

## Prudent Examination Procedures When TM Dysfunction Is Suspected

Disorders of the temporomandibular joint may be frustrating for the practitioner, but they are rewarding to treat because these patients are veritably in need of help. Those with TMJ dysfunction comprise a significant portion of the population who suffer from head/neck pain. This head/neck pain group make some 50 million office visits each year to seek help; they spend more than \$400 million a year in over the counter pain relievers.

I'm asked two frequent questions: "What should a chiropractor look for during an examination that indicates a problem with temporomandibular joint or its associated structures?"; and "Which problems should be referred to a dentist." Let's answer this two-part question by addressing the examination first, after all this is where it all begins.

### Where Do We Start?

The first question you should ask yourself before you enter the examination room is, "Who is most likely to have a TM disorder?"

Let me share some interesting facts with you. Estimates of the number of chronic head/neck pain sufferers in this country vary, but seven out of 10 people suffer to a significant degree at some time or another from head/neck pains. Other studies report that 40-80 percent of the population has some degree of TM dysfunction. Moreover, the research data indicates that the most frequent/consistent complaint of patients with TM dysfunction is head/neck pain.

So far, all you can say as you enter the examination room is that there is a rather high likelihood that the person you are about to examine will have some degree of TM dysfunction in addition to their head/neck complaints. It is a start, but of no real clinical use, since these guidelines are too general.

### Findings to Look for When Examining Active Range of Motion of the TM Joint

Gait analysis is a very informative clinical procedure. The inability of the mandible to undergo a normal gait cycle is a compelling sign suggestive of craniofacial disorders or temporomandibular disorders.<sup>1,2</sup>

In the JMPT, 15(2), February 1992, I published a clinical paper, "The VROM Scale: A Method for Analysis of Mandibular Gait in a Chiropractic Setting." This paper presents a method of analyzing mandibular gait in a chiropractic setting that is consistent with what is known of the biomechanics and pathomechanics of the mandible and its articulations.

Amount of Opening: Limited opening can be a warning sign for discal derangements (internal derangements) and should not be taken lightly. It must yet be determined if the limitation is due to pain, soft, or hard tissue problems. Soft tissue causes are likely muscular (external derangements) and can be differentiated by a soft-end feel.

Be aware of hypermobility of the TM joint. These joints are likely to be unstable and may dislocate, adding even more damage to the already lax joint capsule. The normal range of maximum opening is 55 mm to 60 mm.

**Direction of Opening:** The normal opening path of a joint is straight down, with the midline staying true. If an opening deviation is seen, note when the deviation occurs. For example, early opening at 7-8 mm, early closing at 38-35 mm.

**Protrusive Deviation:** Again, the path should be straight with the midline staying true. Deviations in protrusion are usually indicators of internal derangements.

**Lateral Excursions:** When the patient is asked to move the jaw slowly from side to side (to the limit), note any pain or restriction. Measure the distances using the midline of the upper and lower teeth as a guide. The test suggests a TM disorder if there is pain or limitation and may indicate joint inflammation, muscular dysfunction, coronoid process impingement or internal derangement (such as an anteriorly positioned disc or discal adhesions).

#### Findings to Look for When Muscle Testing

Masticatory muscle testing is probably the most overlooked part of the examination. By far, most pain associated with TM dysfunction is myogenous pain (e.g., myositis, intrinsic muscle spasm, muscle guarding, myofascial trigger points, tendinitis, etc.) Here are examples of two muscle groups commonly evaluated when screening for TM disorders.

**Lateral Pterygoids:** These muscles are primary opening muscles and can be tested by putting one hand under the chin and the other just above the external occipital protuberance (EOP). The patient opens the mouth slightly and the chiropractor applies a strong closing force to the chin. Be careful, because like the hamstrings, these muscles can cramp easily. Pain in the lateral pterygoid is often associated with internal derangement of the ipsilateral temporomandibular joint.

**Closing Muscles:** (Masseter, temporalis, and medial pterygoid) are tested by placing a thick gauze pad over the lower front teeth to protect the fingers that will pull the jaw down, while the other hand supports at the forehead. Be careful, a human's bite is very strong. Watch out for loose front teeth, caps, dentures, etc. Practically speaking, this test is difficult to do with everyone, so you may want to modify it with putting gauze pads between the back teeth and determining if the patient experiences pain when clenching. (No fingers please). Note the visual definition of the musculature, especially the masseter, when the clenching occurs. Hypertrophy suggests the person either bruxes or clenches.

#### Problems That May Be Related to Joint Noises

Joint noises are traditionally taken to be one of the classic signs of TM dysfunction. However, current research is altering this concept a bit. It seems as though there are some circumstances where joint noises can occur in an otherwise healthy joint.

Joint sounds are best determined by palpating the lateral TM joint capsule and "listening" while the patient moves the mandible. Sounds such as crepitus, popping, clicking, or squeaking may be heard. These sounds are usually not present in a healthy joint and their presence suggests some sort of internal derangement.

#### References

1. Eversole L, Machado L: Temporomandibular joint internal derangement and associated

- neuromuscular disorders. J AM Dent Assoc, 110:69-79, 1956.
2. Schellhas K: Diagnostic criteria for intra-articular TM disorders. Community Dent Oral Epidemiol, 17:252-257, 1989.

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