

## **Dr:O < TALK: Braces (Orthodontic) & Facial Pain (TMD)**

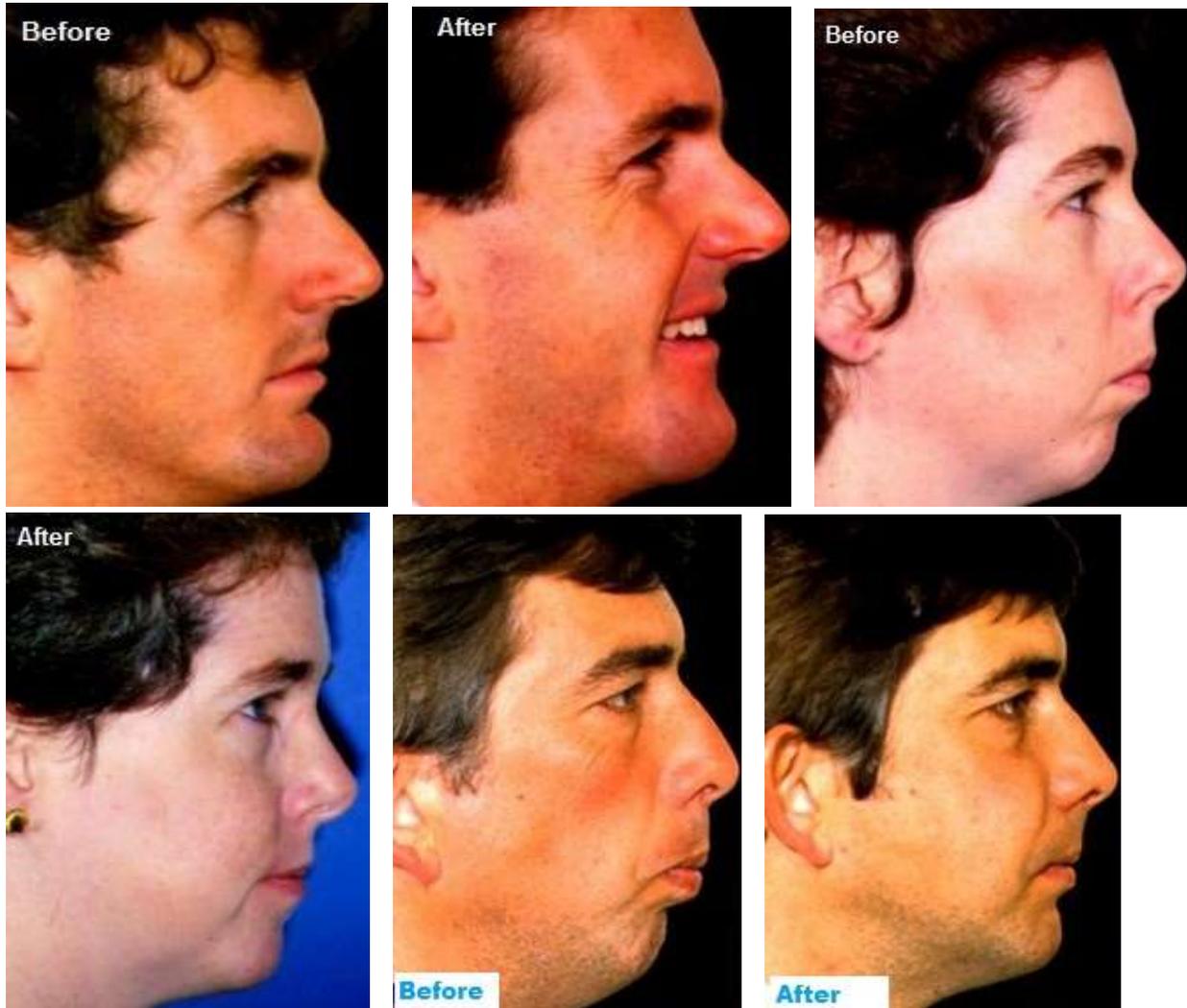
Orthodontic is defined as: the area of dentistry concerned with the supervision, guidance and correction of the growing and mature dentofacial structures, including the conditions that require teeth movement and the stimulation of the functional force within craniofacial complex. As we may know, crowded, irregular, and protruding teeth have been a problem for some individual since antiquity, and attempts to correct this disorder go back at least many centuries ago. The major cause of orthodontic treatment is malocclusion (bad bite) which follows by (facial) skeletal deformity. Although malocclusion now occurs in majority of the population that does not mean it is normal.

Malocclusion could be produced by two major factors. The first would be an inherited disproportion teeth size, and the second would be the size of the jaw that housing those teeth which leads to *crowding or spacing*. The skeletal deformity is also an inherited malposition and disproportional shape of the upper and lower jaw in its relationship to each other (dentofacial deformities) which lead to improper bite relationship such as (severe) over/under bite and deep/open bite. Hence, malocclusion and skeletal deformity, after all, is a developmental problem?



Often in the clinic, I have been asked by my patient “What is jaw (orthognathic) surgery?” and “Why do I need it beside just the orthodontic?” Patient with congenital or acquired abnormalitties of facial bone resulting from abnormal growth will need this surgical procedure because orthodontic alone will not be sufficient to correct the problem. Orthodontic is limited to the correction of the teeth position; not the skeletal deformities. This procedure together with the orthodontic is designed to enhance the facial esthetic (by correcting the skeletal deformity) and yet at the same time is to improve the (bite) occlusion. You

could have a nice straight teeth after orthodontic, but if your jaw structure is still deformed, the treatment effect is just not there. As you can see from the photograph below the effect of orthodontic treatment combines with orthognathic (jaw) surgery is very dramatic. Yes, it is not cheap; but it is the invesment in yourself that may last a life time. How much it is worth? Priceless!



TMD (temporomandibular disorder) is a major cause of nondental pain. It is estimated to effect 10 million individual in the US. The pain and dysfuction of TMD can range from minor, localized (self limiting) to severe, generalize and

chronic resulting in pronounced disruption in individual daily activity. It has a significant gender bias, with women presenting more commonly at a ratio 6:1. The head and neck region is one of the most commonly effected area by chronic / recurrent painful (orofacial/myofascial pain ) condition. Pain may be caused by musculature, joint, nerves, or vascular system.

WHAT CAUSE TMD? Well, we know that severe injury to the jaw / TMJ can cause TMD. For example, heavy blow to the joint can fracture the bone of the joint/damage the disk, disrupting the smooth motion of the joint and cause pain, clicking, or locking. Habit such as grinding / bruxism, severe malocclusion (bite), and stress, also contribute to the cause of TMD/orofacial pain. The relationship between dental bite and TMD symptoms is highly controversial. Orthodontic treatment can sometimes help the individual with TMD problems, but it can not be relied on to correct them. Although chewing gum and orthodontic treatment, such as braces / headgear has also been blamed for some form of TMD, but study now show that this is unlikely (there is no scientific proof/evidence for such cause). Therefore, It is important for our patients to understand what may happen to their symptoms during and after orthodontic.



The signs and symptoms may be link to TMD pain may include: limited jaw movement or locking; radiating pain in the face, neck, or shoulders; clicking/popping/grating sound of the jaw joint; a change of the upper and lower teeth fit together. Other symptoms such as earaches, headaches, dizziness and hearing problem may sometimes related to TMD. For example, Myofascial pain develop when muscles are overly fatigued and tend to go into spasm. It is all but impossible to overwork the jaw muscle to this extent during normal bite. To produce pain, the person must be clenching/grinding the teeth for many hours per day (as a response to stress). For this reason, it is impossible to say that minor bite discrepancies will lead to TMD symptoms.

In clinical setting, orofacial pain is often confused with 2 other categories of facial pain disorder. The first most common is “trigeminal neuralgia”. It is characterize by sudden, paroxysmal pain generally confined to the distribution of the nerve. The second refers to “atypical facial pain” (AFP). This term is used most often as a euphemism for psychiatric-base facial pain. The treatment of trigeminal neuralgia is complex and often involved a nerve dissection or repositioning by a neuro surgeon.

Many of our viewers/patients then may ask what type of treatment modalities are available for TMD today? Well, beside bite correction through orthodontic by bringing the jaw center to its normal original space (as shown on the photograph above), occlusal splint therapy, and intra-muscular injection by administering BOTOX, KENALOG, and anesthetic, together with certain prescription drug has also been used to relief myofascial pain. The most radical treatment approach is a complete joint replacement therapy has also been advocated as the last resort. Despite all of these available treatment, it is important to keep in mind that TMD treatment should be “conservative” which means as simple as possible and if possible “reversible” which means do not invade the tissues of the face, jaw, or joint. For example, the doctor may recommend a bite splint to reduce clenching/grinding, which eases muscle tension; a self care practice such eating a soft food, applying heat/icepack, and avoiding extreme jaw movement such as wide yawning, gum chewing, or loud singing are useful in easing TMD symptoms. Learning special techniques for

**relaxing and reducing stress is also beneficial and play a big role in reducing pain!**

**We hope that this simple article would help our viewers/patients in regard to the treatment option that is now available for TMD and orthodontic. We encourage our viewer/patients to contact our office for any additional questions that they may have.**