

Movement-Based Examination and Treatment of Temporomandibular Joint Disorder
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Disclosures

No relevant disclosures

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Lecture Outline

- I. Introduction
 - A. Lack of consensus regarding etiology, diagnosis & management of TMD. Different types of physical therapy treatments have shown to be effective especially with focus on posture and active exercise. (List 2010)
 - B. Exercise, Postural Training & Manual Therapy have demonstrated usefulness for patients with TMD (Armijo-Olivo 2016, Medicott 2006). Treatment strategies focused on posture & exercise effective. (List 2010, McNeely 2006)
 - C. Commonly associated with cervical spine disorders (La Touche R 2009, Armijo-Olivo 2010)

- II. Alignment and movement impairments of adjacent regions should be considered when assessing patients with TMD.
 - A. Demonstrated effect of shoulder girdle alignment on neck function. (VanDillen 2007, Ha 2011). Pilot work demonstrating effect of shoulder girdle alignment on TMJ function.
 - B. Assessment of alignment / movement of the TMJ and adjacent regions – including cervical spine, thoracic spine, lumbar spine and scapulae is important when evaluating and treatment considerations of TMD. (Uritani 2014, LaTouch 2011, Armijo-Olivo 2011, Ohmure 2008, Olmos 2005, Nicolakis 2001,)
 - C. Treatment of adjacent region important in management of TMD

- III. Movement impairment of the TMJ
 - A. Components of movement related to opening of the TMJ – condylar sagittal rotation and translation with corresponding mm function
 - i. Sagittal rotation > mandible depressors – Suprahyoid and Infrahyoid muscles
 - ii. Translation > primary translator is Lateral Pterygoid (Mapelli 2009, Matsunaga K 2009)
 - B. Movement impairments of TMJ
 - i. Primary: Condylar translation greater than sagittal rotation
 1. Increase recruitment of Lateral Pterygoid over Supra & Infra Hyoid muscles
 - ii. Associated: Extend cervical spine during mouth opening
 1. Observed in supine and sitting.
 2. Increased stress to posterior neck structures & decrease use of mandible depressors.

- IV. Treatment
 - A. First - address adjacent regions
 - i. Alignment of lumbar, thoracic and cervical spine along with scapulae alignment
 - ii. Movements of adjacent regions – capital cervical flexion, shoulder flexion, abduction with no compensatory cervical or TMJ motions
 - B. Second – address TMJ Movement Impairment
 - i. Perform limited opening with emphasis on retraction of the mandible
 - ii. Palpate condylar sagittal rotation
 - iii. No clicking or popping

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- V. Patient Cases
 - A. History
 - i. Chief complaint
 - ii. Additional complaints
 - B. Examination
 - i. Alignment
 - ii. Movement Testing
 - 1. TMJ motions
 - 2. Shoulder flexion
 - 3. Cervical AROM
 - a. Passive shoulder girdle elevation test
 - C. Diagnosis
 - i. Key impairments
 - D. Treatment
 - i. Postural correction
 - 1. Lumbar spine
 - 2. Thoracic spine
 - 3. Cervical spine
 - 4. Resting alignment of TMJ
 - a. Tongue on roof of mouth, teeth slightly apart, lips together
 - ii. Exercise – for all exercises, address position and movement pattern of the spine, scapulae and TMJ
 - 1. TMJ opening with focus on movement pattern
 - 2. Wall slides
 - 3. Capital flexion in sitting, standing, supine
 - 4. Shoulder flexion back to wall or supine
 - 5. Shoulder abduction in lateral rotation back to wall or supine
 - 6. Quadruped
 - iii. Functional activity modification
 - 1. Sitting position
 - 2. Sleep positioning
 - 3. Eating, dental care, yawning
 - 4. Recreational activities
 - iv. Taping

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