Within the general population, the prevalence of internal derangements (ID) of the temporomandibular joints (TMJs) is quite high. Prevalence studies indicate that, based on history and clinical examination alone, 30 to 40 percent of non-patients – the general public – present with clinical findings of internal derangements. Although this number might seem surprisingly high, it might also be comforting to know that most individuals with this condition never seek treatment or are even aware that it presents a potential problem.

However, orthodontists might have unique reasons to be conscious and cautious of the high prevalence of IDs. In adult, non-patient populations, with MRI added to standard examination, the prevalence increases from 30 to 75 percent and in patient populations it increases from 45 to 85 percent. In non-symptomatic pre-orthodontic adolescents, adding MRI investigation to the clinical examination, the prevalence of ID is 50 percent for boys and 75 percent for girls.

Should orthodontists be concerned about numbers of that kind? It would be easy enough to dismiss these numbers. After all, we have been reassured that there is no statistical evidence that orthodontic treatment causes temporomandibular disorders (TMDs). However, the comfort that might result from that belief might be displaced when trying to explain to a patient or parent why, in the middle of orthodontic treatment, the patient’s joint begins popping noticeably, catching or locking, particularly when he or she were unaware of these problems prior to the start of orthodontic treatment.

In the 1996, AAO “Orthodontic Dialogue,” Anoop Sondhi, DDS, MS, recommended that orthodontists routinely conduct a screening examination for TMDs. He stated, “Patients presenting for routine orthodontic treatment may have underlying temporomandibular disorders that will affect the clinician’s choice of treatment options and informed consent procedures... Simply
obtaining a history related to joint symptoms – joint sounds and pain – may not be adequate.”

Dr. Sondhi raises two questions: First, should orthodontic treatment proceed in a routine manner for a patient who has signs, but perhaps no symptoms of internal derangements? And second, what issues should be raised prior to orthodontic treatment, with respect to informed consent, when signs and perhaps symptoms of a TMD internal derangement are present?

There are no universally satisfactory answers to either of these questions. A careful screening examination of every new patient is the only means of arriving at individualized appropriate answers. “TMJ” is not a single, well-defined condition. The wide variation of disorders of the masticatory mechanism requires that the individual patient’s condition be understood.

Because of the high prevalence of internal derangements in adolescents, as well as adults, even in the absence of signs and symptoms, informed consent should draw attention to the possibility that problems involving the temporomandibular joints can occur, even when care was taken to identify the possibility of such a condition prior to commencing treatment. Documentation of a careful pre-treatment evaluation further minimizes associated risks.

When signs or symptoms are identified in a screening examination, a more comprehensive evaluation of the masticatory apparatus is indicated. Depending on the findings, careful consideration of treatment options is required, taking into consideration the important relationship between condylar position and the fit and function of the dental occlusion.

Prior to commencing orthodontic treatment, addressing the presenting signs and symptoms through the use of TMD treatment modalities that are specific to the individual patient’s condition, is also usually advisable.

All of this should be thoroughly discussed with the patient and/or the parents. Needless to say, documentation of a careful evaluation for TMDs, together with a written informed consent that covers all of the issues that are specific to the individual patient is the best means of avoiding misunderstandings.

For examples of TMD screening forms (provided by Dr. Higdon), please visit http://www.towniecentral.com/images/Orthotown/magimages/0511/TMDScreen.pdf

References

Author’s Bio

Samuel J. Higdon, DDS, has had a practice limited to temporomandibular disorders for 30 years in Portland, Oregon. In 1983 he published Illustrated Anatomy of the Temporomandibular Joint in Function/Dysfunction, a patient education aide that was widely accepted around the world. The text and illustrations were by Dr. Higdon. The new second edition, recently published with 23 entirely new illustrations and accompanying text, can be viewed and ordered from www.tmj anatomy.com.