

Overtreatment “Successes”—What Are the Negative Consequences for Patients, Dentists, and the Profession?

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Aims: To describe how some management practices in the field of orofacial musculoskeletal disorders (also described as temporomandibular disorders [TMDs]) are based on concepts about occlusal relationships, condyle positions, or functional guidance; for some patients, these procedures may be producing successful outcomes in terms of symptom reduction, but in many cases, they can be examples of unnecessary overtreatment. **Methods:** The authors discuss the negative consequences of this type of overtreatment for both doctors and patients, as well as the impact on the dental profession itself. Special focus is given to trying to move the dental profession away from the old mechanical paradigms for treating TMDs and forward to the more modern (and generally more conservative) medically based approaches, with emphasis on the biopsychosocial model. **Results:** The clinical implications of such a discussion are apparent. For example, it can be argued that the routine use of Phase II dental or surgical treatments for managing most orofacial pain cases represents overtreatment, which cannot be defended on the grounds of symptom improvement (ie, “successful” outcomes) alone. Similarly, there is enough clinical evidence to conclude that complex biomechanical approaches focusing on the search for an ideal specific condylar or neuromuscular position for the management of orofacial musculoskeletal disorders are not needed to produce a positive clinical result that is stable over time. **Conclusion:** Typically, overtreatment successes cannot be easily perceived by the patients or the treating dentists because the patients are satisfied and the dentists feel good about those outcomes. However, neither party knows whether an excessive amount of treatment has been provided. Therefore, both the practical and ethical aspects of this discussion about proper treatment vs overtreatment deserve attention. *J Oral Facial Pain Headache 2023;37:81–90. doi: 10.11607/ofph.3290*

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One of the most gratifying aspects of being a medical doctor, dentist, or other health care provider (HCP) is when a patient responds positively to your treatments. However, such outcomes are not necessarily related to the specific components of your treatment—indeed, they can occur because you are treating, while you are treating, or despite the treatments being provided. Distinguishing from among these three possibilities is one of many challenges facing all HCPs since all would like to claim the credit for positive outcomes. Unfortunately, HCPs are not always open minded to considering alternative explanations for treatment success that are unrelated to the specific modalities being provided. For instance, the possibility of non-specific improvement due to spontaneous recovery, placebo effects, or regression to the mean (ie, the severity of the original problem diminishing over time) may confound our attempts to understand why each patient got better.

Another potential confounding factor is the issue of how much treatment is actually required to improve or resolve certain medical conditions. Indeed, sometimes a treatment is judged successful because of symptom improvement, but the patients are actually receiving an overtreatment for their condition (ie, the symptoms would also have improved

with less invasive strategies). Thus, when evaluating the effectiveness of a treatment, in addition to the traditional disputes over conservative vs radical or medical vs surgical, we must consider the possibility of overtreatment in some cases.

Regarding the field of temporomandibular disorders (TMDs), as well as several other topics surrounding the temporomandibular joint (TMJ), this has become an issue of growing concern in the 21st century.^{1–3} To further complicate matters, the very term *temporomandibular disorders* has become increasingly recognized as a problematic label for the various clinical disorders affecting the masticatory system. Therefore, in this paper, the authors will be using a different nomenclature for the categoric labeling of these conditions: orofacial musculoskeletal disorders (OMDs). These disorders will be subdivided into two main categories: myogenous problems and arthrogenous problems, with the latter including disc disorders as well as degenerative diseases. Each of these problem areas has the potential for being overtreated, with obvious negative consequences for all involved parties, including the possibility of treatment failure. Because the term *TMDs* appears so often in the dental literature, many of the concepts and papers cited in this paper will still utilize that term.

As Greene and Manfredini wrote in their paper about the “third pathway,” many OMD patients are still being treated according to the 20th century paradigm of correcting occlusal disharmonies and repositioning TMJ relationships despite the voluminous research that has challenged the validity of this approach and the multitude of studies that do not support an etiologic association between OMDs and malocclusion, unstable occlusion, and/or occlusal interferences.⁴ Moreover, as Manfredini and Poggio wrote in a paper about prosthodontic planning in patients with bruxism and/or TMDs, extensive restorative dental procedures should not be regarded as a “treatment” for these conditions. On the contrary, the clinician should be aware that such patients may be more complex due to those problems.⁵ Similarly, the correction of dental occlusion has even been extended by some practitioners to the “correction” of body posture abnormalities, without this treatment being backed up by any solid scientific evidence.^{6–9} Yet, many patients do report feeling better following all the above treatments—but what does that really mean in terms of actual treatment necessity?

The terminology used by most dentists who utilize mechanistic treatments in treating OMD is to call the first part of their treatment protocols Phase I, with various combinations of splint therapy, pain medications, and physical therapy. If successful, they then move on to Phase II, in which the occlusal and jaw relationships are irreversibly modified. However, the guide-

lines published by several scientific societies and expert groups (eg, American Association for Dental Research; International Association for the Study of Pain; American Academy of Orofacial Pain; European Academy of Orofacial Pain and Dysfunction) emphasize the usefulness of a biopsychosocial approach and the conservative treatments typically used in the so-called Phase I, but warn against providing irreversible dentoskeletal treatments except in rare circumstances (eg, TMJ surgical procedures with the subsequent need to restore dental occlusion).^{10–13} A substantial amount of dental literature supports this approach, with relatively high numbers of long-term successful outcomes being reported. Meanwhile, there is little or no published evidence that Phase II adds any benefit in terms of long-term success or prevention of symptom onset or relapse.^{14–16} Therefore, it seems reasonable to conclude that the routine use of Phase II treatments for managing most OMD cases represents overtreatment, which cannot be defended simply on the grounds of successful outcomes. Similarly, there is enough clinical evidence to conclude that a biomechanical approach focusing on the search for any ideal specific condylar or neuromuscular position is not needed to produce a stable and functional result at the end of a prosthodontic or orthodontic treatment.^{17,18}

Historical and Current Concepts of OMD Management

Myogenous Disorders

The symptoms arising from muscular problems are the most common phenomena seen in this field. They range from acute traumatic and hyperfunctional events associated with local myalgia to various chronic versions of myofascial pain. There may be nonpainful symptoms (eg, stiffness, feeling of tension) related to muscle fatigue, but pain and functional limitation are the most common reasons for patients to seek treatment. In some cases, a chronic pain condition may develop because the neuroplasticity of the nerves serving those muscles has been altered in the direction of persistent pain. Conservative treatments directed at the muscles themselves as well as the resultant pain have been broadly discussed in the literature,^{19,20} so they will not be reviewed here.

The most common form of overtreatment occurs when the clinician believes that the origin of the myogenous problems is due to wrong jaw positions or occlusal disharmonies; therefore, a more “permanent” corrective procedure is purportedly required to maintain a good long-term result. As mentioned earlier, this is the Phase I-Phase II fallacy, which irreversibly changes the structural relationships within the

masticatory system, and this approach has not been shown to be medically necessary to manage symptoms in the long term.²¹

Arthrogenous Disorders

The hard and soft tissues that comprise the TMJ are subject to all the diseases and pathologies experienced by other joints in the body. These include the simple clinical signs of mild pain upon chewing, which in some cases may progress to more complex conditions associated with persistent pain. Phenomena of acute trauma or hyperfunction may initiate painful intracapsular symptoms, while more chronic factors may lead to various forms of degeneration and arthritis (both systemic and local).²² Degenerative changes can be painless or painful, and severe resorption occurs sometimes due to a peculiar disease known as *idiopathic condylar resorption*.²³ Once again, there is a variety of conservative treatments ranging from simple medications to injected compounds, and the relatively simple arthrocentesis procedure has provided relief for many people.^{24–26} However, overtreatment occurs when a surgical intervention is used prematurely or without adequate rationale. It may be easy to persuade a symptomatic patient to allow intracapsular operations that range all the way to total joint replacement, and if they are “successful,” then everyone is convinced it was necessary. Obviously, it is true that certain advanced TMJ surgical procedures can sometimes be indicated in cases of severe mutilating arthrosis or TMJ ankylosis, but they should be a last resort and have a strong biologic rationale for their usage.^{27,28}

Regarding disc disorders, a combination of clinical and imaging data have shown that over one-third of the population may have one or both TMJ discs in a nonideal position, usually displaced in a forward direction (ie, anterior disc displacement [ADD]), and that such disc positions are not necessarily associated with symptoms.^{29–31} Depending on a number of variables, these discs might make a noise upon mouth opening (reduction) or stay in the forward position.³² The great majority of these tissue derangements are not painful conditions, and they also are not necessarily progressive.³³ Some patients will have episodes of pain, sticking, or locking associated with ADD, while others may develop a more serious and persistent version. Once again, the natural course and conservative management of these phenomena has been described elsewhere and will not be reviewed here.^{34,35}

Unfortunately, there has been a rebirth in some clinical communities of procedures to “recapture” displaced discs and reposition them over the condyles. Without any convincing proof that such procedures are necessary or successful in the long term, we still have various types of oral appliances designed

to theoretically “recapture” the disc. In addition, we have discopexy and disc repositioning operations being performed in both open joint and arthroscopic protocols; we have condylotomy operations to “sag” the condyle under the disc; and finally, we see some clinicians advocating total disc removal without any replacement. Arguments are made that leaving a disc displaced in children and adolescents will reduce condylar height and cause mandibular asymmetry. While this phenomenon may occur in some cases, it is generally a small effect that is easily managed by orthodontic treatment. Others argue that condylar degeneration and arthritis will occur if the disc is not repositioned, but longitudinal studies show that a broad variety of outcomes are possible, ranging from mild bony remodeling in most cases to more severe changes in others. As is the case for many other over-treatments, these procedures aiming to reposition the disc carry the risk of severe side effects and complications, while their clinical “success” in reducing pain and dysfunction is not superior to more conservative approaches.^{36,37}

Within these premises, in the remainder of this paper the authors will discuss the negative consequences of these various types of overtreatment, all of which are commonly seen in tertiary care centers where orofacial pain experts study and treat such patients. Of course, overtreatment of OMD cases can result in failures and indeed often does. When that happens, it is a double tragedy because the irreversible changes cannot be undone, and the likelihood of the patient developing chronic pain is greatly increased. This issue has been discussed previously in an article about iatrogenesis being a major factor in the development of chronic pain,¹ but in the present paper, we wish to emphasize the opposite problem: the situation in which treatment has produced symptomatic relief so both the patient and doctor may be persuaded that the transaction was a good one. However, the negative consequences of this apparent success are relevant and could have been avoided by using more appropriate treatments. This discussion of overtreatment success will include the impact on the doctors and the patients, as well as the impact on trying to move the dental profession away from the old mechanical paradigms and forward to more modern medically based approaches. Obviously, there are ethical aspects of this discussion about proper treatment vs overtreatment, and they will also be considered here.

Impact on the Patient

Every patient who is experiencing symptoms expects two questions to be answered when consulting with an HCP:

1. What is happening (ie, what is the biologic problem and what are its causes)?
2. What should be done to resolve this problem?

Thus, initial diagnosis can be the first step in a correct and successful treatment process, but an exaggerated diagnosis can lead to overtreatment. For example, a symptom of facial pain may be correctly diagnosed as a nonodontogenic neuropathic condition based on patient history and physical examination, and this condition can generally be managed with various medications. But if the HCP believes that such problems are due to a classical trigeminal neuralgia, the diagnostic workup will be more extensive than needed, and the treatment process may escalate all the way to neurosurgical procedures.

In this paper, the focus is mainly on the clinical management of OMDs because the same type of distorted diagnostic and treatment processes may be seen in this domain regardless of whether the problem is myogenous or arthrogenous. For instance, a patient who is experiencing masticatory muscle pain may be correctly diagnosed by taking a careful history and performing an appropriate physical examination, and the conservative treatments for such problems will often produce a good outcome.³⁸ However, some patients with OMDs may also be experiencing comorbidity with other pain conditions. In these cases, it is likely that central sensitization and nociplastic pain are more important than peripheral inputs in the contribution to the clinical picture.^{39,40} Therefore, a complex diagnostic workup involving technologic devices and sophisticated imaging for the OMD component may produce an exaggerated diagnosis of that problem while failing to consider the comorbidity issues.

As argued in a previous paper about the “third pathway,” dentistry is unique in offering a third alternative to the usual medical or surgical procedures used to treat other musculoskeletal disorders.⁴ The third pathway involves a diagnostic workup for occlusal disharmonies and jaw malalignments, ultimately leading to a series of irreversible bite-changing and jaw-repositioning procedures. Despite all the research studies and clinical practice guidelines that deny the validity of this approach, it continues to be promoted and used by various dental groups. Such an approach is sometimes advocated even in the absence of symptoms, with a multitude of instruments and “philosophies” that are proposed to “diagnose” problems with either the interarch occlusal relationships or the position of the condyle within the glenoid fossa.⁴¹ This basically leads to the creation of new patients; ie, individuals without any real biologic problems who are instead convinced to start massive dental treatments for the correction of purported abnormalities.⁴² Furthermore, even when dental correction is needed

for prosthetic or orthodontic situations, the use of certain technologic instruments and protocols may result in unnecessary biologic, psychologic, and social expenses, the discussion of which goes beyond the scope of this paper.^{43–49}

Other examples of overtreatment may not involve specific changes in dental occlusion. For instance, wearing an oral appliance 24/7 for months/years instead of using it as a transient treatment modality may lead to occlusal, orthopedic, and/or neuromuscular changes, as well as induce a psychologic dependence. Similarly, using an oral appliance to “deprogram” the jaw muscles to establish the end-of-treatment (Phase II) mandible position does not have any solid biologic or literature background, but this continues to be a belief that is hard to abandon for some communities of practitioners.⁵⁰

Unfortunately, in most cases, patients are not able to evaluate the validity of certain complex procedures used to carry out their dental treatments based on some TMJ or occlusion dogma. At the conclusion of their elaborate treatment, patients may be satisfied because they felt pain relief in the case of musculoskeletal symptoms or, in the case of extensive dental procedures, because they have a nice-looking smile with good masticatory performance.^{51–53} But what does this mean for the patients who encounter such overtreating practitioners, even if they feel better after the treatment process is completed? Consequences can include the following:

- The expenses involved will be much greater.⁵⁴
- The length of the treatment process will be much longer.⁵⁵
- Significant discomfort is likely to be produced both during and after the treatment process because of the invasiveness of the procedures themselves. Furthermore, the extensiveness of the treatment may increase the risk of posttherapy problems (eg, persistent dentoalveolar pain, occlusal dysesthesia, failed root canal treatments, chipped ceramics, and other technical complications.) In addition, patients may report difficulty chewing because of the new occlusion and the altered mandible position.⁵⁶
- The irreversibility of the treatment cannot be undone, so the following risks may arise if things do not go well: Initial success may turn to failure (recurrence of symptoms)⁵⁷; major dentistry may be poorly done or it may simply fail over time⁵⁸; and occlusal complaints may arise due to iatrogenic dysesthesia, a condition that often cannot be resolved.⁵⁹
- Finally, in the case of OMD pain, the wrong message is being communicated to the patient. Instead of modern pain management that

involves both the doctor and patient to reduce and avoid pain, the patient will believe that all such problems must be “cured” by doctors!⁶⁰

Therefore, it is reasonable to say that clinical success (ie, symptom improvement) is not an adequate barometer for measuring the effectiveness of treatments provided to patients with OMDs. In particular, it is now clear that the health and good function of the stomatognathic system cannot be “diagnosed” based on theories involving some kind of “optimal” condylar position, mandibular movement trajectory, or neuromuscular function. There is a fork in the road for choosing between various approaches to treatment, and the patients cannot be expected to know enough to make a decision about what is being offered to them. Therefore, the burden on every HCP who treats orofacial pain patients is an ethical responsibility to provide the least amount of best available evidence-based care that matches their clinical diagnosis and the needs of their patients.

Impact on the Dentist

Despite the amount of evidence suggesting caution in the interpretation of successful clinical outcomes in the field of pain management, there may be several reasons why a dentist is unable or unwilling to consider alternative, less costly options. Dentists have become accustomed to achieving a high degree of success in most of their daily office procedures. Thanks to the incredible technologic and theoretical progress of the past decades, there is now reasonable predictability for success in almost all dental procedures, from a simple Class I restoration to more complex implant-supported prostheses. Furthermore, there may be several equally valid methods for achieving those clinical successes. This means that once a dentist has learned a technique or protocol or has gained experience using a certain material, a positive treatment outcome is almost guaranteed.

However, this type of positive experience in daily practice also exposes dentists to *confirmation bias*, which is defined as the tendency to search for, to interpret, and to favor and recall information in a way that confirms or supports one’s prior beliefs or values.⁶¹ Clinical examples are the claims that a certain composite, adhesive, or orthodontic bracket line is “better” than others. Consequently, practitioners working in the dental environment are prone to adopt inductive reasoning processes, which leads them to build generalized theories from a series of uncontrolled personal experiences and observations. While such a case-based approach may be useful in some specific circumstances, it is the opposite of the deductive rea-

soning (ie, from general, controlled observations to the extrapolation of particular data) on which science should be based.⁶²

A side effect of the positive working environment as described above is the resistance to opposing viewpoints and emerging new evidence. To put it simply—if it works, why should I change it? For most daily dental procedures, this reluctance is generally not an ethical or overtreatment problem; instead, it is merely a difference of opinion about which method to use (eg, which bur, which tooth preparation strategy, which composite, which root canal treatment procedure, which cement). On the other hand, this reluctance becomes critical when applied to the more complex field of pain management, and to some degree it also applies to extensive prosthodontic or orthodontic planning. Indeed, for decades, based on the precepts of so-called “gnathology”⁶³—a term that is not even included in the MeSH library on PubMed—concepts such as centric relation and its purported biologic meaning have permeated dentistry.⁶⁴ Different variants of claims surrounding the need to search for the ideal correspondence between form (ie, interarch relationship, inclination of the occlusal plane, condylar position, type of guidance) and function (ie, status of the stomatognathic system, absence of symptoms, ideal performance) have been proposed. To the beginner’s eye, these theories are attractive because they seem logical, but scientific evidence in the form of deductive comparison vs other strategies has never been provided. Instrumental strategies involving procedures such as condylar tracking to plan prosthetic guidance, chairside electromyography to find neuromuscular and occlusal balance, postural analysis to relate teeth contacts to the presence of pain in other parts of the body, or the use of so-called deprogramming appliances to find the ideal mandible-to-maxilla relationship are among the many examples of seemingly logical assumptions that are actually made in the absence of biologic proof.^{65–67}

Regarding the treatment of OMDs, all the previously mentioned overtreatment strategies and techniques may produce apparent clinical successes in some cases, but they fail to consider two important factors:

1. The self-limiting, fluctuating, and benign natural course of most OMDs^{68–71}: If a practitioner excludes complex cases (eg, severe arthritis, multiple comorbid pains, severe Axis II impairment, concurrent neuropathic conditions), they may utilize a variety of unnecessary instrumental approaches and clinical protocols with a reasonable probability of having success. If that dentist is a lecturer or a leader of a study

club, those successes may end up creating “disciples” who are unaware that the cases presented are often prescreened to pick up the ideal candidates to sell a theory.

2. The neuroplastic and adaptation capability of the stomatognathic system⁷⁷⁻⁷⁴: If a practitioner utilizes some complicated technique to “diagnose” OMD problems and to plan subsequent extensive restorative/reorganization treatments, it is likely that some of the case outcomes will be successful. The dentist just needs to avoid deviating too much from the habitual maximum intercuspation to have a very reasonable probability of having “functional” success, again creating disciples who are unaware of the overtreatment.

For those who follow these professional pathways, there are financial disincentives in abandoning their dogmas. Along with income-related issues, other important factors may reinforce their belief systems and explain the reluctance to “do less.” Among those factors, the fact that some practitioners are linked to (and in some cases are also the founders or stockholders of) companies that produce TMJ-related diagnostic and treatment products is certainly problematic. Likewise, the fact that some practitioners have created a personal brand or agency to sell courses is clearly a conflict of interest when they present their “method” to the dental audience.

Finally, disciples of certain philosophies tend to affiliate with other “true believers” in various study clubs, professional societies, and so-called institutes, thereby increasing their resistance to change and their hostile attitude toward “scientists.” All of this is amplified in the social network era, which has an impact on the profession that will be discussed in the following section.

Impact on the Dental Profession

The classic educational model in most dental colleges around the world aims to provide undergraduate students with a certain level of fundamental information that is then refined in university-based postgraduate and specialty courses. However, this model has often failed to reach the goals of driving education based on evidence-based knowledge and preparing dentists who are able to understand the medical components of the profession. For example, generations of dentists have not been sufficiently exposed to the basic scientific concepts required to understand TMJ anatomy and orthopedics because of the complexity of such teachings, and their exposure to concepts regarding management of OMDs

is therefore often quite minimal. Instead, their education in this area was (and in many cases still is) based on old precepts emphasizing the parameters of ideal function and attempting to reproduce it artificially with dental procedures. Under the strange assumption that technically skilled dentists and laboratory technicians know a lot about function thanks to their expertise using articulators, the process of learning and teaching function followed an inverted path with respect to the usual one; ie, instead of transferring medical and biologic concepts to the technical equipment, the opposite strategy was followed, and application of anatomy concepts were “adapted” to the available technical devices. The heritage of the classic gnathology era is that many prosthodontic and orthodontic teachings at the undergraduate level contain several hours of formative credits that deal with the topics of articulators, recording of the mandible position, and other technical parameters that would purportedly evaluate and promote “function.”⁷⁵ As a result, the emerging dental practitioner is, on average, not even aware of the fact that the TMJ condyles are biologically variable in terms of symmetry, size, shape, trajectory, and position. Having graduated with this background, they are at risk of being exposed to a variety of nonacademic continuing education courses and other postgraduate educational activities that deal with the TMJ and promise to get deeper into those topics.⁷⁶

Due to these shortcomings of the undergraduate dental education system, which are not unique to any specific countries,⁷⁷⁻⁷⁹ a proliferation of continuing education courses, self-proclaimed institutes, and study clubs has been noted. In many countries, the main source of postgraduate information on TMJ function and dysfunction is now represented by private courses, often held under some company banner and/or by professionals without a certified education in the field. Associations of “gnathologists” are still alive in several countries, often proposing events with clear commercial links to overdiagnosis and overtreatment devices. Orthodontists, who are the purported experts in function in the minds of most patients and general practitioners, are still often considered the best choice for the referral of “TMD” patients, thus contributing to the persistent difficulties in dismantling the old “TMJ-occlusion” connection.⁸⁰ The term *TMD* is used here on purpose to denote that a simple acronym of the umbrella term, without any phenotyping of symptoms and etiology, is still often misused as a diagnostic label for such problems. Even in this new decade, it is not rare to see “debates” sponsored by companies or non-orofacial pain associations to create audiences and give the impression of novelty in support of old gnathologic claims by refreshing the

technologic message (eg, digital articulators to “diagnose” function). Within this context, national academies that should promote the study of pain and (dys) function in some countries are still limited by their linkages to various dental associations, while international academies sponsor large meetings that appeal to expert communities but are not likely to reach the ordinary clinical dentist.

The difficulty of transferring an evidence-based message about the modern standards of care for managing OMD patients to general dentists has a negative impact on the profession in general. Moreover, a negative perception about dentists is generated within communities of unsatisfied patients and medical doctors as reports of iatrogenic damage continue to grow. Advocacy groups of patients blaming “Phase II” doctors for either mistreating or overtreating them without success are flourishing in social networks, a raw reality unique to the dental profession. In spite of the well-documented neutrality of orthodontics with respect to causing or curing OMDs, professional liability claims against orthodontists who “caused” a TMJ click are not rare. Also, high-quality prosthodontists, restorative dentists, and even orofacial pain practitioners can be judged inadequate or not sufficiently updated by their patients because they do not use fancy instruments in their diagnostic and treatment protocols. All these negative factors contribute to creating a gap between our profession and the other medical branches; indeed, it is difficult to find comparable examples of the overtreatment of patients in other musculoskeletal or neurologic fields.

The recent recognition of the Orofacial Pain specialty in the United States, which will hopefully be followed by similar achievements in other countries and includes the study of musculoskeletal pain conditions (ie, OMDs), is surely an important starting point to defining an official professional framework of reference.⁸¹ Despite the efforts of the scientific community, the gap between scientific knowledge of these conditions and the typical clinical practice within the community is often quite significant. Luckily, there are some very good initiatives for implementing standardization of the approach to OMD diagnosis and treatment at the community level, but these are still limited in number and restricted to a few countries, such as Sweden.⁸² As expressed previously, this situation is due in part to many misconceptions about the biologic and psychosocial features of the conditions affecting the TMJ, which frequently have a positive natural evolution. Unfortunately, many dentists also seem to lack an understanding of and appreciation for the adaptation of the stomatognathic system to the typical minor shifts in mandibular position that are necessary for prosthodontic or orthodontic reasons.

Thus, it seems important that evidence-based teachings on these topics should be included not only at the undergraduate level, but also in prosthodontic and orthodontic programs to help young dental graduates be better prepared for their own practice, as well as for obtaining a better appraisal of the situation within their dental community as far as the management of orofacial pain is concerned.

Given the above premises, it must be concluded that ethics are the guiding principle of any decisions that dentists make when they encounter patients with OMDs.^{42,83} Ethical dilemmas about the importance of finding a balance between the patient’s needs (ie, receiving the minimum amount of treatment that is really necessary from a medical viewpoint) and doctors’ expectations (eg, financial remuneration, ego satisfaction, and relationships with companies and colleagues) will be a core part of any professional’s career journey.

Conclusions

In this paper, the negative consequences of overtreatment, either in the form of planning extensive dental reorganization based on purported TMJ abnormalities or correcting dental occlusion to manage the symptoms of pain and dysfunction, have been discussed. Such consequences include the impact on doctors and patients, as well as the impact of trying to move the dental profession away from the old mechanical paradigms and forward to more modern medically based approaches.

Clinical Implications

- This paper helps clinicians better understand the concept of providing the minimum amount of treatment needed to fulfill the expectations of the typical OMD patient and solve their chief complaints.
- Successes that are based on overtreatment strategies still permeate the clinical management of OMDs and have a negative impact on the patient, the dentist, and the profession.

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