



NOTES

HEAD & NECK

MUSCULOSKELETAL DISORDERS

GENERALLY, WHAT ARE THEY?

PATHOLOGY & CAUSES

- Disorders of ligaments, muscles, tendons, bones inherent to head, neck

SIGNS & SYMPTOMS

- Most commonly pain

DIAGNOSIS

DIAGNOSTIC IMAGING

- For confirmation

OTHER DIAGNOSTICS

- History, physical examination

TREATMENT

MEDICATIONS

- Anti-inflammatory/muscle relaxant

SURGERY

- In refractory cases

OTHER INTERVENTIONS

- Physical therapy

TEMPOROMANDIBULAR JOINT DYSFUNCTION

osms.it/TMJ-dysfunction

PATHOLOGY & CAUSES

- Category of conditions affecting jaw, producing pain and/or dysfunction centred around temporomandibular joint (TMJ)

CAUSES

- Jaw clenching
- Teeth grinding (bruxism)

- Nocturnal/diurnal
- Commonly occurs with MDMA use
- Trauma
 - Reactive oxygen species produced by inflammation → synovial fluid inflammation → cytokine production → TMJ destruction
- Arthritis
- Malocclusion/missing teeth
- Yawning → joint dislocation

- Associated diseases
 - Rheumatoid arthritis (RA)
 - Psychiatric disorders → major depressive disorder

SIGNS & SYMPTOMS

- **Pain:** dull, constant ache; waxing, waning intensity (e.g. headaches, toothaches, earaches)
 - Jaw movement exacerbates (e.g. eating, talking)
 - Manifests anywhere trigeminal nerve (cranial nerve V) innervates
- Jaw dysfunction → poor eating/talking ability
- Tinnitus
- Audible popping/clicking of joint

DIAGNOSIS

DIAGNOSTIC IMAGING

Panoramic X-ray

- May reveal frank dislocation of mandible from TMJ

OTHER DIAGNOSTICS

History

- Bruxism
- Trauma

Physical examination

- ↓ Range of motion
- Palpation
 - Tenderness to examiner's finger against TMJ when mouth open
 - Clicking/popping heard/felt when jaw opened/closed
- Abnormal cranial nerve examination
 - Likely trigeminal (CN V) symptom distribution → muscle weakness and/or sensory disturbance

TREATMENT

MEDICATIONS

- Short-term NSAIDs
- Muscle relaxants second line (e.g. cyclobenzaprine)
- **Benzodiazepines:** nocturnal dosing → ↓ nocturnal bruxism

SURGERY

- For refractory disorders
 - Arthroscopy
 - Individuals with underlying arthritis → synovial space bone fragment removal

OTHER INTERVENTIONS

- Pain control
 - Moist heat, cold compresses, massage, soft diet, avoid strain
- Habit adjustment
 - ↓ pen chewing, change sleeping position, oral appliance use
- Physical therapy
- Dislocation → mandible reduction
- Bruxism causative → splinting

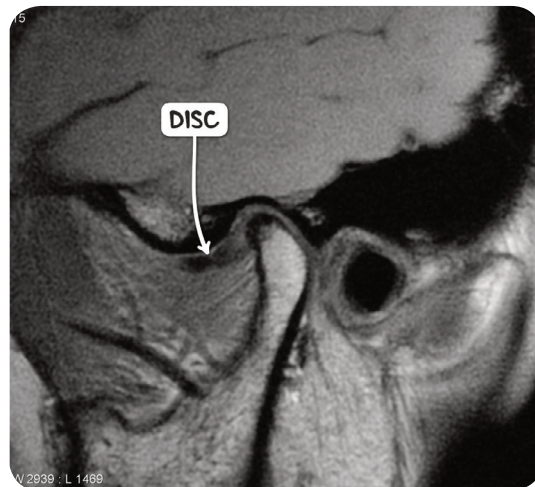


Figure 110.1 An MRI scan of the head in the parasagittal plane demonstrating an anteriorly dislocated disc in an individual reporting symptoms of temporomandibular joint dysfunction.

TORTICOLLIS

osms.it/torticollis

PATHOLOGY & CAUSES

- Abnormal posturing of head, neck; various etiologies
- AKA cervical **dystonia**
- Sternocleidomastoid (SCM) muscle connect sternums, clavicle (muscle heads) to mastoid process
- One/both SCM head shortened/hypertrophied → contralateral neck flexion, lateral rotation → torticollis

TYPES

Congenital

- Birthing difficulty → injury → fibroma/hematoma formation of SCM muscle → abnormal posturing at/soon after birth
- Spinal abnormalities
- Klippel–Feil syndrome → cervical vertebrae fusion → torticollis
- Atlanto-occipital fusion → abnormal articulation/ankylosis of C1, occipital bone → torticollis

Iatrogenic

- Side effect of dopamine agonist medication (e.g. first-generation antidepressants)

Spasmodic

- AKA adult-onset/idiopathic
- Characterized by tonic/intermittent spasms of cervical muscles in adults

COMPLICATIONS

- Permanent musculoskeletal defects
- Neurologic defects → spinal cord impingement

SIGNS & SYMPTOMS

- Abnormal posturing of the head and neck
 - Lateral rotation (laterocollis)
 - Forward rotation (anterocollis)
 - Backward rotation (retrocollis)
- SCM muscle
 - Hypertrophied
 - Nontender

DIAGNOSIS

OTHER DIAGNOSTICS

- Congenital
 - Birth trauma/condition
- Iatrogenic
 - Coincide with medication schedule/change in dosing
- Spasmodic
 - 5% have ⊕ family history
 - 1/3 have other dystonias

TREATMENT

MEDICATIONS

Congenital

- Muscular etiology → botulinum toxin injections
 - Botulinum toxin → inhibits zinc endopeptidase → inhibition of neurotransmitter vesicle release → decreased muscle contraction → decreased muscle tone

Iatrogenic

- Withdrawal/limitation of offending agent
- Prescription of a muscle relaxant/antihistamine

Spasmodic

- Muscle relaxant
- Benzodiazepines
- Anticholinergics
 - Side effects → limited use (dry mouth, blurry vision, urinary retention, tachycardia, nausea, vomiting, anxiety)
- Botulinum toxin injections

SURGERY**Congenital**

- Vertebral etiology → surgical intervention if severe

Spasmodic

- Refractory cases → surgical denervation of affected cervical musculature

OTHER INTERVENTIONS**Congenital**

- Muscular etiology → passive neck stretching

Spasmodic

- Massage
- Physical therapy
- Behavioral modification
- “Sensory trick”
 - Sensory stimulus (e.g. lightly laying hand on cheek) may relieve muscle contraction