Objective Examination of the Cervical Spine

Taking the complaint and identifying the damaged structure

Planning the Objective Exam

- With a clear picture from the subjective exam, the objective exam should be straight forward
- Decide on the vigor of the exam and the kinds of tests to be carried out
- With severe or irritable symptoms a less vigorous routine should be followed
- Chronic conditions can be taken to their available limit much easier

Observation

- The patient's PRESENT PAIN is established
- Postural alignment, protective deformities, muscle wasting are noted
- Look for clues to determine the source, contributing factors and stages of the patient's disorder

Clearing Tests

- Be sure symptoms are not coming from a more distal structure – like the shoulder
- Shoulder ROM + OP
- Lumbar/Thoracic ROM + OP
- Rarely but possibly the TMJ

Functional Demonstration

- The patient is asked to demonstrate their functional limitations
- The level of cervical spine involvement can be determined
- Active straight planar movements and combined movements are assessed
- Without comparable sign, progress to the use of quadrant testing

Active Movements

Maitland Clinical Tip

For consistency in reassessment, it is important to reassess the active movements of the cervical spine (range, symptom response and quality of movement) in the same order each time

Active Movements

- Physiological movements are tested first
- All cervical movements should be watched carefully from the front, side and back
- The contour of the neck is best observed from the side or above
- With cervical **extension** care is taken when providing overpressure or compression

Pain Elicited by Flexion or Extension

- Pain on flex/ext should be differentiated in terms of upper or lower cervical flex/ext
- Poking the chin forward provides upper cervical extension and lower cervical flexion
- Retraction of the chin provides upper cervical flexion with lower cervical extension

Lateral Flexion

- Lateral flexion to either side should be accompanied by overpressure
- This will open joints on the convex side and compress the joints on the concave side of the neck
- The PT can vary the level at which this motion takes place by placing the ulnar border of one hand at the level to be tested

Cervical Rotation

- Cervical rotation is performed with the neck in neutral flexion/extension
- The PT should apply overpressure while observing the patient's face
- Palpation of the muscles of the neck will determine the presence of spasm during the movement or overpressure

Quadrant Tests

- When attempting to reproduce minor symptoms, combined movements may be utilized
- Combined movements may increase the compressive or distractive forces on a particular side of the neck
- Combinations of three degrees of motion are the quadrant tests

Lower Cervical Quadrant

For left sided pain

- Full extension is achieved
- Full left lateral flexion is next
- Finally rotation to the left is added

Upper Cervical Quadrant

For left sided pain

- Upper cervical extension is held
- Left rotation is added
- Finally left lateral flexion is performed

- This is usually performed in sitting and it is difficult to hold all the positions

Combined Movements

- One movement is performed and the end point maintained
- At this point a second movement is added
- If the end point is not held then the combination effect may be considerably decreased
- See Maitland page 237-239

Vertebrobasilar Artery Testing

Vertebrobasilar insufficiency (VBI) is one reported contraindication to cervical manipulation (although this is being challenged in the literature).

Overzealous testing for VBI may be just as compromising to the vertebral artery

Vertebrobasilar Artery Testing

- This test must be performed (student)
- Special care should be taken when the patient associates rotation of the neck with dizziness
- Need to differentiate between VBI and vestibular system issues

Testing for VBI

Test 1

- The standing patient looks over each shoulder

Test 2

- The PT holds the patients head stationary as the patient rotates their body to the right and then the left
- This rotation is held for a count of 10

Testing for VBI

Test 3

- Sustained extension is performed with gentle overpressure applied as tolerated

- If these tests are positive in the seated/standing position, there is no need to repeat them in lying

Testing for VBI

Test 4

- The patient lies supine and the PT holds their head beyond the end of the plinth in full rotation
- Both right and left rotation are preformed
- Any dizziness, nystagmus or funny sensations are noted

Testing for VBI

Test 5

- Same position as before but sustained rotation is accompanied by cervical extension

Test 6

- Straight full extension is performed and held

Video

Palpation of the Cervical Spine

- Soft tissues are palpated along both sides of the neck
- PT stands at the head of the patient and performs a sweep of twos
- Central pressures are performed as well as uni-lateral pressures

Movements of the Cervical Spine

- Active and passive movements of the cervical spine are performed
- The PT should carry the weight of the patient's head to allow for complete muscle relaxation
- Active movements are performed in sitting, passive movements in supine

Accessory Movements

- All accessory movements are accessed and any elicited symptoms noted and recorded on a body chart
- All 'funny' sensations are recorded and the greatest elicited symptom noted
- In the presence of neurological symptoms a full neurological examination is performed

Neurological Examination

- Check all dermatomes
- Check all myotomes
- Check reflexes – biceps and triceps
- Check tension of the nerves of the upper limb through upper limb tension tests

Upper Limb Tension Tests

- These stretch the ulnar, median or radial nerves in the upper limb
- Act similarly to the SLR or slump test
- Different nerves are stretched by placing the patient in different positions.
- May indicate central or peripheral nerve problems.

Any Questions?

See you Later