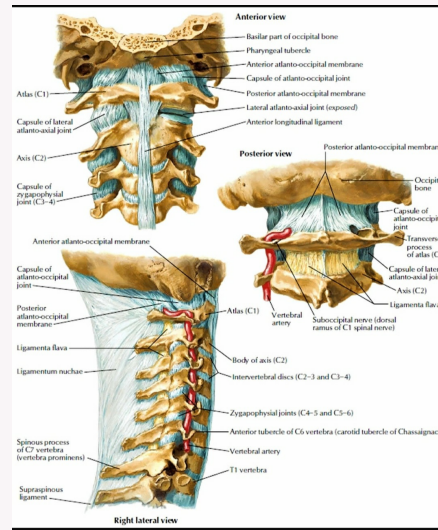


Ligaments of the neck



- Ligaments are the primary static stabilisers
- Limit end range of motion

Muscles a

Act as dynamic stabilisers

See cheat sheet muscles of the neck

Strains occur due to eccentric muscle contraction due to unexpected external force

- SCM, traps, IS, scalene, paraspinals mainly affected

Fast twitch muscles are more likely to be strained than slow twitch

Athletes - football, ice hockey, wrestling, skiing most affected. Whiplash injuries

Blow to the head when the head is moving forward

Pushing, pulling, moving heavy objects, falls

Prolonged postures, sedentary lifestyle, poor bra support, repetitive movements, pregnancy, obesity weakened CX musculature (deep neck flexors)

More common in females

Children and adults both susceptible to CX sprain/strain

children due to ligamentous laxity and immature facets/uncinate

adults due to tissue being less elastic

Presentation

Pain occurs hours/days after injury

Dull neck pain that becomes sharp with movement

Relieved by rest

Pain in CX, traps or interscapular regions but can refer to anterior neck and upper arm

Suboccipital headaches usually occur

Upper CX facets involvement can cause vertigo and headaches



Presentation (cont)

Facial injury = extension (SCM, Longus rectus, spinal erectors, solenoid or semispinalis) rotation/lateral flexion injury= levator, scalene, SCM, traps, solenoid

Poorly localised pain, swelling

Loss of ROM

Pain on end range =ligaments

Pain on resisted = musculature

Paraspinal spasm

Upper crossed features.

Neck flexion test, DNF endurance, foraminal compression, cervical distraction

If significant trauma, consider Canadian c spine rules. Consider head injury and CX instability

Neurological exam unremarkable if neuro findings, consider instability or disc lesion

Red flags

Radiograph/further investigation needed if

Dangerous mechanism.of injury

>65 years of age

Radiating neuro s&s

Midline CX tenderness

Loss of ROM (>50%)

HX of cancer

Bone disease

Systemic disease

Inflammatory arthropathy

Steroid use

Immunosuppression

Fever

CX surgery

Suspected congenital defects or instability

Severe, unusual or prolonged pain

EDS/Marfan's/down syndrome

Neck gets stuck or locked with movement



Ddx

F#

Infection

Disc lesion

Arterial dissection

Neoplasm

Meningitis

Myofascial pain syndrome

Management

Ice

Electrical stimulation

US

NSAIDs (if relevant)

ROM exercises

Isometric strengthening

Myofascial release and stretching of scalene, levator, pecs, scm and paraspinal muscles

Nerve mobilisation

Avoid SMT

CT SMT may be more appropriate

Then stabilisation

DNF exercises

Upper crossed postural training to prevent further injury

Lx spine Strain/sprain

Mainly at L4-L5 & L5-S1

Posterior ligaments most affected

Strains = eccentric muscle contraction from excessive/unexpected force

Fall, twist, lift, push, pull, direct blow, straightening from prolonged seated/crouched

Can lead to muscle fatigue, inflammation and microtearing

Instability = chronic overloading and dysfunction

Cycle of: Dysfunction, stiffness and abnormal coupling

Risk Factors

Prolonged static postures

Repetitive movements

Improper lifting

Sedentary lifestyles

Poor conditioning (muscular imbalance = weak lx paraspinals and hip abductors , tightness in hip flexors and hamstrings)



Risk Factors (cont)

Pregnancy

Obesity

Movements that decrease lx lordosis

Sustained flex causes ligamentous laxity (creep) lasts >30 minutes

More susceptible in the morning

Presentation

Pain begins gradually in hours/days following an injury (can occur abruptly)

Poorly localised, constant dull pain

Aggravated by movement (flexing, bending, twisting or lifting becomes sharp)

Relieved by rest (can cause stiffness)

Can refer into the thigh, buttock

Muscular spasm common

Swelling & loss of ROM - pain on end range PROM = ligament

Pain on RROM = muscular

SP tenderness

Paraspinal hypertonicity

Altered Intersegmental mobility

Assess for directional preference

+ve Slump, +ve PA shear +ve Kemps +ve Yeoman

Neurological exam unremarkable

VAS

ROBDI

RMBDI

RAND 36

BDQ

Imaging

Not usually unless red flags:

Rule out f# (dangerous mechanism of injury)

Significant degeneration

Hx of cancer

Bone/systemic disease

Inflammatory arthropathy

Steroid use

Immunosuppression

Fever

Prior spinal surgery

Patients who do not respond to conservative care



DDx

Segmental joint dysfunction

Disc lesion

Facet syndrome

OA

Rheumatologic disease

F#/compression F#

Neoplasm

Infection

Spondylolysis

SI Dysfunction

Stenosis

Management

Ice/Heat (Ice for first 72 hours)

Electrical stimulation

US

NSAIDs

Gentle ROM exercises

Isometric strengthening

SMT of Lx and SI (6-12 sessions over 2-4 weeks)

Myofascial release/stretching of Lx erectors, QL, Gluteal muscles, Hamstrings, hip flexors/psoas, hip abductors

Nerve mobilisation

Postural advice, sleep advice, proper lifting mechanics

Avoid repetitive bending, twisting, lifting especially in the morning

Encourage to remain active

Take breaks from workstation for 10secs every 20 mins

Lumbar support cushion

Brugger's relief

