STRENGTHENING EXERCISES

Incorporate these exercises into your pre- and post-run routine to reduce the risk of pain or injury.

866.TRY.NOA | novacare.com | injuryhotline@novacare.com

**BRIDGE**

This is a strengthening exercise for your back, hamstrings, quadriceps, calves and gluteus muscles.

- With knees bent and feet flat against the floor, begin by contracting abdominal muscles to stabilize the back, hips and pelvis.
- Lift hips (squeeze your buttocks) off the floor into a bridge so your body forms one straight line from shoulders to knees.
- Do not attempt to go higher than this position and do not allow back to arch.
- Hold bridge position for three-to-five seconds, then repeat movement.

**ROSE WALL SLIDES**

This is a strengthening exercise for your hip muscles.

- Lie on the floor on your side with body up against the wall. Make sure hips are stacked on one another.
- Place a towel or pair of socks between the heel of your top leg and the wall.
- While contracting your abdominals, tighten gluteus and slowly slide the towel up the wall.
- Move the leg up 75 percent of your available range and hold at top for three seconds. Lower your leg to starting position and repeat the movement.

**PLANK**

This is a strengthening exercise for the core muscles.

- Lie on the ground supporting upper body on bent elbows and tucking toes underneath you.
- Contract abdominal muscles by pulling navel toward spine so your body forms a straight line from head to feet (or knees for kneeling modified position).
- Tighten gluteus and keep neck in a straight position. Beginners hold for 30-45 seconds, repeating three times. As you get stronger, increase the hold time to 45-60 seconds, repeating three times.

**SIDE PLANK**

- With feet on the ground, feet together, elbow and forearm on the ground, push up into a side plank position.
- Hold this position for 30-45 seconds, repeating three times on each side.
- Modify by performing on knees instead of toes.

**CHAIR SQUAT WITH CALF RAISE**

- Stand in front of a chair and squat backward as if preparing to sit, then return to standing.
- Once standing, perform calf raise by standing on tip toes.
  - During squat, focus on sitting back and allow minimal-to-no forward movement of knees, and keep trunk upright. To decrease difficulty, tap buttock onto the chair, then return to standing.
  - Avoid this exercise if you are experiencing front knee pain.

**CUP PICK UPS**

- Stand on one leg between the last two cups.
- Rotating from hips, turn to face the first cup.
- Bend from hip, using back leg as a pendulum, to pick up the cup.
- Stand up straight and rotate back to a neutral position.
- Repeat steps two and three to place the cup back in its original spot.
- Do this sequence for all of the cups, and repeat three-to-five times in each spot.
- Repeat on opposite leg.

All exercises should be performed three-to-four times per week with three sets of 10 repetitions. This may prevent an injury, but it is recommended to consult a medical professional before beginning any exercise program.
SPORTS PERFORMANCE
Basic Strengthening Exercises

All exercises should be performed 3-4x/week and may prevent an injury.
It is recommended to consult a medical professional before beginning any exercise program if concerned with an injury.

The Bridge:
This is a strengthening exercise for your back, hamstrings, quadriceps, and glute muscles:
- With your knees bent and feet flat against the floor, begin by contracting your abdominal muscles to stabilize the back, hips, and pelvis.
- Then lift your hips up off the floor into a bridge so your body forms one straight line from your shoulders to your knees.
- Do not attempt to go higher than this position and do not allow your back to arch.
- Beginners: Perform 3 sets of 8-10 repetitions.
- Advance Single Leg Bridges
- With legs bent, lift buttocks off floor.
- Slowly extend left knee while keeping stomach tight.
- Slowly lower buttocks back to ground while keeping left knee extended straight out.
- Repeat on opposite side.
- Repeat 10-15 times/set; 3 sets/session.

Plank/Side Plank:
This is a strengthening exercise for the core muscles:
- Lie on the ground supporting your upper body on bent elbows and tucking your toes underneath you.
- Contract your abdominal muscles by pulling your navel towards your spine to form your body in a straight line from your head to your feet (or knees for kneeling modified position).
- Tighten your gluts and keep your neck in a neutral straight position. Beginners - hold for 30-45 seconds, repeating 3 times.
- As you get stronger, increase the hold time to 45-60 seconds, repeating 3 times.
- Side Plank:
- With feet on the ground, feet together, elbow and forearm on the ground; push up into a side plank position.
- Hold this position for 30-45 seconds.
- Repeat 3 times on each side.
- Note: Modify by performing on knees instead of toes.

Rose Wall Slides:
This is a strengthening exercise for your hip muscles:
- The lateral hip muscles are required to be strong and stable to optimize running performance.
- To complete the exercise, lie on the floor on your side,
- Your body should be up against the wall.
- Place a towel or pair of socks between the heel of your top leg and the wall.
- While contracting your abdominals, tighten your gluts and slowly slide the towel up the wall.
- Move the leg up 75% of your available range and hold at top for 2 seconds.
- Beginners - Perform 3 sets of 5-10 repetitions and make sure you are moving slowly and controlled.

Cup Pick Ups:
- Stand on one leg between the last two cups.
- Rotating from your hips, turn to face the first cup.
- Bend from your hip, using your back leg as a pendulum, to pick up the cup.
- Stand up straight and rotate back to a neutral position.
- Repeat steps two and three to place the cup back in its original spot.
- Do this same sequence for all of the cups, and repeat 3-5 times in each spot.
- Repeat on opposite leg.

Chair Squat with Calf Raise:
- Stand in front of chair.
- Squat backward as if preparing to sit into the chair; then return to standing.
- Once standing, perform calf raise by standing on tip toes.
- Repeat 15 times/set; 3 sets/session
- slowly bend your knees while keeping your back straight, pull your shoulders back and avoid excessive bending at the knees.
- To decrease difficulty, tap your buttck onto the chair, then return to standing.
- Avoid this exercise if you see any pain in your knees.

Contact NovaCare’s Injury Hotline with any Questions (866) TRY-NOVA.
**Sports Performance**

**Basic Stretching Exercises**

Stretches should be performed after activity. Hold all stretches for 20-30 seconds each and repeat 3 times.

**Stretching of the Right Iliotibial Band/IT Band:**
- Perform the IT-band stretch by standing parallel to the wall.
- With the right hand on the wall, pull the left leg in front of the right foot so that the heel of the left foot is against the toe of the right.
- Then lean the upper body away from the object while pushing the right hip towards the wall.
- The stretch should be felt over the outside right hip.

**Hamstring Stretch:**
- Perform this stretch by placing heel on an object about 16 inches off the ground on a low bench or stair step.
- Keeping your abdominals tight, lean slightly forward keeping your back straight and bend your standing leg to avoid bending over too much.
- The exercise should be felt on back of thigh.

**Hip Flexor Stretch:**
- Perform this stretch by placing your foot up on a bench or stair step.
- Place your hands over your head and rotate up and away from the standing leg (not pictured).
- Bring hips forward and away from the standing leg until a stretch is felt on the left front of the hip.

**Calf Stretch:**
- Perform the gastrocnemius stretch by placing hands up against the wall.
- Bring one leg behind the other into a lunge position.
- Be sure that your back leg is straight with the heel on the floor.
- Lean into the wall until the stretch is felt in the calf.

**Soleus Stretch (Not Pictured):**
- To stretch the soleus muscle, slightly bend the knee of the back leg, keeping your heel on the floor.
- The stretch should be felt closer to the heel and Achilles tendon.

**Quad Stretch:**
- Perform this stretch by taking the heel of one foot up towards your buttock.
- Your knee should point towards the ground and you should be standing tall with tight abdominals.
- Your standing leg should be slightly bent.
- The stretch should be felt in the front of the thigh.

**Piriformis (Figure 4) Stretch:**
- Lay on back with right knee bent and left ankle resting on your right knee.
- Pull your left knee towards your right shoulder until a stretch is felt in your left buttocks.
- Repeat with your other leg.

If you have questions or concerns regarding the prevention and treatment of common running injuries, call the NovaCare Rehabilitation Injury Hotline: 866-TRY-NOVA (866.879.6682).

Like us in Facebook at www.facebook.com/novacarechicago and find our photo album titled “Dynamic Stretches”. These can be performed before any activity.
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<th>EXERCISE</th>
<th>HOW TO PERFORM</th>
<th>STRETCH FOR</th>
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<td>KNEE TO CHEST WALK</td>
<td>Hug knee as you walk with alternating steps.</td>
<td>Back, gluteals, and piriforms</td>
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<tr>
<td>QUAD REACH WALK</td>
<td>Grab left ankle with left hand and bring your heel towards your gluteals.</td>
<td>Quad and hip flexor</td>
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<td></td>
<td>Raise opposite arm. Alternate steps.</td>
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<tr>
<td>RUSSIAN WALK</td>
<td>March forward while kicking leg straight up towards your hands.</td>
<td>Hamstrings</td>
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<tr>
<td>CROSS-OVER RUSSIAN</td>
<td>Same as Russian Walk, but kick your leg out across your body and touch your</td>
<td>IT Band</td>
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<td>WALK</td>
<td>foot with your opposite hand.</td>
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<tr>
<td>INCH WORM</td>
<td>Start off in push up position. Walk feet towards your hands (pike position),</td>
<td>Calves and hamstrings</td>
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<td></td>
<td>then walk hands out back to push up position</td>
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Drills should be done 1-2 minutes each (5-10 min warm-up) before your run.
INJURY QUESTIONS? CALL OUR INJURY HOTLINE (866) TRY-NOVA!