

Female Athletes experience increased incidence of ankle injuries in sport hypothesized due to higher laxity (joint and ligamentous), range of motion, hormonal influences, and biomechanical differences in female sex assigned at birth (1).

Research shows a neuromuscular training warm up can help prevent ankle injuries (1). Ankle injury prevention programs should include static exercises and dynamic sport specific movements. Ideally, these are performed on sport specific surfaces (i.e. basketball court with basketball shoes soccer)

The below program has been adopted from the SHRED (3) program to compliment current static ankle strengthening and balance program

Equipment:

- 2 Cones
- Ladder OR Line

Set Up:

- 2 cones placed in a straight line at least 5 meters apart (specific distance can vary based on available space)

Dynamic

Running:

Forward

- 2 laps running around the cone in a clockwise fashion, 2 laps running around the cone in a counter clockwise fashion



- 2 laps cutting at the cone but running in a forward facing direction



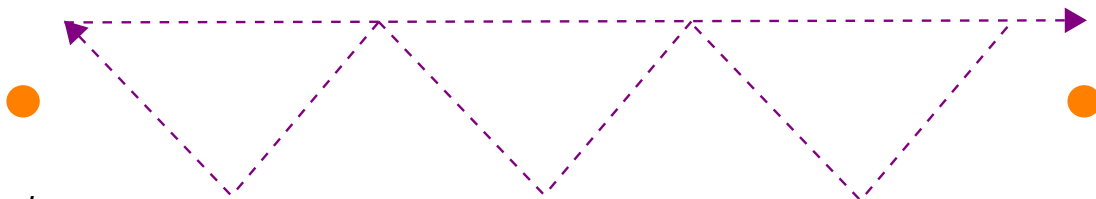
- 2 laps forward run, progressing in speed

Sideways:

- 2 laps side shuffle (facing the same direction throughout)

Cutting:

- 2 laps forward running with zig-zag side shuffle backwards
- 2 laps forward running with zig-zag carioca backwards



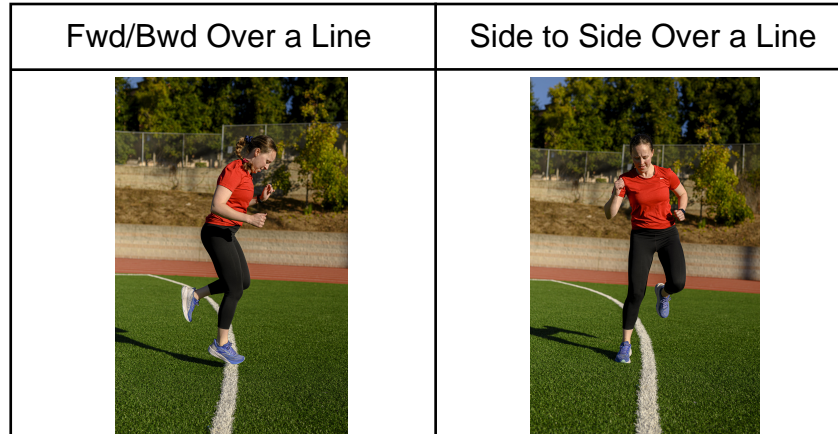
Skipping:

- Forward skipping
- Sideway skipping

Plyometric

Hopping:

- (2 sets of 10 for each)
- Squat jump (double leg)
- Single Leg hopping



-Skate Jumps: Increase distance side to side when hopping from one leg to the next. Try to stack your hip, knee and ankle in a line while maintaining trunk over center of mass



1.Caldemeyer, L. E., Brown, S. M., & Mulcahey, M. K. (2020). Neuromuscular training for the prevention of ankle sprains in female athletes: a systematic review. *The Physician and Sportsmedicine*, 48(4), 363–369. <https://doi-org.ucsf.idm.oclc.org/10.1080/00913847.2020.1732246>
 2.Verhagen, E. A., & Bay, K. (2010). Optimising ankle sprain prevention: a critical review and practical appraisal of the literature. *British journal of sports medicine*, 44(15), 1082–1088. <https://doi.org/10.1136/bjism.2010.076406>
 3.The “SHRed Injuries Basketball” Neuromuscular Training Warm-up Program Reduces Ankle and Knee Injury Rates by 36% in Youth Basketball

Static

Balance:

(For each exercise, perform 2 x 10 repetitions on each leg)

Beginner	Advanced
Single leg Balance with torso rotation	Single leg balance with torso rotation tosses
Single leg balance with chest pass	Single leg balance with ball rolls
Single leg balance with single leg squat and pass	Single leg balance with single leg squat pass and jump up to catch pass

Strengthening:

For planks and sideplanks, 3 set of 30 second hold

For all other exercises, 2 sets of 8-12

Beginner	Advanced		
<p>Plank</p> 	<p>Plank with Hip Extension</p> 		
<p>Sideplank</p> 	<p>Sideplank with Hip Abduction</p> 		
<p>Nordic Hamstring Curl (reduced range)</p> 	<p>Nordic Hamstring Curl (full range)</p> 		
<p>Walking Lunges with Torso Rotation</p> 	<p>Walking Lunges with Knee Lift and Chop</p> 		
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