TMD: Diagnosis, Management, and Treatment

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TMD

• Temporomandibular Disorders
• National Institute of Health
• National Institute of Dental Research
• NIH Publication #96-3487 reprinted June 1996, may be ordered from the National Institute of Dental Research, Bethesda, Maryland 20892, 1 (888) 644-2667, http://www.nih.gov

• TMD is not just one disorder, but a group of conditions, often painful, that affect the jaw joint (temporomandibular joint or TMJ) and the muscles that control chewing

• The use of the “TMJ Patient History Form”
• Have patient fill out before the dental appointment in addition to usual records, health history, H.I.P.P.A, etc.

• Temporomandibular disorders (TMD) are a controversial topic
• A collective term for a number of clinical problems that involve the masticatory muscles, the TMJ’s, or both

• Controversy over etiology and subsequent treatment of TMD patients
• No consensus “all occlusion”, influence of anxiety and depression, or natural history of TMD
NIH Conference on TMD

• Over 1,000 individuals, including TMD patients and advocacy groups
• Summary of conclusions
  – Noninvasive and reversible therapies are indicated

The TMD Patient History

• To make a diagnosis it is necessary to have
  – Comprehensive patient history
  – Physical evaluation
  – Conventional radiographic evaluation (panoramic)
  – Special diagnostic procedures

History

• A complete patient history is THE MOST IMPORTANT PART OF TMD PATIENT EVALUATION
• CC – Chief Complaint
• History of present illness
• Duration and character of pain

History (con’t.)

• Joint noises – when in the opening and closing cycle
• History of locking (when opening or closing, when it first occurred, how often it occurs)
• Ever had an injury to the jaws (be specific)
• Headache history

History (con’t.)

• Stress level explanation, from 1 to 10, self reported (if possible, report by spouse, significant other)
• Patient personality type (self described)

Physical Examination and Evaluation

• A comprehensive dental evaluation
  – Clinical examination of the soft tissues, teeth, periodontal evaluation for gingival health, soft cancer examination, etc.
  – A specific TMD evaluation
  – Two types of TMD evaluation, a routine screening which should be done on all patients, and an in-depth TMD evaluation
The Routine TMD Evaluation

- The routine TMD evaluation to be accomplished on all patients can be accomplished in two minutes during the clinical examination
- Palpation of the muscles of mastication which include the sternocleidomastoid muscles, masseter muscles, temporalis muscles, pterygoid muscles

Range of Motion

- An evaluation of the occlusion and Angles classification
- Evaluation of any partial edentulous or malocclusions

Evaluation of Any Parafunctional Habits

The Routine TMD Evaluation (Con’t.)

- An evaluation of the opening and closing function from a full faced patient view
- An evaluation of opening and closing while palpating the temporomandibular joint bilaterally

Evaluation of Attrition and Trauma from Occlusion

Range of Motion

- Measurement of overjet and overbite
- Measurement of maximal comfortable interincisal space
- Measurement of maximum interincisal space
- Measurement of right lateral movement, left lateral movement, and protrusive movements
Range of Motion (con’t.)

• Evaluation of any sounds from the temporomandibular joints or any abnormal movements of the temporomandibular joints
• Correlation to pain

In Depth TMD Evaluation

• Evaluate the patient sitting upright
• Evaluate the back, shoulders, neck and muscles of mastication
• Palpation of the muscles during maximum contraction and relaxation (looking for tenderness, fasciculation’s, spasms and/or trigger points)

In Depth TMD Evaluation (con’t.)

• Wax bite to identify occlusal patterns
• Palpation of muscles and description of muscles flaccid and during maximum contraction

Conventional Radiography

• Panographic radiography is an acceptable initial examination, where indicated.
• Looking for/screening for pathological changes on the articulator surfaces of the joint and/or disease entities within the area and bones of the temporomandibular joint complex

Conventional Radiography (con’t.)

• Findings to evaluate
  – Muscle tenderness, limited opening, locking, joint abnormalities and sounds, internal derangement, emotional stressors, parafunctional habits, patient’s perceptions and conclusions

Principles of Treatment

• Do no harm
• Patient needs and concerns must be met
• Explanation of the pain and problem (use the NIH booklet)
• Be supportive and have a hopeful attitude
• Explain not life threatening
• Scientific information applicable to the patient
Principles of Treatment (con’t.)

• Concern for their discomfort
• Can only manage, not cure the vast majority of TMD
• Not unreasonable to anticipate a 75 to 80% improvement in the TMD symptoms
• Management versus cure

Principles of Treatment (con’t.)

• Acute pain following trauma can be treated and cured
  Automobile accidents
  Facial trauma
  Usually young males

Chronic Pain

• Chronic pain where tissue damage occurred many years previously can only be managed
• Management is the appropriate term
• Usually females, average age of 39-45, although the range of age has been from 11 to 70 in our patient population with females predominating 98%

Possible Litigation Concerns

• The average patient has seen five to six practitioners, a variety of dental and medical health professionals from general physicians, ENT, chiropractors, DO physicians and usually one or two “TMJ specialists” and a chronic pain clinic

Major Concern with TMD

• “If your patient fails to respond to your treatment, check your diagnosis”
• Many serious medical problems, may mimic TMD
  *Salivary gland tumors, intracranial lesions, nasal pharyngeal carcinoma, among others

Initial Treatment with Reversible, Noninvasive TMD Management

• Establish a diagnosis and provide an explanation to the patient
• Will relieve patient anxiety, fear of the unknown, significance of the symptoms, what the symptoms indicate
• An explanation is the basis for your treatment and, most importantly, patient compliance
Soft Diet

- Masstication of hard food places loading forces on the TMJ, causes contraction of the other masticatory muscles, which are used for chewing.
- Soft diet relieves load and less muscle activity.

Soft Diet Explanation

- Avoid hard foods
- Large foods
- Chewy foods
- Personalize to the patient’s diet.
- Example: A vegetarian had to have shredded carrots.

Evaluate and Reduce Parafunntional Habits

- Always evaluate for chewing gum, pencils, pens, fingernails, and lip and cheek chewing habits.
- Habits are unconscious behaviors and are very difficult to control.

- Make aware of grinding and jaw clenching
- Stress that the lips must be together, but the teeth apart; you can do this by using computer programs if they have a desk job, otherwise set an alarm system for every hour to evaluate where their jaw is and do suggested home physical therapy exercises.

Home Physical Therapy

- TMD responds very well to physical therapy.
- Joints must move to produce synovil fluid, which provides nutrition and lubrication for the joint.

- Home physical therapy will relate to either hot or cold compresses to sore muscles, which ever feels more comfortable to the patient.
- Cold usually works better for acute injuries.
- Heat usually works better for chronic TMD.
• For cold, use small frozen peas, which are manipulated to conform to the face. Use them through a wash cloth, hold against the face for a minimum of 3 to 5 minutes. This may be repeated at half hour intervals.
• For heat, use microwavable heat packs, heating pads, warm, wet wash cloth

• Massaging of sore muscles is beneficial.
• The muscles must be warm before massaging, so use a heating pad.
• Use light circular pressure of approximately one pound to massage the muscles.
• Massage each set of muscles for five minutes at least one time a day.
• If there are concurrent back and shoulder problems, these muscles also must be massaged.

• Five sets of five second stretches, (if possible, when the muscles have been warmed) stretch the mouth open to a comfort level for five seconds to the count of five. Close and massage for five seconds, do five sets, five times per day.
• Will provide movement of the joint to produce synovial fluid.
• Will relax myalgias.

• Stress Reduction: Most Important
• Customize to your patient.
• Evaluate each patient’s stress level and their stressors.
• Make suggestions to help control the stress, walks, exercising, yoga, and “time outs”.
• If complex, suggest referral to a psychologist or psychiatrist for biofeedback/stress reduction skills.

Pharmacologic Control
Essential and Additional Control

• Groups of Drugs:
  NSAID’s, muscle relaxants, anti-anxiety agents.
  Never use opioids.
  Start with over the counter (OTC NSAID’s)
  Ibuprofen - Motrin, Advil
  Naproxin - Aleve
  Muscle Relaxants (cause sedation, use carefully) – Flexeril 10 mg (Cyclobenzaprine)

Occlusal Appliances

• Bite Plates (bite plates, mouth guards, splints, night guards).
• All types work and relieve symptoms.
Problems with Occlusal Appliances

- May move or depress teeth.
- May even increase the clenching habit
- Best suggestions: a hard maxillary appliance.

- A referral to physical therapy

- Physical therapy treats more than 750,000 people every day in the United States.
- It is used for the diagnosis and management of movement dysfunction and to enhance physical and functional abilities.
- Physical therapy restores, maintains, and promotes optimal physical function for wellness, fitness, and quality of life. It relates to movement and health.

- To have physical therapy services in the state of Michigan, a prescription is necessary from a physician, which is defined legally as M.D, D.O, D.P.M, D.D.S.
- Physical therapy is covered by federal, state, and most private insurance companies.

What are temporal mandibular disorders?

- Three main categories:
  - Myofasial Pain (the most common form of TMD), which is discomfort or pain in the muscles that control the jaw function and neck and shoulder muscles.
  - Internal Derangement of the Jaw (a dislocated jaw or dislocated disk or injury to the condyle).
  - Degenerative Joint Disease.
  - Osteoarthritis/Rheumatoid Arthritis of the Jaw Joint.
TMD Signs and Symptoms

- Pain in the chewing muscles and/or jaw joint is the most common symptom, other symptoms include:
- Limited movement or locking of the jaw.
- Radiating pain in the face, neck, or shoulders.
- Painful clicking, popping, and grating sounds in the jaw joint when opening or closing the mouth.
- A sudden major change in the way that the upper and lower teeth fit together.
- Symptoms such as headaches, earaches, dizziness, and hearing problems.