Cervical Spine
Assessment & Management: A practical approach

Prevalence of Cervical spine related conditions:

- 26% of the population have neck pain in any year
- 48% of population have neck pain in their lifetime

Acute Neck pain can resolve initially, but a full resolution is less common (it tends to bother people more often than LBP)

Normal anatomy and movement

- 7 vertebrates
- Upper and Lower Cx spine move differently
- Rotation: Upper Cx spine (C1-C2) accounts for approx. 50%***
- Flex/Ext: initiated in lower Cx spine & combination of 'translation & rotation'
- Mid-lower Cx spine: Rotation & LF is coupled****
- Retraction/Protraction: Upper & Lower Cx spine move in 'opposite' direction***
- During 'normal' Cx extension: 'very little extension' occurs at lower Cx spine

<u>Physiological Movement v/s Anatomical movements</u>

- Osteopathic PPIVMS

Bigger picture: Mobility at the expense of Strength/stability (most mobile part of the spine)

Common dysfunctions/conditions:

- Radiculopathy <10%
- Serious pathology <2% (cancer, cord compression, #, infections, etc)
- Non-specific neck pain >90%
    - Facet issues
    - Postural issues
    - Disc injuries
    - Wry neck/Soft tissue (muscles/nerves)

Common related conditions:

- Headaches
- Radicular syndrome
- UL weakness >>> UL conditions (tennis elbow, golfer's elbow, CTS, etc.)
- Shoulder impingement/bursitis/tear
- Thoracic conditions: kyphosis, scoliosis
- TMJ dysfunctions

Management principles of Active or passive mobilisation

- ➔ Lateral to medial
- ➔ Upper/lower to central
- ➔ Superficial to deeper
- ➔ PA directed outwards are more tolerable
- ➔ Opening techniques/exercises are usually more comfortable and more popular

- ➔ **Commence with Extension** (self, pt o/p, PT o/p, PT mobi or manipulation)

- ➔ **Progress if Rotation then LF** (self, pt o/p, PT o/p, PT mobi or manipulation)
- ➔ Lateral flexion is usually added later (preferably 'self techniques'..!)
- ➔ Flexion can be added at any stage gradually (usually later with preferably 'self techniques'..!)

Precautions: osteoporosis, VBI, Dizziness, serious pathology, etc...pattern recognition..!



Active/Passive mobilisation techniques:

- ★ Retraction (Sitting, Supine, Prone)
- ★ Rotational (Sitting, Supine, Prone)
- ★ Osteo PPIVMS

Active Mobilisation through exercises:

- ➢ Cx retraction
- ➢ Cx retraction + o/p
- ➢ Cx rotation https://youtu.be/WKWl42CS-GU
- ➢ Cx LF https://youtu.be/4VTfFjfgGiw
- ➢ UT/LS stretch https://youtu.be/x4qjEdo0pnc
- ➢ SOE stretch https://youtu.be/R1osmZT0454
- ➢ Shoulder Roll
- ➢ Pectoralis stretch
- ➢ Bow-arrow https://youtu.be/bn_qn4KRfBQ
- ➢ Cat-camel https://youtu.be/_M7vML6VWUk
- ➢ Rabbit (ES stretch) https://youtu.be/hkEVbMcfFmk

Consideration for strengthening for Sustainable & Long term results..!

- ➔ Incorporate shoulder, upper thoracic segments in/out of exercises
- ➔ Full body movement
- ➔ Functional movement/exercises

Thank You...any Questions…?

References:

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- Low Back Pain Prevalence and Related Workplace Psychosocial Risk Factors: A Study Using Data From the 2010 National Health Interview Survey