Hold a dumbbell in each hand and sit upright on a bench.
2. Bend over at the waist until your stomach and chest are resting gently on your thighs.
3. Raise the dumbbells (palms facing down) to the side of your body until they reach the height of your shoulders.
4. Lower them back down towards the starting position until your arms are hanging down directly underneath your shoulders.

Focus on “squeezing” your shoulder blades together at the top of this movement. This exercise emphasizes the smaller muscles on the back of your shoulder and upper back and thinking about only using these muscles helps to perform the exercise correctly. This is a very slow and controlled movement; avoid using momentum to raise the dumbbells.



Exercise: Dumbbell bicep curl

Muscles Targeted: biceps, forearms

How to Perform:

1. Begin in either a standing position or a seated position (either is fine) with dumbbells in each hand and your palms facing forward.
2. Curl the dumbbells upwards by bending at the elbows. Continue to curl the dumbbells up towards your shoulders until you can no longer bend at the elbows.
3. Lower the dumbbells back to the starting position until your arms are completely straightened.

During this movement, avoid using momentum to lift the dumbbells by swinging your arms back and forth. Be sure to keep your elbows tucked alongside your torso and avoid letting your elbows drift in front of your body.



PEAK ENDURANCE SOLUTIONS

Exercise: Lying dumbbell triceps extension

Muscles Targeted: triceps

How to Perform:

1. Begin by sitting on a flat bench with dumbbells in each hand.
2. Lay back on the bench with the dumbbells tucked alongside your chest. Press them up towards the ceiling until your arms are completely straightened.
3. While keep your elbows directly over your shoulders, bend at your elbows to lower the dumbbells towards the outside of your forehead.
4. Continue to lower the dumbbells until your elbows are at approximately 90-degree angles.
5. Press the dumbbells back to the starting position until your arms are completely straightened.

During this movement, be sure to lower the dumbbells slowly and under control.

Start with a light pair of dumbbells to learn the movement and gradually increase the weight as you feel confident with this exercise. This is an exercise worth having a spotter for should you encounter trouble getting the weight back up to the starting position. A spotter will be able to assist you if needed by guiding your wrists back up towards the starting position.



Exercise: Renegade row

Muscles Targeted: upper back (latissimus), biceps, core/abdominals

How to Perform:

1. Begin with a pair of dumbbells on the ground.
2. Lower yourself down to the ground into a push-up position with your hands grabbing the dumbbells.
3. *Note: this exercise can be tough on some people's wrists, if you feel any pain in your wrists during this exercise, do not perform it*
4. Shift your weight to one side of your body and row one dumbbells towards the outside of your abdomen.
5. Lower the dumbbells back to the ground, shift your weight to the other side, and row the other dumbbells towards the outside of your abdomen.
6. Lower the dumbbells back to the ground. This is one full repetition.



During this movement, try to keep your hips level to the ground and aligned with the rest of your body as you would in a push-up. This is a great core exercise and raising or lowering your hips will take away from some of the focus on your core.



ABDOMINAL/CORE RESISTANCE EXERCISES**Exercise:** Sit-up**Muscles Targeted:** rectus abdominus (abdominals)**How to Perform:**

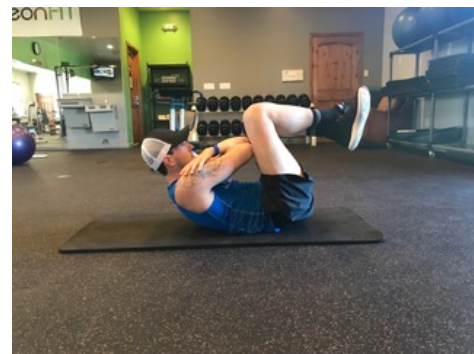
1. Begin by laying on your back, arms outstretched alongside your torso, and your knees bent to a 90-degree angle with your feet flat on the ground.
2. Cross your arms over your chest and begin to sit-up by rounding your back and reaching your forearms towards your thighs.
3. Continue to sit-up until your forearms reach your thighs.
4. Slowly lower yourself back to the ground until your shoulder blades touch the ground.
5. your shoulder blades touch the ground.

Think of initiating the sit-up by “rounding your back” and curling your body up into a ball. This will help in activating the abdominals and avoid using primarily the hip muscles to lift your torso off the ground.

**Exercise:** Crunch**Muscles Targeted:** rectus abdominus (abdominals)**How to Perform:**

1. Begin by laying on your back, arms crossed over your chest, and your knees bent to a 90-degree angle with your feet up in the air.
2. Reach your forearms towards your thighs.
3. Continue to reach until your forearms touch your thighs.
4. Slowly lower yourself back down until your shoulder blades touch the ground.

This exercise is a similar motion to the sit-up, except you are not performing quite as big of a range of motion as the sit-up, and this takes the hip muscles out of the exercise entirely. The crunch almost exclusively focuses the work on the abdominal muscles, whereas the sit-up engages the hip muscles and abdominals.



Exercise: Prone plank**Muscles Targeted:** rectus abdominus (abdominals), lower back**How to Perform:**

1. Begin by laying on the ground on your stomach.
2. Press your stomach and hips up off the ground by placing your body weight on your forearms and your toes.
3. Focus on holding this position while maintaining a flat back that is parallel to the ground.
4. Hold the position for the desired or prescribed duration of time.
5. Lower yourself back down to the ground slowly.



Focus on maintaining a flat back during this exercise and avoid arching your lower back. **To help you visualize this, imagine that a string is wrapped around your waist and is pulling your abdomen towards the ceiling.** You want to maintain this feeling throughout the movement.

Exercise: Side plank**Muscles Targeted:** rectus abdominus (abdominals), obliques**How to Perform:**

1. Begin by lying on your side with your legs stacked on top of each other.
2. Press your body up off the ground and place your weight onto your forearm and your feet.
3. Align your torso and your hips and be sure that your elbow is placed directly underneath your shoulder.
4. Hold this position for the desired or prescribed duration of time.
5. Lower yourself back down to the ground slowly.



While holding this position, focus on keeping your hips raised and do not let them sag. **Focus on a tight core and press into the ground with your forearm.** This is a great core exercise for developing strength in your obliques and developing your overall core stability.

Exercise: Lying leg raises

Muscles Targeted: hip flexors, rectus abdominus (abdominals)

How to Perform:

1. Lay on the ground with your back flat on the ground and your feet straight out in front of you.
2. Place your hands underneath your buttocks to help in preventing your lower back from arching when performing the movement.
3. Raise your legs towards the ceiling until they are approximately perpendicular to the ground, or directly above your hips.
4. Lower your legs back down towards the ground slowly and under control.
5. Continue to lower your legs until the heels are just shy of touching the ground.
6. shy of touching the ground.



While holding your heels off the ground, **keep your lower back from arching by focusing your efforts on tightening your abdomen.** If this exercise causes any discomfort in your lower back or if it is too difficult to keep your lower back from arching, bend your knees slightly while raising and lowering your legs to make the exercise a bit easier.

Exercise: Six inches

Muscles Targeted: hip flexors, rectus abdominus (abdominals)

How to Perform:

1. Lay on the ground with your back flat on the ground and your feet straight out in front of you.
2. Place your hands underneath your buttocks to help in preventing your lower back from arching when performing the movement.
3. Lift your heels off of the ground approximately six inches and hold this position for the desired or prescribed duration of time.
4. Slowly lower your heels back down to the ground.



While holding your heels off the ground, **keep your lower back from arching by focusing your efforts on tightening your abdomen.** If this exercise causes any discomfort in your lower back or if it is too difficult to keep your lower back from arching, bend your knees slightly while keeping your heels six inches off of the ground and this will make the exercise feel a little bit easier.



Exercise: Russian twists

Muscles Targeted: hip flexors, rectus abdominus (abdominals), obliques

How to Perform:

1. Begin in a seated position on the ground with your feet flat on the ground and your knees bent to a 90-degree angle.
2. Lean back so that your feet come up off the ground slightly and the angle between your torso and your legs are about 90 degrees.
3. Reach to one side of your body towards your hip.
4. Rotate to reach towards your opposite hip.
5. Repeat this motion.

During this movement, focus on keeping your legs from swaying back and forth. This is accomplished by tightening your core and rotating back-and-forth slowly and under control.

**Exercise:** Cable core rotations

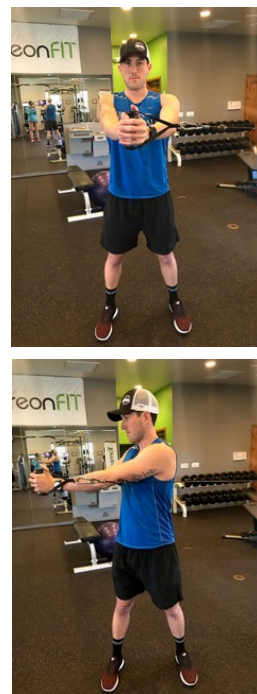
Muscles Targeted: rectus abdominus (abdominals), obliques

How to Perform:

1. For this exercise, you will need a cable tower set up so that one cable station is set up at approximately shoulder height with the handle attachment.
2. Grab the handle with both hands and walk away from the cable tower so that the weights are lifted off of the weight stack and you feel resistance.
3. Face perpendicular to the cable tower and place the handle directly in front of your chest.
4. Press the handle out in front of your chest so that you feel your core tighten. This is the starting position for the movement.
5. Rotate away from the cable tower as far as you can while rotating through your torso.
6. Slowly return to the starting position under control.

During this movement, be sure to keep the rotation coming from your torso.

Keep your hips in line with each other and do not rotate through the hips.



Exercise: Ab wheel rollout

Muscles Targeted: rectus abdominus (abdominals), low back, upper back (latissimus), chest

How to Perform:

1. For this exercise, you will need an ab wheel.
2. Begin kneeling on the ground with the ab wheel in both hands. *Note: It may be more comfortable on your knees to kneel on a mat for extra cushion.*
3. Place the ab wheel on the ground with your shoulders directly over your wrists.
4. Begin to roll the ab wheel forward, lowering your hips towards the ground.
5. Continue to roll the ab wheel as far as your core strength will allow, ultimately until your torso is almost touching the ground.
6. Roll the ab wheel back towards the starting position until your shoulders are directly over your wrists.

Throughout this movement, be sure to keep your abdominals tight and avoid arching at your lower back. If you find yourself arching your lower back and experiencing pain, stop this exercise. You may need to strengthen your core with other exercises before attempting this challenging exercise.

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=ulhAS7AOrgc>

Exercise: DB/KB single-arm farmer's walk (at side)

Muscles Targeted: rectus abdominus (abdominals), obliques, deep low back muscles

How to Perform:

1. Grab a single kettlebell or dumbbell to perform this movement. *Choose a weight that will be challenging for you to hold in one hand for about 45-60 seconds.*
2. Hold the kettlebell or dumbbell at your side, stand up tall, and begin to walk.
3. While walking, concentrate on keeping your hips and shoulder level by keeping your core tight.
4. Continue to walk with the kettlebell or dumbbell for the prescribed or desired duration of time.
5. Repeat on the other side.



This is a great core exercise for developing strength in some of the deeper muscles in your core.

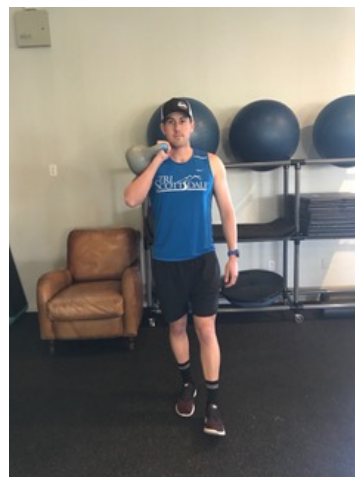
This strength is important for all endurance activities as the core plays such an integral role in stabilization while swimming, cycling, and running.

Exercise: DB/KB single-arm farmer's walk (front rack)

Muscles Targeted: rectus abdominus (abdominals), obliques, deep low back muscles

How to Perform:

1. Grab a single kettlebell or dumbbell to perform this movement. *Choose a weight that will be challenging for you to hold in one hand for about 45-60 seconds.*
2. Hold the kettlebell or dumbbell in a front rack position on one side of your body (see images to the right), stand up tall, and begin to walk.
3. While walking, concentrate on keeping your hips and shoulder level by keeping your core tight.
4. Continue to walk with the kettlebell or dumbbell for the prescribed or desired duration of time.
5. Repeat on the other side.



This is a great core exercise for developing strength in some of the deeper muscles in your core.

This strength is important for all endurance activities as the core plays such an integral role in stabilization while swimming, cycling, and running.

Exercise: Exercise-ball knee tuck

Muscles Targeted: hip flexors, rectus abdominus (abdominals), obliques, low back

How to Perform:

1. Begin with an exercise ball alongside of you as you kneel on the ground.
2. Raise yourself into a push-up position with the exercise ball placed on your shins.
3. Tuck your knees towards your chest without raising your hips.
4. Continue to draw your knees towards your chest until you can't go any further.
5. Slowly return to the starting position.



During this movement, be sure to keep your hands directly under your shoulders and your hips in line with your torso.

This movement should be performed slow and under control. Do not rush through it as performing it with control where much of the benefit of the exercise comes from.



PLYOMETRIC EXERCISES

Note: Before attempting to perform plyometric exercises, you should be proficient at performing squats and lunges and should be capable of performing weighted squats and/or lunges with proper technique and range of motion.

Exercise: Split squat jumps

Muscles Targeted: lower body power/explosiveness

How to Perform:

1. Begin by stepping back into a lunge position.
2. Descend into the lunge and, immediately upon reaching the bottom of the lunge position, explosively jump from the ground.
3. Quickly transition your legs so that you land in the lunge position on the opposite leg.
4. Descend into the lunge on the other side, explosively jumping from the ground as soon as you reach the bottom of the lunge.
5. Repeat this, switching from side-to-side.

Perform this exercise under control while maintaining balance as best as you can. **Don't rush this exercise as you switch from one leg to the other, but do try and be as quick as you can when jumping from the ground as you reach the bottom of each lunge.**

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=0MhEIJ779AU>

Exercise: Squat jump

Muscles Targeted: lower body power/explosiveness

How to Perform:

1. Begin in a standing position as you would when performing a body-weight squat.
2. Quickly descend into a squat position and, immediately upon reaching the bottom of the squat, jump from the ground as high as you can.
3. Upon landing, descend back into a squat position and repeat the jump from the ground.

When performing this exercise, you do not need to descend into a full depth squat, but rather only descend to about $\frac{3}{4}$ of the depth of a normal body-weight squat. **The focus on this plyometric exercise is to be as quick and explosive as possible, immediately jumping up once you reach the $\frac{3}{4}$ depth of a squat.**

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=YGGq0AE5Uyc>



Exercise: Lateral “skier” bounds

Muscles Targeted: lower body power/explosiveness

How to Perform:

1. Begin in a standing position with your legs about hip-width apart.
2. Jump directly to the side as far as you can, landing on one leg.
3. Immediately upon landing, jump to the opposite side as far as you can, landing on your other leg.
4. Continue with this pattern for the prescribed number of repetitions.

This is a great exercise for endurance athletes to do as it works muscles in ways you aren’t used to using them and works your body in a direction that you aren’t used to moving in. Endurance athletes often spend a lot of time moving in a forward direction, but incorporating exercises that force you to move laterally can help build strength in the body and in muscles that will help reduce the risk of overuse injury in the long-term.

See the following link for a video demonstration of this exercise:

https://www.youtube.com/watch?v=UErP_YLLQwM

Exercise: Alternating Single-leg forward bounds

Muscles Targeted: lower body power/explosiveness

How to Perform:

1. Begin in a standing position with your legs about hip-width apart.
2. Leap forward as far as you can by pushing off of one leg. *Note: You can begin with a running start if you would like.*
3. Immediately upon landing on the ground with the opposite leg, push off of the ground again and leap forward as far as you can.
4. Repeat this for the prescribed number of repetitions.

This is a great exercise to help develop power in your legs, ultimately translating to a more efficient and powerful running stride and cycling cadence.

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=b3124L0KK3Q>

Exercise: Single-leg vertical jump

Muscles Targeted: lower body power/explosiveness

How to Perform:

1. This exercise is similar to the “squat jump” described above on pg. 34; however, is performed on one leg at a time. You should be proficient with the “squat jump” before attempting to perform this exercise.
2. Begin by standing on one leg.
3. Jump as high as you can from the ground.
4. Upon landing, immediately jump back up as high as you can.

Single-leg plyometric exercises are great for endurance athletes as they help develop the ability to generate power in your legs. This improved power-generating ability translates over to running and cycling and improves your overall efficiency and power output.

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=MyX4fWcPp6c>

Exercise: Power skip

Muscles Targeted: lower body power/explosiveness

How to Perform:

1. Begin in a standing position with your legs hip-width apart.
2. Leap forward as far as you can while pushing off from the ground with one leg, landing on the opposite leg.
3. Immediately upon landing, push off from the ground with the leg you landed on, leaping forward again and landing on the opposite leg.

This exercise is similar to some of the single-leg plyometric exercises described above, and is a **great exercise for endurance athletes as it will help develop your power-generating capacity in your legs, translating directly over to improvements in your cycling and running efficiency.**

See the following link for a video demonstration of this exercise:

<https://www.youtube.com/watch?v=EMW4y-UiAvE>

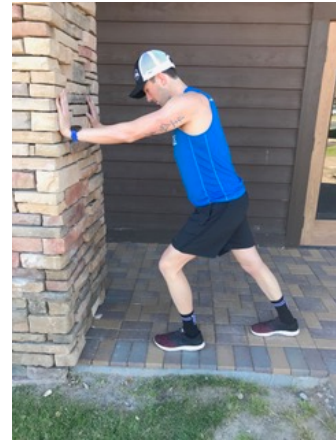
STATIC STRETCHING EXERCISES

Exercise: Calves stretch

Muscles Targeted: calves

How to Perform:

1. Find a wall to use for assistance with this stretch.
2. Facing the wall, place one foot behind you and press your heel to the ground while placing your hands on the wall and leaning forward.
3. Continue to slide your foot back until you feel a stretch in your calves.
4. Repeat on the other side.
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



This is a **great stretch to incorporate after a run workout**, especially after a fast-paced or very intense run workout such as a track session or interval run.

Exercise: Lying hamstring stretch

Muscles Targeted: hamstrings

How to Perform:

1. Begin by finding the corner of a wall that you can use to rest your leg against when you perform this exercise.
2. Lay on your back and raise one leg, while keeping it straight, until you can't raise it anymore.
3. Place the straight leg against the corner of the wall you have chosen; you should feel this stretch in the back of your leg.
4. Repeat on the other leg.
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



Be sure to **focus on keeping your leg straight** while stretching in this position. Bending at the leg will take away from the stretch in the hamstrings.

Exercise: Seated hamstring stretch**Muscles Targeted:** hamstrings, lower back**How to Perform:**

1. Begin in a seated position on the ground with your legs extended straight out in front of you.
2. Bend over at the waist and reach your hands towards your feet until you feel a stretch in your hamstrings (back of thigh) and lower back.
3. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



Be sure to **keep your legs as straight as possible and avoid bending at the knees**. Bending at the knees will take away from the stretch in your hamstrings during this movement. This is a great stretch to do to improve your comfort on the bike and your ability to be in as aggressive of a position as possible on a time trial/triathlon-specific bike. Tight hamstrings can cause lower back discomfort while riding a bike for long periods of time, and having greater flexibility in the hamstrings will allow you to get lower and more aggressive on your time trial/triathlon-specific bike.

Exercise: Standing quadriceps stretch**Muscles Targeted:** thigh (quadriceps), hip flexors**How to Perform:**

1. Begin in a standing position near a wall or pillar that you can use for balance.
2. Place one hand against the wall/pillar and use your other hand to grab your ankle, pulling your ankle towards your buttock.
3. Continue to pull your ankle towards your buttock until you feel a stretch in your quadriceps (front of thigh).
4. Repeat on the other leg.
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



Be sure to **keep your knees in line with each other during this stretch** and avoid letting the knee of the leg you are stretching drift in front of the other as this will take away from the stretch in your thigh.

Exercise: Kneeling hip flexor stretch**Muscles Targeted:** thigh (quadriceps), hip flexors**How to Perform:**

1. Begin kneeling on one knee with the other foot placed flat on the ground in front of you. Both knees should make a 90-degree angle.
2. Clasp your hands together and place them on your thigh.
3. Slowly begin to press your hips forward until you feel a stretch in your hip and quadriceps (front of your thigh).
4. Repeat on the other leg.
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



Be sure to **maintain an upright torso during this stretch** and avoid hunching over or bending over at the waist as this will take away from the stretch in your hip flexors.

Exercise: Seated butterfly (groin) stretch**Muscles Targeted:** groin/inner thigh**How to Perform:**

1. Begin in a seated position on the ground.
2. Place the soles of your feet together so that your knees fall out to the side of your body.
3. Grab your ankle with your hands and use your elbows/forearms to gently press your thighs towards the ground.
4. You should feel this stretch in your groin (inner thigh).
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



This is a **gentle stretch for your groin (inner thigh)**. If you need a more intense stretch or a stretch that'll cause you to go deeper into your groin, try the pigeon stretch on the next page.

Exercise: Pigeon stretch**Muscles Targeted:** hips/glutes, groin/inner thigh**How to Perform:**

1. Begin kneeling on the ground,
2. Place both hands on the ground and step both feet back so that you are in a push-up position.
3. Swing one leg up towards your chest, bend at the knee so that it makes a 45-degree angle, and place the outside of the shin on the ground underneath your chest.
4. Slowly lower your back leg until it is resting on the ground.
5. Lower yourself gently into the stretch until you feel it in your groin and hip.
6. Repeat on the other leg.
7. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



This is a pretty intense stretch for most people, particularly for the groin (inner thigh). **Be gentle with this stretch and really focus on relaxing into the stretch** as best as you can.

Exercise: Lying knee hug**Muscles Targeted:** glutes**How to Perform:**

1. Begin on your back with your legs extended straight.
2. Hug one knee towards your chest by placing clasped hands on your shin.
3. If placing your hands on your shin causes any discomfort in your knee, hug your knee into your chest by clasping your hands around the back of your thigh just underneath your shin.
4. Repeat on the other leg.
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



This is a great stretch to incorporate into your regular routine as **the glutes are often a source of tightness for many endurance athletes**, particularly from running and cycling.

Exercise: Standing chest stretch**Muscles Targeted:** chest**How to Perform:**

1. Find a wall or a pillar/pole to perform this stretch.
2. Making a 90-degree bend at your elbow, raise one arm so that your forearm rests against the wall or pole/pillar.
3. Gently rotate away from your forearm until you feel a stretch in your chest.
4. Repeat on the other arm.
5. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*

The **chest can be a common tight spot for endurance athletes** and can limit range of motion in our shoulders, which can be especially problematic while swimming or when trying to maintain good running posture/technique. Extensive hours spent sitting at desks at work or sitting on the couch at home can make our chest even tighter.

**Exercise:** Triceps/lat stretch**Muscles Targeted:** triceps, upper back (latissimus)**How to Perform:**

1. Begin in a standing position and raise one arm straight up in the air as if you were reaching directly overhead.
2. Bend at your elbow and reach behind your head as if you were trying to scratch your upper back.
3. Place your other hand on your elbow and gently pull your elbow closer to the midline of your body until you feel a stretch in your triceps (back of your arm).
4. To get a deeper stretch in your triceps and to stretch out your lats (your back muscles), lean to the side in the direction away from the arm that is overhead.
5. Repeat on the other side.
6. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



This a **great stretch to do after a swim workout** as swimming relies heavily on your lats and triceps. Developing flexibility in your lats and triceps will also help you feel more comfortable on the bike, especially when riding in the aero position.

Exercise: Lateral neck stretch**Muscles Targeted:** upper neck and trapezius**How to Perform:**

1. Begin in a standing position and place one hand on the opposite side of your head.
2. Gently pull your head to the side until you feel a stretch on the side of your neck.
3. Repeat on the other side.
4. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*

This is a great stretch to do when you are at work or have been sitting for prolonged periods of time as your neck can become tight, especially if you sit with poor posture. This is also a great stretch to do after a long bike workout spent in the aero position where your neck can become tight from straining to look ahead of you while riding.

**Exercise:** Wrist/forearm stretch**Muscles Targeted:** forearm and wrist**How to Perform:**

1. This stretch can be performed seated or standing.
2. Raise one of your arms straight out in front of you.
3. Pull the palm of your hand back towards the top of your forearm to stretch your wrist flexors (underside of your forearm).
4. Pull the palm of your hand down and towards the underside of your forearm to stretch your wrist extensors (top of your forearm).
5. Repeat on both arms.
6. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*

This stretch, although seemingly not important for an endurance athlete, can be a wonderful stretch to help relax the forearm muscles, which can become tense from normal daily activities such as typing on a computer, as well as from swimming and running.



Exercise: Deltoid stretch**Muscles Targeted:** shoulders, rear deltoids**How to Perform:**

1. Begin in a standing position.
2. Take one arm and cross it in front of your body.
3. Place your other arm in front of the arm crossed over your body and pull it closer to your body.
4. You should feel a stretch in your shoulder.
5. Repeat on the other side.
6. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*

This is a great stretch to do after a run as the shoulders can become tight from swinging your arms repetitively. **Do this stretch after a long run and loosen up those shoulders.**

**Exercise:** Lying twist**Muscles Targeted:** lower back, hips/glutes**How to Perform:**

1. Begin on your back with your legs extended straight.
2. Take one leg and bend it to 90 degrees at the knee.
3. Begin to rotate your hips so that the bent leg falls over your extended leg.
4. Place the opposite hand on the bent leg and pull your leg gently towards the ground.
5. Continue to pull on your leg until you feel a stretch in your lower back and hips.
6. Repeat on the other side.
7. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



Throughout this stretch, **aim to keep your upper back and shoulder pressed against the ground** to maximize the stretch that this places on your lower back and hips. Letting your shoulder lift off of the ground will reduce the stretch in your hips and lower back.

Exercise: “Chest opener” stretch

Muscles Targeted: chest, shoulders, biceps, abdomen

How to Perform:

1. This stretch is best performed with a foam roller or a yoga block
2. Lay the foam roller or yoga block on the ground.
3. Lay on the foam roller or yoga block so that it is resting in the middle of your upper back.
4. Let your legs straighten and your arms spread out to the side so that you feel a stretch in your chest and abdomen.
5. If this stretch places any discomfort on your lower back, you can simply bend your knees to 90 degrees and place your feet flat on the ground.
6. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



Due to a combination of long-periods of sitting that is commonplace in modern society and the stresses of being an endurance athlete, the chest can become very tight in many athletes. This is a **fantastic stretch to help “open” the chest and counteract much of the sitting and hunching over we all do on a daily basis** when driving, sitting at our desk, leaning over onto the handlebars of our bike, etc.

Exercise: Child’s pose

Muscles Targeted: chest, upper back (latissimus), shoulders, triceps

How to Perform:

1. Begin in a kneeling position.
2. Reach your arms overhead while bending over at the waist so that your buttocks rests on your heels.
3. You should feel a stretch in your shoulders, chest, and upper back.
4. *Hold each stretch for 1-2 sets of 30-60 sec, aiming for 60 sec of stretching in total.*



This is a **great stretch to do while you are at work or after a swim, bike, or run** to help open up your shoulder joints. The muscles around our shoulders can become tight from sitting throughout the day and from swimming, cycling, and running. This stretch can be a great way to loosen up those tight muscles.