What Me... Move Teeth?



But I'm a General Dentist.



IAPA FUN FACT #3 Did you know...

That in 2008 we hosted the conference in the Happiest Place on earth (DISNEYWORLD!) and many Mickey ears were bought! Timothy Gross, DMD, FIAPA, LVIF

Is comprehensive orthodontics so complicated that only specialists should attempt to reposition teeth? Or is it so simple that any dentist can do it? Of course, those are loaded questions. The answer is, with proper training most dentists can successfully develop the skills needed to predictably move teeth. With the number of patients that need orthodontia, there just are not enough orthodontic specialists to handle the volume. But most orthodontic practices do not seem to be overwhelmed and turning away patients. Why not? In my opinion, under diagnosis is probably the main factor.

In an online search for the most common reason for referral to an orthodontist, a popular site lists "malocclusion" as the reason. It defines malocclusion as, "the teeth are not aligned properly" and goes on to say, "occlusion refers to the alignment of teeth and the way the upper and lower teeth fit together" and "malocclusion is often hereditary." That is likely what most dentists believe, but it is overly simplistic and misleading and WRONG.

The correct definition of malocclusion is, "a discrepancy in the way the upper jaw and lower jaw meet." Notice, there is no mention of teeth in that definition. Misalignment of the jaws must be assumed and ruled out before initiating orthodontic treatment. Certainly, malposed teeth can contribute to that discrepancy, but they are not the end- all, be-all of malocclusion. And of course, misaligned teeth are an indication for orthodontic treatment. What is too commonly overlooked, however, is the misalignment of the jaws relative to each other and oral volume. An understanding of those fundamental principles and you will find the need for orthodontic treatment is almost overwhelming in your practice.



30 years post-extraction and retraction orthodontics, the occlusion is skeletally and dentally deep.

Misalignment of the jaws relative to each other:

As a result of structure or function, probably better labeled as dysfunction, the maxilla can be ahead of, or behind, the position of the mandible. Likewise, the mandible can be ahead of, or behind the maxilla. That is an anterior-posterior (A-P) discrepancy of the jaws. In the lateral or transverse relationship, malposition of the jaws appears clinically as a unilateral or bilateral crossbite. Vertical malocclusions present most commonly as deep bites and less commonly as open bites. These are three dimensions of malocclusion most dentists are familiar with: sagittal, transverse and vertical. But there are three other dimensions of jaw relationship just as important but rarely taught and understood. They are roll, pitch and yaw. Every neuromuscular dentist recognizes these relationships as torque of the jaws. In physiologic orthodontics, we correct malocclusions in all 6 dimensions.

In dental orthopedic terms, roll occurs when one side (right or left) of the occlusion is more compressed than the other. To help visualize, imagine seating a full lower arch of restorations in which the right side is in full maximal intercuspal position, but all of the left side teeth are in infra-occlusion, meaning there is no occlusal contact. The patient might say," the teeth on my left are not hitting" or" the teeth on my right side are high." If that patient leaves the office and returns the next day presenting with some of the teeth on the left side in



Significant crowding and advanced wear facets accompanied a lengthy list of TMD symptoms.



Arches are collapsed with significant crowding despite removal of four bicuspids.

occlusal contact, their mandible has experienced the element of torque called "roll" as a result of the activity of masticatory muscles elevating the mandible unevenly and compressing the ipsilateral condyle in its fossa.

Pitch is easier to explain. When the second molars are the terminal teeth, have you ever prepared one or both of them for crowns, knowing you reduce the occlusal surface by 2 mm and yet when you record a bite registration there is barely any clearance with the opposing teeth? What happened? The mandible "pitched up" in the posterior. The condyles have compressed within their fossae.

Yaw occurs when one side of the mandible is retruded and the other side is protruded relative to the opposite side. Imagine having a retrusive occlusal interference on one side of the mandible with a protrusive interference on the contralateral side. The result will be yaw of the mandible. In this scenario, one condyle is more compressed relative to the other.

Oral Volume:

Traditional orthodontics should be more accurately termed "retraction orthodontics". The epitome of that is four bicuspid extractions and the retraction mechanics used to close the 14mm or more of space created by the dearly departed premolars. But all space closure in general is retractive in nature; springs, elastics and chains use the molars as anchorage to pull the anterior segments posteriorly to close interdental spaces with resultant arch collapse. Closing spaces is not synonymous with dental arch stability (figs. 1 to 4). Of even more consequence is the role it likely plays in TMJ compression and airway compromise due to reduced oral volume. Sure, the teeth will look straight, but at what cost? Anterior dental interferences lead to the mandibular retrusive reflex leading to a plethora of ear and craniofacial/ TMD symptoms as a consequence of compressed temporomandibular joints. Adding to that, with the retruded teeth in the way, the tongue will posture posteriorly, likely contributing to obstructive sleep apnea.

To summarize, malocclusion is misalignment of the jaws relative to each other and can be in one or all of 6 dimensions: vertical, lateral, A-P, and torque that includes yaw, pitch and roll. Furthermore, such misrelated jaws can present concomitantly with jaws that are malposed relative to the cranium making the consequences of retraction orthodontics even more dire.

It is not unusual to find patients with torqued mandibles (with any combination of yaw, pitch and roll) with jaw relationships that are vertically, sagittally, and transversely deficient. Frankly, it is more likely that the majority of our patients exhibit malocclusions. Just look for the signs and symptoms: headaches, TMJ pain/noise, face pain, ear pain, tinnitus, vertigo, neck pain, sensitive teeth, worn/fractured teeth, abfractions, tori, narrow arches, high palatal vault, crossbite, retruded maxilla/mandible, an unattractive facial profile, deep bite, tongue thrust and mouth breathing just to name a few. Physiologic orthodontics teaches correction of malocclusion in six dimensions with emphasis on maximizing arch development. With proper recognition and diagnosis, physiologic orthodontics is an essential treatment modality that can be and should be incorporated into every dental practice.



www.lviglobal.com/physiologic-orthodontics-level-one