What a pain in the neck: A practical checklist approach.

- ✓ Chronic neck pain (CNP) refers to pain (>3 months duration) in the *posterior* cervical area, bounded by the occiput, C7 and anterior borders of trapezii.
- ✓ Neck pain may be associated with headaches and pain in the shoulders, inter-scapular area and arms (radicular pain).
- ✓ CNP affects 10% of adults at any given time and is more common after middle-age, in females and in higher SES and urban settings (1).
- ✓ CNP is a major cause of disability and economic burden, particularly following motor vehicle or workplace accidents.
- ✓ The neck is susceptible to injury (whiplash) and physical-loading (occupational overuse) and contains numerous structures (myofascial, neural) that generate pain.
- ✓ The neck and shoulders are particularly susceptible to *pain neuro-sensitization,* as seen by the strong link between whiplash-associated neck pain and fibromyalgia.
- ✓ Connections between the trigeminal nucleus (brainstem) and upper spinal cord (C2-C4) explain the association between neck pain and headaches.
- ✓ Interestingly, stress-related neck pain reflects our quadruped ancestry, where increased muscle tension in the neck and shoulders allowed escape from sabre-toothed tigers during 'fight and flight'.
- ✓ Inciting events for CNP include whiplash, trauma, postural-loading (lifting, office work), spondylosis or spondylitis.
- ✓ Pain generators include myofascial trigger points, facet joints, intervertebral discs or nerve roots—in 80% of cases a clear-cut pain generator cannot be identified.
- ✓ *Whiplash-associated neck pain* is a specific syndrome associated with flexion-extension loading of the neck, usually following a MVA.
- ✓ The best predictors of chronic neck pain and disability after whiplash are;
  - Severe acute pain
  - Anxiety (especially PTSD after a MVA)
  - Pain sensitization (*allodynia)* in neck and shoulders
- ✓ Managing CNP requires a multimodal, multidisciplinary approach.
- ✓ Unfortunately, there is only limited high-level evidence to support many of the strategies in the checklist below (note botulinum toxin, spinal manipulation and some spinal injections are missing).
- ✓ However the checklist is a reasonable and practical approach to CNP in primary care.

CNP checklist

☐ Exclude **'r**ed flags'

- T.I.N.T: **T**umour, **I**nflammation (spondylitis), **I**nfection (discitis), **N**eurological (root, plexus, cord-syringomyelia, myelomalacia), **T**rauma (fracture, cervical instability-C 0/1/2 level).
- Torticollis, vascular?
- Cervico-thoracic MRI if concerned.

☐ *Severe* radicular arm pain or neurological signs.
- Urgent MRI & neurosurgical review.

☐ Identify 'yellow flags'
- These are the BEST predictors for developing CNP and disability.
- C.H.A.M.P.S: **C**atastrophizing, **H**ypervigilance, **A**nxiety, **M**edically-focus, **P**assive-coping, **S**tress, **S**ubstance/medication-overuse, **S**moking, **S**ick-of-work.
- Arrange for pain education and psychosocial care (see below).

☐ Whiplash-associated neck pain? → see references 2 & 3.

☐ Headaches
- Cervicogenic.
- Migraine.
- Medication-overuse (rebound).

☐ Identify and manage simple 'pain generators'
- Neck & shoulder pain (trapezius trigger points?) → LA injection, 'needling', physiotherapy.
- Inter-scapular pain (rhomboid trigger points?) → LA injection, 'needling', physiotherapy.
- Neck pain & headache (GON: greater occipital neuralgia?) → GON LA/steroid block.

☐ Pain education and promote positive key messages
- Inform patient about realistic outcomes and functional goals.
- Reassure about imaging findings and that 'hurt doesn't equal harm'.
- Encourage 'de-medicalisation' of their lives.
- Focus on reducing catastrophic thoughts, feelings of injustice and frustrations.

☐ Patient should visit the *PainHealth* website and engage in a pain program.

☐ Useful analgesics are
- Tramadol
- Tapentadol
- Duloxetine (for back & radicular pain)
- Pregabalin (for radicular pain)
- Paracetamol
- Transdermal buprenorphine
- Celecoxib (pain flare ups)
- NSAID gel
- Avoid long-term opioid analgesia if <60 years of age

☐ Physical therapies • activity pacing • walking • exercise • ergonomics (posture, pillows) • stretches • strengthening • hot/cold packs • trigger points • TENS • acupuncture.

- ☐ Psychosocial care • anxiety • PTSD (post-MVA) • depression • sleep • clinical psychology • workplace & injury rehabilitation.

- ☐ Identify specific pain generators (joint or nerve blocks are part of the diagnostic process in CNP).

- ☐ Neck pain & headache (C2/3 facet joint).
  - Steroid facet joint injection, medial branch block or radiofrequency neurotomy.

- ☐ Neck pain radiating into shoulders (C5/6 facet joint).
  - Steroid facet joint injection medal branch block or radiofrequency neurotomy.

- ☐ Radicular arm pain.
  - MRI/CT to confirm nerve root compression.
  - DO NOT order nerve root sleeve or epidural steroid injection (↓benefit ↑risk).
  - Consult specialist pain medicine physician or neuro/spinal surgeon.

- ☐ Neuromodulation or cervical spine surgery?
  - Seek specialist advice.

- ☐ Ongoing review → recycle through the checklist.

References

1. Teichtahl AJ, McColl G. An approach to neck pain for the family physician. *Australian Family Physician* 2013; 42 (11): 774-778.

2. Whiplash. Evidence based information resource [Internet]. CONROD, University of Queensland, Brisbane, 2009; [cited 2015 Mar 8]. Available from: http://www.som.uq.edu.au/whiplash

3. TRACsa: Trauma and Injury Recovery. Clinical guidelines for best practice management of acute and chronic whiplash-associated disorders. [Internet]. TRACsa, Adelaide, 2008; [cited 2015 Mar 8]. Available from: https://www.nhmrc.gov.au/guidelines-publications/cp112