

# SOLUTIONS PHYSICAL THERAPY & SPORTS MEDICINE NEWSLETTER



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## High Hamstring Strain

by Shira Weiss PT, DPT

Tired of that nagging pain in the behind? High hamstring strains can be very common in runners due to the repetitive nature of the activity, which requires hip extension. Your hamstrings, which run from the pelvic bone that you sit on (your ischial tuberosity) down the back of your thigh and attach just below the knee, primarily work to bend the knee. Your gluteal muscles' primary job is to move your hip from flexion to extension (a running cycle); however, if the gluteals are not properly trained to do so, the hamstrings will take over as they are a secondary hip extensor muscle group. When this occurs repetitively, the proximal attachment of the hamstring muscles will become inflamed and eventually will weaken and become painful. This can result in pain with sitting (especially on hard surfaces), stretching, forward bending, or repetitive activities like running.

Conservative treatment has been shown in the literature to be the most commonly accepted form of treatment for this injury, specifically eccentric training. Eccentric training of the hamstring involves focus on control of muscle lengthening and is beneficial due to the increased load to the tendon that occurs with this training technique. A physical therapist will also identify if an athlete is using the gluteals and the hamstrings appropriately with hip extension movements and help to retrain the faulty movement pattern if it exists.

If the injury is chronic (has been present for greater than six weeks), it is appropriate for the athlete to perform eccentric exercises with a certain level of discomfort as long as the exercise can be sustained at a low level. Other treatment techniques that a physical therapist can use to treat this injury include core strengthening, soft tissue massage or use of Graston instruments, Trigger Point Dry Needling, and KinesioTaping. If you and your physical therapist have been treating your injury over a long period of time without significant improvement, your therapist will refer you to the appropriate health care professional for imaging or alternative treatment techniques such as Platelet-Rich-Plasma injections (PRP) or as a last resort, surgery if an acute tear is present.

Pain that occurs in the entire hamstring can be easily confused with sciatica since the sciatic nerve runs along the length of the hamstring muscle. Seeing a physical therapist for a proper evaluation will help to determine the origin of an athlete's symptoms. If your symptoms include pain that extends past the knee, any numbness or tingling, or weaknesses in major muscle groups, attempting these exercises could result in an increase in symptoms.

Having your running gait analyzed by a physical therapist is helpful for an athlete to properly observe faults in the kinetic chain as your foot hits the ground. This can also serve to identify potential neuromuscular control deficits and muscle weaknesses in order for an athlete to avoid injury. At Solutions Physical Therapy & Sports Medicine, we use video technology to analyze your running gait and design an individualized therapeutic exercise program to address our findings and help you to achieve your running goals. The exercises at the end of the newsletter are likely to be involved in your program and are designed to retrain the proper recruitment pattern for your hip extensors and strengthen your hamstrings and gluteals.

# Recipe Corner

## Watermelon Tomato Salad



5 cups (3/4-inch) seeded watermelon cubes  
1 1/2 pounds ripe tomatoes, cut into 3/4-inch cubes  
3 teaspoons sugar  
1/2 teaspoon salt  
1 small red onion, quartered and thinly sliced  
1/2 cup red wine vinegar  
1/4 cup extra virgin olive oil  
Romaine lettuce leaves (optional)  
Cracked black pepper to taste

### Step 1

Combine watermelon and tomatoes in a large bowl; sprinkle with sugar and salt, tossing to coat. Let stand 15 minutes.

### Step 2

Stir in onion, vinegar, and oil. Cover and chill 2 hours. Serve chilled with lettuce leaves, if desired. Sprinkle with cracked black pepper to taste.

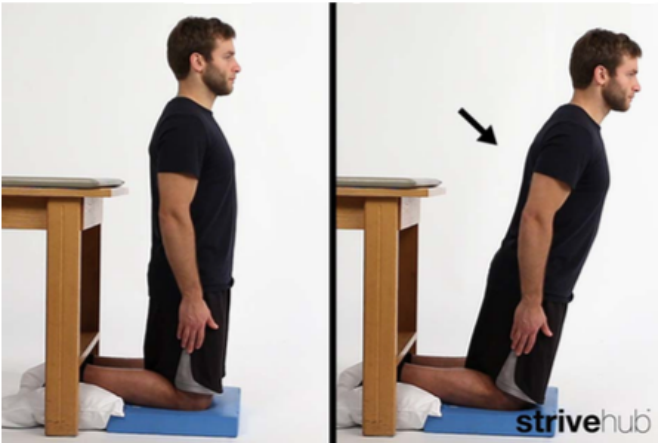
## Patient Story

I had a top-notch experience with my PT at Solutions. I tore my ACL playing basketball and had surgery in October 2017. I was at PT 2 days later and now 9 months out I've made a full recovery. I credit my quick recovery to my excellent therapist Christina and the whole team at solutions. They were extremely thorough and never rushed me, I was often there for an hour and a half or more going through exercises and getting great value. I highly recommend them for anyone with physical therapy needs! *-Justin*

# Exercise Tips

## Exercises for High Hamstring Strains

Russian Hamstring Curls



**Sets:** 10x **Reps:** -- **Resistance:** -- **Hold:** -- **Rest:** -- **Times Per Day:** --  
**Times Per Week:** --

**Description:** Starting Position: -Begin in a tall kneeling position with your lower legs stabilized by a person or furniture. Movement: -While keeping your core and gluteal muscles engaged, slowly tilt your body forward from your knees. Be sure to keep your body completely straight. Move only a small range of motion initially to test your limits; this is a very challenging and demanding exercise on your hamstrings. You will feel a strain along the back of your upper leg. Repeat as prescribed. Tip: -Be sure not to bend forward at your hips.

Hamstring Bridge on Ball



**Sets:** 3 **Reps:** 10 **Resistance:** -- **Hold:** -- **Rest:** -- **Times Per Day:** --  
**Times Per Week:** --

**Description:** Starting Position: Begin lying on back with both heels on top of the ball. Knees should be bent to 90 degrees.

**Movement:** Engage your core by bringing belly button towards the spine. Squeeze your buttocks and push your heels into the ball to lift your hips up off the floor, as high as you can keeping a neutral spine. Slowly lower your hips back down to the floor.