

straight + sorted

Injury treatment and prevention are paramount in all aspects of sport performance and participation. Basic postural education and treatment is often overlooked as a major source of athletic injury and performance deprivation.

At the centre of importance for postural efficiency is the thoracic spine (mid portion of your back with the ribs attached). Often neglected, this area needs to be mobile. If not, there are a number of consequential movement deficiencies that will occur that will affect all types of athletic ability from swimming to rugby.

A hyperkyphotic thoracic spine (too much curve, depicted in the image above)



will inevitably lead to hunched shoulders and forward head postures. These poor postures are chronic with modern society and are the cause of many upper back problems, cervical, shoulder pain and headaches. Moreover, this position decreases our bodies ability to perform at our peak physical capabilities and furthermore, cause injuries.

The Portable Thoracic Rack (PTR) is designed to reverse these postures, mobilise the stiff and often immobile thoracic spine, alleviate headaches, aches and pains and ultimately improve performance.



As an example of what a stiff thoracic spine can cause, put yourself into a poor postural position as depicted in the diagram below. Now try extending your glenohumeral joint (shoulder) noting the available range (see diagram A opposite). Now improve your posture by sitting up, alleviating your

again and try and take a deep breath. Now sit your self up, decreasing the curve in your thoracic spine, and take a deep breath. Notice the marked increase in air you can take into your lungs?

The ability to move freely through your thoracic spine is paramount for sports people

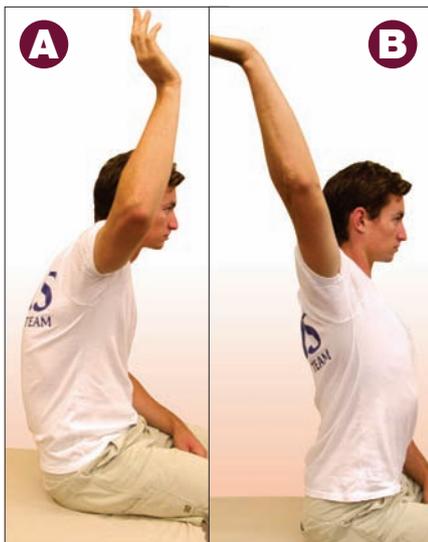
“The Portable Thoracic Rack (PTR) is designed to mobilise the stiff and often immobile thoracic spine, alleviate headaches, aches and pains and ultimately improve performance”

hyperkyphosis. Now try again to move your shoulder through it's range – note the change. Hence a hyperkyphotic (too much curve) thoracic spine decreases your ability to move your glenohumeral joint (shoulder joint) and scapulothoracic joint (shoulder blade on rib cage). Inevitably, this will lead to a number of shoulder impingements and consequential pain.

I'm sure most people would agree that lung capacity is an important aspect of any sport. Let's try another example of what a stiff thoracic spine can cause. Put yourself in that poor postural position

such as swimmers and triathletes. A stiff thoracic spine will diminish performance in all three facets of triathlon. During the swim it is vital to have good shoulder mobility for stroke technique. However, a stiff thoracic spine will decrease your ability to achieve this as Diagram A depicts. Not only will this impair your swim stroke (decreased range decreasing your stroke length) it will increase your chance of shoulder impingement – a very common swimming injury.

During the bike leg it is important to be streamlined in an aerodynamic position. Again, a stiff thoracic spine will diminish



your ability to achieve this, rendering you less efficient in your bike position.

During running, it is important to be able to stand tall and lift your head high. Again, a stiff thoracic spine will depreciate your ability to do this. When running it's also necessary to counter rotate through your spine (with regard to your pelvis) to allow freedom of movement. A stiff thoracic spine will not only limit this ability to counter rotate but also decrease your ability to rotate your pelvis in an anterior and posterior position to allow for comfortable gait and stride length.

Furthermore your ability to breathe fully is highly impaired in this poor posture/stiff thoracic spine mode as depicted above.

Disorders attributed to poor thoracic mobility

A hyperkyphotic posture may also lead to disorders such as 'thoracic outlet syndrome', which describes the impingement or tensioning of our neurovascular (nerve and blood vessels) bundles as they traverse the numerous tissues from their origin and beyond. This syndrome reflects some of the problems poor posture may be attributed to. As our bodies conform to less than healthy postures, certain structures will be affected. In this case (thoracic outlet syndrome), the nerves and blood vessels can become impinged or squashed as anatomical parts oppose each other in poor posture. Some areas may have to become stretched to traverse the same area as tissues (bone, ligament, tendon, muscle, etc.) move apart from each other in poor postures. Either way they become affected and may produce pain, discomfort or more serious disorders (numbness, tingling, motor control deficits).

When treating athletes with common shoulder disorders such as shoulder bursitis, impingement, biceps tendonitis, rotator cuff tendonitis/opathy the thoracic spine is always a component of the disorder. Inevitably, the thoracic spine will

1. Begin with hands on chest



2. Hands to forehead



3. Then hands extended



The extended position in diagram 3 is often difficult to achieve initially. Athletes may have to progress to this stage over a number of weeks. A yellow pages or other form of weight can then be used to further increase your mobility into this range.

Alternatively someone can help you out as in diagram 4

4. Help to fully extend



need to be mobilised as a part of the treatment. Hence, if you can achieve this yourself in the comfort of your home, then not only can you treat yourself but also prevent injuries from occurring.

Using the thoracic extension rack is easy. Follow the basic steps below and allow it to do the work for you. Five minutes per day is ample to maintain a healthy thoracic spine:

What does the PTR do?

- The PTR is specifically designed to achieve mobility.
- It allows you to stretch the anterior muscles of the chest and shoulders that are deemed short and often inflexible due to poor posture.

- It mobilises the thoracic spine, increasing your ability to extend and rotate through this important area.
- Mobilising the thoracic region helps increase the available movement in the shoulder and pelvic region, allowing us to move more freely and efficiently.

The PTR does come with a warning: **"Beware,...using the PTR may enhance performance" UF**

For more information or to order the Portable Thoracic Rack, visit www.physique.co.uk or email sales@physique.co.uk.
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