

Injury Prevention: Thoracic Rotation

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Thoracic rotation is the ability of each segment (vertebra) of your upper back to rotate on each other. For runners, this movement is necessary to counterbalance the axial rotation of your pelvis (see Figure 1) during running. If you are stiff through this section of your back, limiting thoracic rotation, your running gait will need to alter to accommodate this stiffness. This in turn may detract from your performance and possibly increase the chance of injury.



Figure 1.

To test if you have adequate thoracic range of motion, sit on a chair, cross your arms on your shoulders (see Figure 2) and



Figure 2.

attempt to rotate left or right without moving your pelvis on the chair. Rotation of 60 degrees would be adequate for running purposes. Less than this and thoracic rotation may be limiting your ability to run to your potential.

Make sure you compare left to right sides. If one side has markedly less range of motion than the other, then this is a sign that you may need to address this issue. Also note that you may have similar range in each direction, however on one side you may have to work harder to get there. This is another sign that one side may require your attention. In running perspectives, this will restrict normal range of motion to that side during running. Although you may not notice this during your run, it will affect your entire running gait and as mentioned above, if it is not addressed it may lead to an injury.

Thoracic rotation may be limited by the joint structures of your thoracic spine (12 vertebra with ribs attached to each) or by the muscle and fascia that traverse the area.

To address both these areas, try the following exercises:



Figure 3.

Thoracic Extension Exercise

Roll up a towel, place it on the ground and lay on it as depicted in Figure 3. Make sure the towel is underneath your thoracic spine in a longitudinal fashion. Stay on the towel for 45-60 seconds, give yourself 30 seconds rest and go again. Repeat this 4-5 times.

If you have a Thoracic Rack then use this device as your spine will have to mobilise (conform) to the shape of the rack, increasing its flexibility. Beware of stretching over a Swiss Ball. The Swiss ball will conform to your stiff thoracic spine rather than your back conforming.

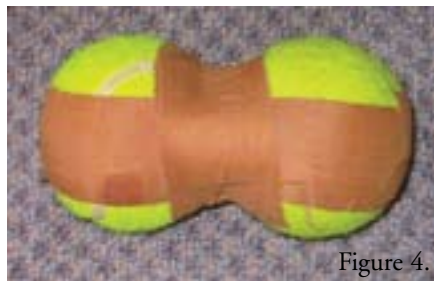


Figure 4.

Individual Joint Mobilisation

Use a tennis ball, or taped tennis balls, to lie on (see Figure 4). Place them underneath a stiff portion of your thoracic spine and lay over them (see Figure 5). Hold each position for 20-25 seconds.

Broom handle rotation



Figure 5.

While seated on a stool or something similar, place a broom handle behind your back and hold it firmly to one section of your thoracic spine. Now keep your pelvis as still as possible while rotating your

Figure 6.



thoracic spine to the left and right in a repetitive manner (see Figure 6). The broom handle will act to isolate a segment of your spine. Alter this placement of the broom up and down your spine every 15 – 20 seconds.

Rotation stretch



Figure 7.

Sit on a ledge (lounge or bed is fine) place one leg out along the ledge as depicted in Figure 7. Now rotate around, sliding your hand down your leg as you go. This will encourage rotation to your right in a similar situation to running. Do this slowly and repetitively, 8-12 times on each side. If you are unsure of the condition of your thoracic spine and its ability to rotate, contact your Soft Tissue Therapist for further assessment.

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