articular dysfunction patterns in patients with mechanical neck pain
sprouts, when a...

articular dysfunction patterns in patients with mechanical neck pain
goal: clinical algorithm

to guide (novice) therapists in their clinical reasoning

to identify neck pain patients who are likely to respond to mobilization/manipulation

situated within the context of pain mechanisms

based on key features in subjective & clinical examination

to define optimal techniques pending on the individual presentation of the patient
EXAMINATION

SUBJECTIVE EXAMINATION

RULE OUT RED FLAGS

OBSERVATION

PHYSICAL EXAMINATION

MECHANICAL NOCICEPTIVE NECK PAIN
probably arising from articular structures

combined movement tests

stretch pain during flexion and contralateral side bending /rotation

compression pain during extension and ipsilateral side bending /rotation

uptslope restriction contralateral

downslope restriction ipsilateral

INTERVERTEBRAL MOVEMENT TESTS

TREATMENT

treatment goal

pain relief and functional improvement

pain relief

distraction technique

translatory upstroke technique

• focus approach

• locking approach

distraction technique

translatory technique

• indirect upstroke technique

• direct downslope technique

CONVERGENCE PATTERN

functional improvement
clinical algorithm

many years of clinical experience

using a standardized way in assessing & treating neck pain patients

complemented by in-depth discussions & knowledge exchange with international colleagues
pattern recognition

<< a form of pattern recognition sprouts, when a well-structured approach is obeyed, and this for many years of clinical practice >>

(Jones, 1992, 1995; Doody & McAteer, 2002)

clustered symptoms in distinct dysfunction patterns specific treatment recommendations
clinical reasoning

subjective examination

- exclude red flags
- define dominant pain mechanism
  > dominant input component
  > possible nociceptive sources of s/
- identify impairments in activity & participation
- identify contributing psychosocial factors

clinical examination

- confirm / reject hypothesis
the 'articular patient'

no particular recipe or protocol

decision based on info collected in both subjective & clinical examination

hypothesis is only valid if a cluster of articular symptoms is endorsed
clinical presentation that would suggest an amenity to manipulative therapy may include ...

(McCaffrey, 2001; Hing et al., 2003; CHDIs et al., 2008; Gelbman, 2011; Dunning et al., 2012; Puettocura et al., 2012)
primary complaint of neck
problem that is mechanical in nature and fits with a regular & recognizable biomechanical pattern
tonset suggestive of mechanical dysfunction
limited symptom duration
limited ROM
pain with clear aggravating & easing positions/movements
local provocation tests produce recognizable symptoms
active & passive movement restriction local to 1 or 2 spinal units
no neurological findings
no signs of central hyperexcitability
no red flags
a positive expectation that manipulation will help
avoid preoccupation with 1 structure at the expense of others
(Jones, 1995)

overemphasis on findings which support the articular hypothesis, might lead to ignoring findings that do not support it, possibly leading to incorrect interpretations
(Jones, 1992; 1995; Jones et al., 2002)
CONVERGENCE pattern

- Numbness & tingling
- Lower back instability
- Turbulent pain
- Often in lower cases
- Antalgic posture

- AU & PI combined extensors, suprailiacs' side bending rotation is limited & painless, comparable signs
- Hyperpronation test at involved segmenta
- Spinal flexion increases rotation
- Segmental distraction alleviates the pain
CONVERGENCE pattern

feeling of locking
movement restriction
unilateral compression pain
often in acute cases
antalgic posture

a/ & p/ combined extension, ipsilateral side bending/rotation is limited & evokes comparable signs

+ve provocation tests at impaired segments
ipsilateral downslope restriction
segmental distraction alleviates the pain
CONVERGENCE pattern: pain relief

distraction technique

gapping technique
CONVERGENCE pattern: functional improvement

translatoric technique

indirect - downslope technique

direct - downslope technique
DIVERGENCE pattern

feeling of painful strain at end ROM
movement restriction at end ROM
unilateral stretch pain
high intensity or severity of symptoms is rare
antalgic posture: uncommon

a/ & p/ combined flexion, contralateral side bending/rotation is limited & evokes comparable signs
p/ shoulder elevation: no result on outcome

+ve provocation tests at impaired segments
ipsilateral upslope restriction
DIVERGENCE pattern: pain relief & functional improvement

distraction technique
translactoric upslope technique
focus approach
locking approach
MIXED pattern

multisegmental & multidirectional dysfunctions
combination of convergence/divergence patterns

degenerative cervical spine
to sum up

clinical algorithm: Dewitte et al., 2014

consider the proposed articular dysfunction patterns within a broader perspective

treating patients requires a sense of awareness for subtle distinctions, where adaptations entails the key to success