

Case Hx

- 48 y.o.
- Stiff neck & upper back pain
- Painful R jaw

Jaw

- 0/10 at rest
- 7/10 when chewing
- 4/10 after chewing
- Onset after tooth removal 12 years ago
- Has OA of jaw (fears this will worsen)
- **RF**: massaging jaw when it locks
- **AF**: grinding teeth & chewing

Neck & upper Tx

- 0/10 - 5/10
- 10-12 years ago
- **AF**: running, standing too long & neck extension

Physical Exam Findings

Upper crossed syndrome: muscle imbalance in two sets of opposing muscles

- **Tight**: upper traps, elevator scapulae, & pectoralis major & minor → responsible for elevating & protracting the shoulders & rounding the upper back
- **Weak**: lower traps, serratus anterior, & the deep Cx flexors → responsible for stabilising the shoulder blades & supporting the neck & upper back

ROM

- Can fit 2 fingers between teeth
- Palpable click-over R TMJ
- Centric relation test is painful on R
- Masseter, temporals, digastric, lateral pterygoid *tight bilaterally*
- Cx PROM all directions moderately restricted + flexion caused L upper traps pain

Deep neck flexor endurance: shacking after 5 seconds

Wall angel: unable to flatten back against wall or stretch arms towards wall

Clinical tests

Wall angel:

- **Purpose**: assess Tx mobility
- **Findings**: Unable to flatten back against wall or stretch arms towards wall

Beighton score:

- **Purpose**: screen for hyper-mobility
- **Findings**: 0

TOS tests:

- **Purpose**: Identifies compression of neuromuscular structures as they exit through the Tx outlet
- **Findings**: Didn't reproduce any pain aka. -ve

Name 4 TOS tests:

- Adson's
- Reversed Adson's
- Roo's
- Hyperabduction

Discussion

Working diagnosis:

- Chronic TMD (temporomandibular dysfunction) w/ known TMJ OA
- Chronic non-specific mechanical neck & Tx pain w/ associated upper crossed posture

Subdivisions of pain-related TMDs:

1. Myalgia / myofascial pain
2. Arthralgia (joint pain)
3. Intra-articular disorders (within joint)
4. Headache (typically confines to the temporal region)

Correlation:

- Some neck muscle pain has been found to be correlated with TMD, **doesn't** completely account for rest of pt's presentations
- Non-specific mechanical neck & thoracic spine pain is very common (∴ high probability), links w/ the pt's posture & explains some of the other examination findings in the Tx & upper quarter
- *Poor neck flexor endurance* has been linked w/ chronic TMD & chronic neck pain & poor posture (especially a forward head posture)

What's the pt trying to tell me:

- Pt has identified stress (grinding teeth, unhappy at home, use of the Headspace app) → will aggravate both the TMD & neck/upper Tx symptoms
- Pt should try to identify sources of stress & DC can offer to help them access further support

Address the pt's expectations for having tech x-rays → they're not indicated, & would need to explain the pt

Learning outcomes

Temporomandibular disorder (TMD) diagnosis & management:

Signs & symptoms:

- **Jaw pain:** located in jaw joint, surrounding muscles or both
- **Jaw clicking or popping:** may be due to the displacement of the jaw joint or the movement of the cartilage disc within the joint
- **Jaw stiffness:** may make it difficult to eat, speak, or jaw
- **Headaches:** especially in the temples or behind the eyes
- **Ear pain or fullness:** feeling of fullness in the ear, even though there's no infection
- **Neck & shoulder pain:** may become sore or painful as a result of compensating for the jaw
- **Teeth grinding or clenching:** (especially during sleep), can lead to tooth damage, headaches, & jaw pain

Imaging:

- **X-rays:** help identify any bony abnormalities or damage to the jaw joint
- **MRI:** jaw joint, surrounding tissues, muscle, ligaments, & cartilage
- **CT:** Jaw joint, surrounding structures, including bones & soft tissues
- **Cone beam CT:** 3D images of the jaw joint

Management:

- **Lifestyle changes:** soft foods, not gum chewing, stress management to reduce jaw tension
- **Medications**
- **Manual therapy**
- **Oral appliances:** (e.g. splint or mouthguard) to relieve jaw pain & reduce teeth grinding & clenching
- **Injections**
- **Surgery**



Learning outcomes (cont)

Consider the impact of stress on the pt's prognosis:

- Can have significant impact on prognosis, especially for pts w/ chronic illnesses or conditions; **chronic stress** is linked to a range of -ve health outcomes (↑ inflammation, impaired immune function, & heightened risk of heart disease, diabetes, etc)
- **Impaired immune function:** can lead to a longer recovery time & more severe symptoms for pts with chronic illnesses
- **Increased inflammation:** can exacerbate symptoms of chronic illnesses & lead to further damage to organs & tissues
- **Worsening of symptoms:** (e.g. pain, fatigue, & digestive issues), can impact a pt's quality of life & ability to manage their condition
- **Delayed healing:** can lead to longer recovery & ↑ risk of complications
- **Poor treatment adherence:** pts may have harder time following treatment plans, can lead to poorer outcomes & slower recovery

Indications for Cx spine x-rays:

SEE DIAGRAM BELOW

- Pt has no HIGH RSIK factors to warrant Cx x-ray immediately
- Pt has NO LOW risk factors + ROM rotation is not below 45° (PROM tested only, no AROM detailed [preferred])

Management of chronic non-specific neck & Tx pain:

- Chronic pain: consider referral to psych-management / pain clinic
- Home exercises to maintain movement between treatments
- **Non-specific neck pain:**
 - Short term: Tx manipulation w/electrothermal therapy
 - Long term: Cx manipulation, exercises ± manual therapies
 - Encourage activity & ADLs
 - NSAIDs
 - Stretching & strengthening exercises, ROM exercises, manual therapy
- **Non-specific Tx pain:**
 - Tx manual therapy: massage, trigger point therapy (TPT), stretches, traction, manipulation & mobilisation

Functional management for this pt:

Jaw:

- Stabilisation exercises

Neck / upper Tx:

- Wall angel
- Prayer stretch
- Upper traps stretch
- Lev. scap. stretch
- Wall chin tucks