

Runner's Soul Marathon Club,

Thanks again for listening to me discuss injury prevention research and provide exercises. As I mentioned I work with great staff at Rebound Health Centre – located in the Sports Medicine Centre in the University of Lethbridge, 403.329.2114 and at Fit Physiotherapy, 403.394.2277 if you feel a Physiotherapy assessment may be beneficial to help you in reaching your goal race – virtual or in real life!

I will add the foot core strengthening routine that we went through – I would recommend performing this routine 1x/week, preferably in the middle of the week, not the day before a long run. I will also include the strengthening exercises with the recommended repetitions (reps) and sets, ideally performing these 1-2x/week. As I mentioned, you may decide to start this program AFTER you have completed your half marathon or marathon goal race.

Good luck and happy training!



Bruce Stewart




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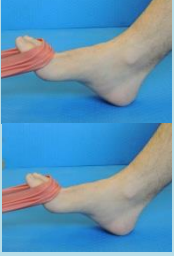
Foot Core Training to Prevent Running-Related Injuries A Survival Analysis of a Single-Blind, Randomized Controlled Trial Ulisses T. Taddei,* PhD, PT, Alessandra B. Matias,* MSc, PT, Marcos Duarte,y PhD, and Isabel C.N. Sacco,* z PhD Investigation performed at Faculdade de Medicina, Universidade de Sa~ o Paulo, Brazil

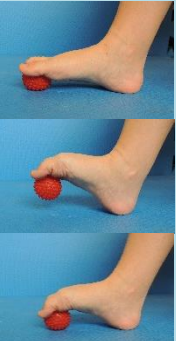


Additional file 1



Table S1 - Exercises included in the supervised sessions by a physiotherapist.

Name	Execution	Training Volume	Progression	Progression Parameter	Approximate Duration
<p>Massage</p> 	<p>Sitting, with leg crossed over the other, massage the sole of your feet with both hands, for 20 seconds. Rub your foot in a circular motion using your thumb. Do the same on the other foot.</p>	<p>1 set of 20 seconds each foot</p>	<p>-</p>	<p>-</p>	<p>40 Seconds</p>
<p>Toes manipulation</p> 	<p>Sitting, with leg crossed over the other, hold each toe and slowly spin side to side, like a screw. Do with all toes.</p>	<p>1 set of 10 times each finger</p>	<p>-</p>	<p>-</p>	<p>1 minute</p>
<p>Rubber ball slide</p>	<p>Slowly slide your foot on the ball throughout the foot sole from the heel to the fingertips.</p>	<p>1 set of 30 seconds each foot</p>	<p>-</p>	<p>-</p>	<p>1 minute</p>

					
<p>Feet tapping</p> 	<p>With the heel fixed, tap your foot as fast as possible. Starts seated on a chair, and do with both feet at the same time. After you learn, do the same tapping standing.</p>	<p>1 set of 30 repetitions</p>	<p>1: 1x30 repetitions; 2: 2x30 repetitions; 3: 2x40 repetitions</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>1-2 minutes</p>
<p>Forefoot ascend</p> 	<p>Standing, ascend and descend on forefoot. Start standing, using both feet. Use a chair or table to keep balance.</p>	<p>1 set of 30 repetitions</p>	<p>1: 1x30 repetitions; 2: 2x30 repetitions; 3: 2x40 repetitions</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>1-2 minutes</p>

<p>Invert/Evert asymmetric</p> 	<p>Sitting, with 90 degrees of knee and ankle flexion, perform asymmetrical foot inversion (lifting medial side) and eversion (lifting lateral side).</p>	<p>1 set of 10 repetitions maintaining each position for 1 second.</p>	<p>1: Sitting: 1x10 repetitions; 2: Standing: 1x10 repetitions ; 3: Standing 1x20 repetitions maintaining each position for 2 seconds.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set, and without loss of balance.</p>	<p>1-2 minutes</p>
<p>Foot abduction</p> 	<p>Standing, using a resistance band around the forefoot, perform foot abduction and return to the original position</p>	<p>2 sets of 10 repetitions each foot</p>	<p>1: 2x10 repetitions; 2: 4x10 repetitions; 3: 6x10 repetitions.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>1-6 minutes</p>
<p>Toes and ankle flexion</p> 	<p>Sitting posture, using a resistance band around the forefoot, perform ankle and toes flexion and return to the original position</p>	<p>1 sets of 10 repetitions each foot</p>	<p>1: 1x10 repetitions; 2: 2x10 repetitions; 3: 3x10 repetitions.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>1-3 minutes</p>

<p>Grab and hold squeeze ball</p> 	<p>Grab and hold a squeeze ball with all the toes, raise it from the floor and place it back to it's original position. Always keep the heel fixed on the ground.</p>	<p>1 sets of 5 repetitions each foot holding the ball for 5 seconds</p>	<p>1: Sitting posture 1x5 repetitions; 2: Standing posture 2x5 repetitions; 3: Standing posture 3x5 repetitions.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>2-6 minutes</p>
<p>Squeeze toes separators</p> 	<p>Sitting position, with 90 degrees of knee and ankle flexion, adduct and abduct, squeeze the toes separators for one second always keeping the heel fixed on the ground.</p>	<p>1 sets of 10 repetitions each foot</p>	<p>1: 1x10 repetitions; 2: 2x10 repetitions; 3: 3x10 repetitions.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>2-6 minutes</p>
<p>Squeeze ball with little toes</p> 	<p>Grab and hold a squeeze ball with the metatarsophalangeal region and place it back to the starting position.</p>	<p>1 sets of 5 repetitions each foot holding the ball for 5 seconds</p>	<p>Progression requires raising squeeze balls hardness.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set and being able to hold abduction for the stipulated time.</p>	<p>2 minutes</p>

<p>Toes Abduction/adduction</p> 	<p>Sitting position, with 90 degrees of knee and ankle flexion, adduct and abduct toes holding each position for 2 seconds.</p>	<p>1 sets of 10 repetitions each foot holding abduction for 2 seconds and adduction for 2 seconds.</p>	<p>1: Sitting posture 1x10 repetitions; 2: Standing posture 2x10 repetitions; 3: Standing posture 2x10 repetitions holding abduction/adduction for 5 seconds.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set and being able to hold abduction for the stipulated time.</p>	<p>1-2 minutes</p>
<p>Short-foot exercise</p> 	<p>Sitting, with 90 degrees of knee and ankle flexion, approximate the head of the first metatarsal toward the heel without toe flexion, "shortening" the feet. The forefoot and heel should not get off the ground.</p>	<p>1 set of 10 repetitions each foot, maintaining 5 seconds each contraction.</p>	<p>1: Sitting 1x10 repetitions; 2: Standing 1x10 repetitions; 3: Single leg stance 1x10 repetitions.</p>	<p>Being able to perform the set without pain or muscle cramp after the completion of the set.</p>	<p>4-6 minutes</p>

Plantar arch raise



Sitting, raise the plantar arch in an arch shape. The heel and fingertips should not get off the ground.

1 set of 10 repetitions each foot, maintaining 5 seconds each contraction.

1: Sitting
1x10 repetitions;
2: Standing
1x10 repetitions;
3: Single leg stance
1x10 repetitions.

Being able to perform the set without pain or muscle cramp after the completion of the set.

4-6 minutes