Prevention of Common Running Injuries through Strength Training, Corrective Exercise and Mobility Drills

Check with your physician before beginning a new exercise program! It is best to perform these exercises with the instruction of a certified fitness professional or medical professional.

1) **Runner's Knee:** Generally caused by weak or inflexible quads and resulting in knee pain. Self-massage, stretching, and increasing strength in the hips and quads can all be helpful. It can also be helpful to shorten your running stride and increase your foot strike rate.

   - Foam roll quads and/or use a self-massage tool such as “the stick” on the quads
   - Hip Flexor Mobility Drills
   - Couch Stretch
   - Prisoner Squats
   - Rear Foot Elevated Split Squats
   - Mountain Climbers
   - Walking Lunges
   - Lateral Movement (side lunges, side shuffle, carioca)

2) **Achilles Tendonitis or Tedonosis:** Often related to tight and weak calves. It can commonly happen when runners increase their mileage too rapidly. Lowering into a deep squat can help assess tightness in the calves.

   - Foam roll and/or use “the stick” on the calves
   - Ankle Mobility Drills
   - Split Squats
   - Eccentric Calf Raises
   - Farmer’s Walk on Toes

3) **Plantar Fasciitis:** It is caused by tight calf muscles and weak foot muscles. It is often related to Achilles tendonitis.

   - Roll a frozen water bottle under foot or a ball for self-massage. Preferably start with a massage ball that is soft and then progress to harder ones.
   - Seated Foot Stretch
   - Deep Knee Bends
   - Eccentric Calf Raises
4) **Hamstring Injuries and Strains:** It is caused most often by a muscle imbalance between our quad and hamstring strength. In a study in the American Journal of Sports Medicine, 7 out of 10 athletes with recurring hamstring injuries had muscle imbalances between their quadriceps and hamstrings. After correcting the imbalance by strengthening the hamstrings, every person in the study went injury free for the entire 12 month follow up.

- Foam roll glutes and hamstrings
- Single Leg Hip Hinge
- Hip Raises/Bridge
- Quadruped Straight Leg Raises
- Straight Leg and RDL Deadlift
- Step-Ups
- Walking Lunges

5) **Shin Splints:** It is caused by fibers of the muscles in the front of the shin starting to pull off the shin bone. Some of the causes can be increasing mileage too quickly, tight calves, poor running form due to weak hips and core.

- Foam roll the calves and shins
- Heel walks to strengthen the Tibialis Anterior
- Calf Raises with toes pointed in and heels out to strengthen Tibialis Posterior
- Toe Raises
- Toe Walks

6) **IT Band Syndrome:** A band of fascia that runs from the pelvis to the knee can rub back and forth over the femur and can cause pain in the hip or knee. Often caused weak or overly tight hips.

- Foam rolling on lateral thigh, quad, hamstring, and glutes
- Lying Figure 4 Glute Stretch
- Hip Raises/Bridge
- Clamshell
- Lateral Lunges
- Resistance Band Hip Abduction
- Lateral Band Walks

7) **Stress Fractures:** It is caused by accumulated strain over time due to building mileage too quickly, poor running form, improper footwear, and feet slapping the ground as you run. More common with the popularity of barefoot running.

- Planks
- Hip Raises/Bridges
Strengthen the whole body. A stronger runner generally has better form and foot strike.

8) **Back/SI Pain**: It can be caused by poor running mechanics and posture.

- Core Stability: Planks
- Hip Raises/Bridging
- RDL Deadlifts
- Bird Dog
- McGill Curl-Ups