

Warm-up & Cool-down

- **Lifting Specific Warm-up**
- **Conditioning Specific Warm-up**
- **Cool-Down**



Warm-up

- ✓ A proper warm-up is important before any athletic performance with the goal of preparing the athlete both mentally and physically for exercise and competition.
- ✓ A warm-up is designed to prepare an athlete's body for the demands of lifting, conditioning, or competition and can improve performance and decrease the risk of injury if well designed.
- ✓ A proper warm-up should take the body through full ranges of motion while establishing proper neuro-muscular firing patterns to align the body and give mechanical advantage to express power and strength.
- ✓ The objectives of the warm-up are to increase heart rate, blood flow, internal temperature of the muscles, respiration rate and perspiration and decrease the viscosity of joint fluids.



Warm-up

- ✓ In strength training, conditioning and sports, the body goes through many different types of movement so the warm-up needs to incorporate movements specific to the exercises that will be performed during the training session.
- ✓ Keeping the warm-up specific to training is important to decrease the risk of injury and adequately prepare the athlete for performance.
- ✓ 8 to 12 minutes of dynamic exercises that focus on movements that work through the range of motion required for the sport, lifts, or drills should be performed prior to training.
- ✓ The warm-up should have a gradual progression and provide sufficient intensity to increase muscle and core temperatures without causing fatigue or reducing energy stores.



Warm-up

- ✓ If the athlete is about to lift weights, then the athlete could perform a variety of dynamic exercises to adequately prepare for strength training.
- ✓ For conditioning, the warm-up needs to include more intense dynamic movements and adequately prepare the body for the intensity of running.
- ✓ An athlete should start with simple exercises like walking knee to chest pulls and progress to more intense exercises such as carioca.
- ✓ The more power requirements for the sport or activity, the more important the warm-up becomes. Properly warming up can increase the ability to train more efficiently.



Lifting Specific Warm-up

1. Arm Circles

- ☐ **2x10 Small (10 clockwise & 10 counter clockwise)**
- ☐ **2x10 Large (10 clockwise & 10 counter clockwise)**

2. Hurdle Unders

- ☐ **2x10 (10 each way)**

3. Light Squats

- ☐ **2x10**



Arm Circles

- **Procedure:**

- Start standing tall reaching through the top of the skull with feet hip width apart, toes pointed straight ahead, knees slightly bent, abs tight and shoulder blades back and down.
- Raise the arms up to each side slightly lower than shoulder height with the palms facing forward.
- Perform 10 small circles swinging the arms clockwise and rotating the hands clockwise; then perform 10 small circles swinging the arms counter clockwise and rotating the hands counter clockwise.
- Perform 10 large circles swinging the arms clockwise; then perform 10 large circles swinging the arms counter.
- There should be a stretch throughout pectoral and biceps muscles

- **Sets x Reps:**

- 1 x 20 (10 small forward, 10 small backward)
- 1 x 20 (10 large forward, 10 large backward)

- **Key Points:**

- Perform each arm circles in a controlled manner keeping the elbows extended but not locked out.
- The small circles should be approximately 1-2 inches in diameter.
- The large circles should move through complete shoulder range of motion.
- Avoid pushing the head forward and arching the back.

Small



Large



Hurdle Unders

- **Procedure:**

- Set the bar on the hooks in the squat rack a little below chest height to start. As the athletes gain mobility, lower the bar as needed.
- Stand erect reaching through the top of the skull with the feet hip-width apart, toes pointed straight ahead, knees slightly bent, abs tight and shoulder blades back & down.
- Shift into the hip away from the rack and step under the hurdle with the other foot.
- Keep the weight on the heels, drop the hips as low as possible while gliding under the bar.
- Shift the weight into the other hip while beginning to extend the knees and hips.
- Finish by standing erect on the other side of the bar.
- Repeat on the opposite side.

- **Sets x Reps**

- 2 x 10

- **Key Points:**

- Keep toes pointed straight ahead.
 - Always keep heels on the ground.
 - Avoid letting the chest drop to the knees. Sit back at the hips and try to drop the hips to the ankles to get full range of motion.
 - On the ascending motion, contract the gluteal and abdominal muscles to stabilize the spine.
 - Do not look up when standing up, but look straight ahead.
 - Avoid kicking the hips back and arching the back to stand up.



Light Squats

- **Procedure:**

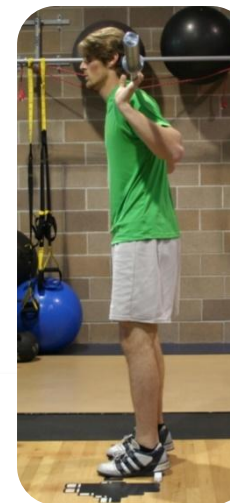
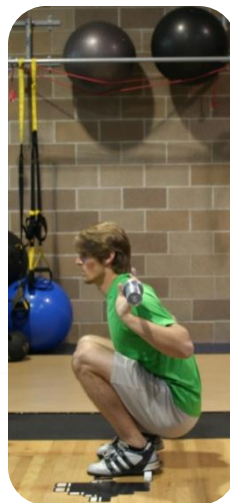
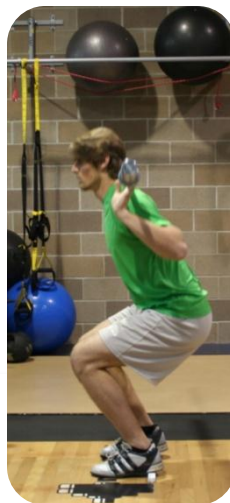
- Stand erect reaching through the top of the skull with the feet hip-width apart, toes pointed straight ahead, knees slightly bent, abs tight, shoulder blades back and down.
- Simultaneously flex at the hips, knees and ankles to begin descending.
- Keep the ribcage locked with the hips by isometrically contracting the abs throughout the entire lift.
- Weight should be distributed mainly to the heels with the shin angle and torso angle matching throughout the full range of motion (ROM).
- Descend as low as possible while keeping the heels flat on the ground and matching the shin and torso angles.
- Begin ascending by contracting the gluteals and abdominals and driving the heels through the ground.
- Drive through the heels until the knees and hips are fully extended but not locked out.

- **Sets x Reps:**

- 2 x 10

- **Key points:**

- Keep toes pointed straight ahead.
 - Keep heels on the ground.
 - Keep eyes looking straight ahead in relation to the ribcage.
 - Keep ribcage pulled down with the abdominal muscles contracted.
 - Move through the full range of motion while maintaining proper technique.



Conditioning Specific Warm-up

1. Walking Knee to Chest

☐ 1 x 10 yards

2. Forward Lunge with Elbow to Instep

☐ 1 x 5 each

3. Side Lunge with Squat

☐ 1 x 5 each

4. Toy Soldier

☐ 1 x 10 yards

5. High Knees

☐ 2 x 10 yards

6. Heel Ups

☐ 2 x 10 yards

7. Carioca

☐ 2 x 10 yards



Walking Knee to Chest

- **Procedure:**

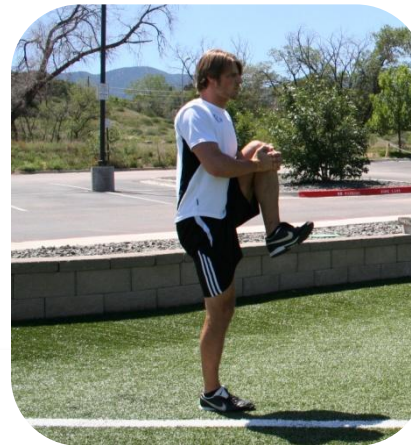
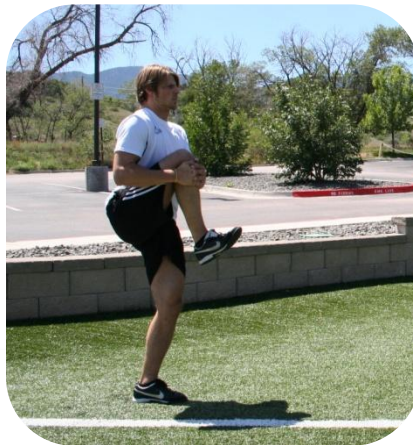
- Stand erect with the feet parallel to each other and hip-width apart.
- Step forward with the left leg and flex the right hip and knee to move the right thigh upward toward the chest.
- Grasp the front of the right knee and use the arms to pull the right knee up further and to squeeze the thigh against the chest.
- Pull the toes to the shin (dorsiflex) as the right hip, knee and ankle are fully flexed.
- Keeping the torso erect, pause for a moment, then proceed to step down with the right leg.
- Shift the body weight to the right leg and repeat the motion with the left leg.
- Progress forward with each step, increasing the ROM and speed on subsequent steps.

- **Sets x Reps:**

- 1 x 10 yards

- **Key Points:**

- Alternately pull each knee to the chest while maintaining a forward lean
- Find the arch and big toe with each step
- Avoid externally rotating the foot, extending up on the toes and pointing the other toes.
- Avoid shrugging the shoulders, throwing the head back, leaning backwards and arching the back.



Forward Lunge with Elbow to Instep

- **Procedure:**

- Stand erect with the feet parallel to each other and shoulder-width apart.
- Take an exaggerated step directly forward with the left leg, planting the left foot flat on the floor pointing straight ahead.
- Allow the left hip and knee to slowly flex, keeping the left knee directly over the left foot.
- Slightly flex the right knee and lower it until it is 1 to 2 inches (3-5 cm) above the floor; the right foot should be pointed straight ahead.
- Lean forward, bringing the left arm forward and touching the left elbow to the instep of the left foot; the right hand may be placed on the floor to maintain balance..
- Pick up the right foot and step directly into the next lunge.

- **Sets x Reps:**

- 1 x 5 each

- **Key points:**

- Alternate each lunge and reach each elbow to the instep so that there is a stretch in the groin.
- With each alternating lunge, step through the full range of motion so that there is no pause in the middle of each lunge.
- Hold each lunge for 3 seconds.
- Avoid arching the back, throwing the head back
- Do not let the back foot roll to the side or the knee to open to the side



Side Lunge with Squat

- **Procedure:**

- Stand erect facing laterally with feet hip width apart.
- Take a step out with the left foot keeping both toes straight ahead and hands out front.
- Push butt back, chest downward slightly, and shift into the left hip keeping weight on the heels. Hold for 3 seconds.
- Pull through using the left leg to feet hip-width apart and stand erect.
- Squat down and up under control keeping weight on the heels.
- Repeat 2 through 5 three more times on the left, turn around, and complete 4 with the right side.

- **Sets x Reps:**

- 1 x 5 each

- **Key Points:**

- Every athletes stride length will be different depending on their height and hip mobility.
- When shifting, do not allow the knee to fly out laterally.
- Keep the trail foot firmly planted on the ground, do not allow to roll over on the ankle.
- Squat to full ROM with proper mechanics.



Toy Soldiers

- **Procedure:**

- Start standing tall with the hips directly underneath the torso.
- Extend both arms straight out from the body at a 90 degree angle with the torso. The arms should be parallel with the ground.
- Take a small step with the left foot.
- Keeping the right leg extended at the knee, kick the right leg up to hand height or just beyond.
- Keep the toes pulled back toward the shin (dorsiflexed) during the kick.
- Step with the right foot and kick the left leg up.
- Keep the hips underneath the body and keep the abs isometrically contracted.
- Keep the head positioned to where the eyes are facing straight ahead and the head is not forward.

- **Sets x Reps:**

- 1 x 10 yards

- **Key Points:**

- Alternate the kick with each leg so that the motion is smooth and controlled.
- Do not take steps in between each leg kick
- Maintain a forward lean so that during each kick the body does not go into extension.
- Avoid leaning backward and arching the back when kicking.



High Knees

- **Procedure:**

- Begin by driving one knee up forcefully and high.
- Swing the opposite arm forward keeping it at a 90degree angle.
- Drive the opposite foot into the ground forcefully and swing the opposite elbow back vigorously.
- Dorsiflex the toes of the foot in the air.
- Keep the hands relaxed.
- When one leg is flexed, the other leg should be fully extended.
- Bend forward slightly at the waist while keeping the back straight.
- Relax the face and arms.
- Take short, quick, one-foot steps.

- **Sets x Reps:**

- 2 x 10 yards

- **Key Points:**

- Avoid leaning back or taking long steps.
- Maintain proper forward lean.
- Make sure thighs become parallel to the ground.
- Arms should swing freely at the shoulders with good action.
- Keep the face and neck relaxed.
- At least 30 steps should be achieved in 10 yards.



Heel-ups

- **Procedure:**

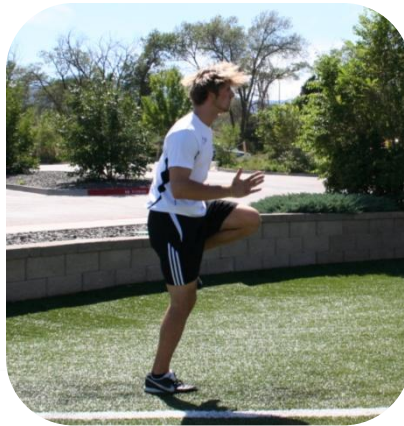
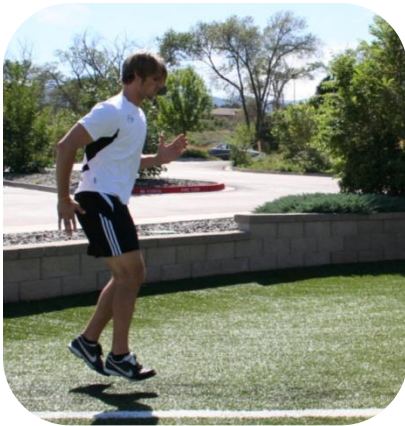
- Begin by simultaneously driving one knee up while forcefully pulling the heel to the buttocks.
- Swing the opposite arm forward keeping it at a 90degree angle.
- Dorsiflex the toes of the foot in the air.
- Keep the hands relaxed.
- When one leg is flexed, the other leg should be fully extended.
- Bend forward slightly at the waist while keeping the back straight.
- Relax the face and arms.
- Action is quick and a smooth swinging motion is produced at the knee joint.

- **Sets x Reps:**

- 2 x 10 yards

- **Key Points:**

- Maintain good forward lean.
- Each knee should raise to just below hip level.
- Heels should be tucked to the bottom of the buttocks.
- Avoid moving forward too fast, limiting the knees from coming forward, and arching of the low back.



Carioca

- **Procedure:**

- Start facing laterally with the feet hip width apart.
- Keeping the shoulders square to the line, take a small lateral step with the left foot and drive the right knee up and across the body while swing the left arm forward.
- Use the abs to swing the hips one direction and the ribs and shoulders the opposite.
- Land on the right foot, side step to the left foot, cross behind with the right foot and side step with the left foot.
- Drive the right knee up and across the body while swing the left arm forward and continue for 10 yards.
- Switch directions and repeat.

- **Sets x Reps:**

- 2 x 10 yards

- **Key Points:**

- Perform each step quickly and forcefully and drive the back knee up high.
- When pushing off the back foot, fully extend the back leg to get full triple extension and optimal power production.



Cool-down

- ✓ A proper cool-down is important after intense training and competition as the athlete place great demands on the musculoskeletal, nervous, immune, and metabolic systems.
- ✓ When implemented correctly a cool-down will reduce muscle soreness decrements in power, mobility, speed, and agility.
- ✓ There are many different modalities used to cool-down with no definitive evidence that one is more effective than the other.



Cool-down Stretches

1. Standing Gastrocnemius & Soleus Stretch

☐ **2 x 5 breaths each leg**

2. Standing Partner Chest Stretch

☐ **2 x 5 breaths**

3. Kneeling Hip Flexor Stretch

☐ **2 x 5 breaths each leg**

4. Kneeling Latissimus & Back Stretch

☐ **3 x 3 breaths**

5. Lying Knee to Chest Stretch

☐ **2 x 5 breaths each leg**



Standing Gastrocnemius & Soleus Stretch

- **Procedure:**

- Stand against a partner with your right leg in front of you and your left leg behind you.
- Straighten your left leg and slightly bend your right.
- Keeping your left leg straight and maintaining contact with the floor from your left heel, bend your right knee until you feel a stretch in the back of your left calf muscle.
- Hold this position while you take 4-5 deep breaths in through your nose and out through your mouth.
- Relax, then slightly bend both your left and right knees.
- Maintaining contact with the floor from your left heel, bend both your right and left knees further until you feel a stretch in the inner part of your left calf muscle.
- Relax, switch sides and repeat.

- **Sets x Reps:**

- 2 x 5 breaths each leg

- **Key points:**

- Complete 2 sets on each side.
- Keep the eyes focused straight ahead.
- Keep the heels in contact with the ground.
- Avoid pushing the hips too far forward to prevent the back from arching.



Standing Partner Chest Stretch

- **Procedure:**

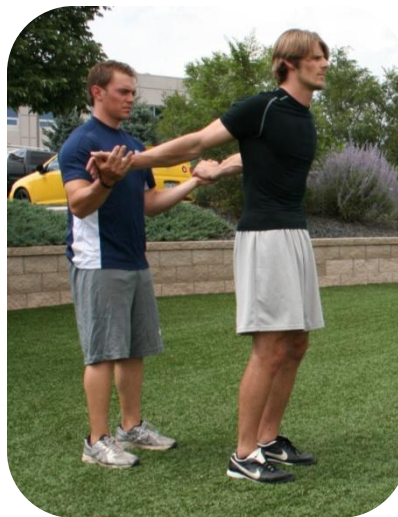
- Partner up. One partner should be directly behind the other standing with their feet hip-width apart, toes pointed straight ahead with the ribcage pulled down and the hips directly under the shoulders.
- Partner 1 will abduct their hands with the palms facing forward (anterior).
- Partner 2 will gently grab partner 1's palms and slowly pull their hands back and up.
- Partner 2 will pull until partner 1 feels a stretch through the front of their chest.
- Hold this position for 5 deep breaths or 15-20 seconds.
- Switch partners and repeat.

- **Sets x Reps:**

- 2 x 5 breaths

- **Key points:**

- The partner being stretched should maintain a slight forward lean and squeezing the glutes and isometrically contracting the abs so that there is a slight arch in the lower back.
- The partner being stretched should keep the chest depressed and keep the eyes facing straight ahead. Do not look up.
- Avoid excessively arching the low back and looking up.
- The partner that is pulling the hands back should perform this motion slowly. Any rapid, jerking movement could cause injury to the other athlete.



Kneeling Hip Flexor Stretch

- **Procedure:**

- Kneel down on the right knee.
- Bend the left knee and hip and place the foot out in front.
- Perform a posterior pelvis tilt by tucking the glutes in.
- Maintaining a pelvic tilt, glide forward with your hips until you feel a stretch in the front of the thigh.
- Hold this position while you take 5 deep breaths in through your nose and out through your mouth.
- Relax and repeat for another 5 deep breaths.
- Switch sides and repeat.

- **Sets x Reps:**

- 2 x 5 breaths each leg

- **Key points:**

- There should be a stretch felt throughout the quadriceps and hip flexors.
- Throughout the entire stretch keep contracting the glutes and the abs so that the hips stay tucked and there is no arch in the lower back.
- Avoid lifting the ribs, releasing the abs and arching the low back to push the hips through.
- After the stretch is complete, get out of the position slowly and gradually.



Kneeling Latissimus & Back Stretch

- **Procedure:**

- Kneel down with the knees directly under the hips.
- Slowly come forward with the torso and place the hands on the ground directly under the shoulders.
- Keeping the back rounded, begin sitting the hips back until you can't sit back any more.
- Inhale through the nose and exhale through the mouth, reaching forward with the hands. Hold this position and inhale through the nose.
- Exhale and reach forward further without letting your bottom come away from the heels.
- You should feel a stretch through the lats and back.
- Inhale once more and exhale as you begin to come back up to the starting position.
- Relax and repeat 2 more times.

- **Sets x Reps:**

- 3 x 3 breaths

- **Key points:**

- Inhale through the nose without using the neck.
- Exhale completely and hold for a 3 count.
- Keep reaching the hands forward without lifting the ribcage.
- Avoid letting the head go forward toward the ground.
- After the stretch is complete stand up gradually and slowly.



Lying Knee to Chest Stretch

- **Procedure:**

- Lie on the back with the head pressed into the ground and the knees tucked to the chest.
- Exhale and perform a posterior pelvic tilt to lift the hips slightly off the ground so that the abs are isometrically contracted.
- Inhale and begin to extend the right leg out so that is straight and the toe is pointing towards the sky.
- Exhale and pull the left knee towards the chest.
- Inhale and reach through the right heel.
- Repeat for a total of 5 deep breaths or 15-20 seconds for 2 sets on each side.
- Tuck both knees back up and repeat for the other side.

- **Sets x Reps:**

- 2 x 5 breaths each leg

- **Key points:**

- The athlete should feel a stretch through the right hip flexors and upper quadriceps muscles.
- Inhale through the nose without using the neck.
- Exhale completely and hold for a 3 count.
- Keep reaching the hands forward without lifting the ribcage.
- After the stretch is complete stand up gradually and slowly.

