Drs. Norton and Davis are experts in the assessment and treatment of TMJ and related spinal dysfunctional conditions – Please contact us at 559-490-9550 for more information and to discuss how we might partner together to help resolve this epidemic problem. Here is some helpful TMJ information.

Brief overview of the anatomy/neurology of the TMJ

The TMJ is a complex joint composed of two non-attached synovial joints connected by the rigid mandible. There is a biconcave disc or meniscus with thicker portions at the anterior and posterior separated by a thinner middle zone between the mandibular (or glenoid) fossa of the temporal bone and the mandibular condyle. Anterior to the fossa is the articular eminence. In the normal TMJ, the disc maintains its' approximate position between the condyle and fossa and moves anteriorly during the translation and rotation of the joint to protect both surfaces. The disc is attached posteriorly by the bilaminar zone. When the mouth is closed, the thick posterior portion of the disc separates the condyle and fossa. When the mouth is open, the thinner middle portion separates the condyle and the articular eminence. True synovial joints, both TM joints are surrounded by joint capsules which enclose the joints and the meniscus.

Brief summary of TMJ biomechanics and its relationship to the cervical spine

TMJ motion is quite complex, and a great amount of force is available to be applied to approximate the teeth during mastication, generated by the masseter, medial and lateral pterygoids, and temporalis muscles (CN V). This motion is compounded by the great diversity in anatomical structure from one individual to another. Because of the structure and function of the TMJ, an abnormal biomechanical pattern on one side will result in a compensatory adaptation the other.

Many muscles have direct or indirect effects on the mandible, and therefore the TMJ. The platysma (CN VII) is a broad sheath of muscle that runs from the fascia of the pectoralis and deltoid muscles up the front and sides of the neck and inserts into the mandible and interweaves with the muscles and subcutaneous tissues of the lower part of the face. The muscles that attach to the hyoid bone (both infra and supra groups (CN V + VII, C2-8)) affect both the cervical spine and the TMJ.

The neck is integral to the normal function of the TMJ, and vice versa. It has been demonstrated that cervical spine dysfunction (CSD) and TMD are many times interrelated, and if both problems are not addressed, recovery is impaired. We are uniquely qualified to address the both CSD and TMD in a conservative and non-invasive way.

TMD is commonly separated into two general classifications:

- Myogenous – muscle related, which is more common
- Arthrogenous – articular disease… including disc displacement disorders (most common), degenerative joint disease, infection, arthrosis, and neoplasm

Both types can be simultaneously present, making diagnosis and treatment more challenging.

Common abnormal motion patterns

Closed lock – less than 10mm of opening

Open lock – condyle moves anterior to the articular eminence

Lateral deviation on opening or closing – joint derangement or muscular imbalance

Overview of our TMJ diagnostic workup

Forms

History:

- Heavy computer use
- Psychiatric disorders (1/3)
- Trauma – Whiplash or facial trauma
- Men/Women 1 to 4 - young women more common

Exam:

- Goniometry:
  - Opening – 50mm
  - Lateral deviation – 10mm from midline bilaterally
- Observation:
  - Anterior head carriage
  - Abnormal cervical curve
  - Obvious asymmetry
  - Lateral deviation on opening
- Palpation:
  - Anterior – just inferior to the zygomatic arch about 2-3cm anterior to the meatus
  - Posterior – Anterior wall of the auditory meatus