

ASSESSMENT OF THE THORACIC SPINE

Evaluating the Presenting Signs and
Symptoms to Develop a Diagnosis

ASSESSING THORACIC SPINE

- Usually involves assessment from T3 - T9
- The whole thoracic spine can be reviewed however thoracic problems usually considered to occur between these levels.
- Cervical assessment typically includes T1-2
- Lumbar assessment typically includes T10-12

ASSESSING THORACIC SPINE

- Scapular pain may be cervical therefore clear cervical spine with upper thoracic pain
- Sacroiliac and iliac crest pain may be thoracic so assess low thoracic with lumbar spine
- If in doubt check all thoracic levels

SUBJECTIVE EXAMINATION

- Evaluate pain, stiffness, paraesthesia, anaesthesia as in evaluation of the cervical and lumbar spine
- Particular note is made to any upper limb symptoms or 'funny sensations' in the arms or hands

SUBJECTIVE EXAMINATION

- The history of the condition is determined in the same way it is done in the cervical or lumbar evaluation.
- Information from the subjective examination will direct the objective examination in terms of location, scope, depth and kind of evaluation.

SUBJECTIVE EXAMINATION

- Patient may complain of pain while sitting, standing, walking.
- Symptoms may increase when working in slight flexion. Consider typical work-day posture.
- Excessive rotation may cause symptoms to increase.

SUBJECTIVE EXAMINATION

- Pain may increase with
 - deep breath, coughing or sneezing
 - working with arms above the head
- May be associated shoulder limitation

RED FLAGS



- Bilateral leg symptoms
- Unilateral leg and arm symptoms
- Stumbling/clumsiness/ weak feelings etc
- Must perform neurological tests
- Usual Mandatory Questions

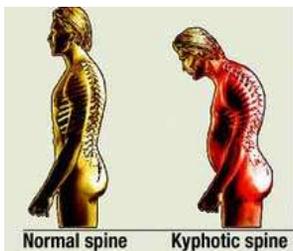
OBJECTIVE EXAMINATION

- Shape of curve
- Associated neck problems
- Stiffness
- Problems at thoraco-lumbar and cervico-thoracic junction
- Relative flexibility

KYPHOSIS

- There are number of different types of kyphosis
- The PT must be aware of 'dummy signs' which may indicate kyphosis when it is not actually present
- These include:
 - 'Flat' scapulae
 - Winging of the scapulae

KYPHOTIC SPINE



X-RAY OF KYPHOTIC SPINE

- Note the anterior wedging that is clearly visible

ROUND BACK - POSTURAL KYPHOSIS

- Most common in adolescents and young adults.
- Slouching when standing or sitting causes the spine to curve forward.
- Postural kyphosis is often accompanied by hyperlordosis of the lumbar spine.
- Typically corrects itself when lying down on a flat surface, or when the spine is hyper-extended.



ROUND BACK - POSTURAL KYPHOSIS

- There are no noticeable vertebral abnormalities on X-rays because structural damage or deformity does not cause this kyphosis.
- Postural kyphosis is easily corrected with education about proper posture, including some retraining on how to sit and stand correctly.
- Special bracing or casting is usually not necessary.
- Strengthening exercises for the back muscles can be helpful in correcting posture.

HUMP BACK - GIBBUS

- Sharp, localized posterior angulation is called a 'gibbus'
- Structural deformity resulting from anterior wedging of the body of one or two thoracic vertebrae
- This wedging may cause a fracture, tumor or bone disease



TYPES - FLAT BACK

- Decreased pelvic inclination (20°) with a mobile spine
- Similar to round back except the thoracic spine remains mobile and able to compensate for altered center of gravity
- Although kyphosis is/may be present, it does not have the appearance of an excessive kyphotic spine

TYPES - DOWAGER'S HUMP

- Results from post-menopausal osteoporosis
- Anterior wedge fractures occur to several vertebrae in the upper or middle thoracic spine
- A structural scoliosis occurs and contributes to a decrease in height



PATIENT ADVICE

- Correct posture
- Home exercises
- Soft tissue mobilisations



"More and more patients are going to the Internet for medical advice. To keep my practice going, I changed my name to Dr. Google."

OBJECTIVE EXAMINATION

- Active range of motion of the thoracic spine
- Active range of motion of the shoulders
- Clear the cervical and lumbar regions
- Assess motion of the rib cage, breathing
- Assess muscle strength of muscles of the back and upper limbs
- Sweep of twos along the thoracic spine

ACTIVE MOVEMENTS OF THE THORACIC SPINE

- Forward flexion (20° - 45°)
- Extension (25° - 45°)
- Side flexion, left and right (20° - 40°)
- Rotation, left and right (35° - 50°)



ACTIVE MOVEMENTS OF THE THORACIC SPINE

- Costovertebral expansion (3 - 7.5cm)
- Rib motion (pump handle, bucket handle and caliper)
- Combined movements (if necessary)
- Repetitive movements (if necessary)
- Sustained postures (if necessary)

PASSIVE MOVEMENTS OF THE THORACIC SPINE

Normal End Feels

- Forward flexion - tissue stretch
- Extension - tissue stretch possible bony block
- Side flexion, left and right - tissue stretch
- Rotation, left and right - tissue stretch

EVALUATION OF THE UPPER LIMBS

- Check range of motion of the shoulders
- Check range of motion of the scapula
- Check upper limb muscle power - myotome screen
- Check dermatomes of the upper limb

ANY
QUESTIONS?