

VIEWPOINT

A crisis in orthodontists? It's time to look within

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As a recent orthodontic graduate who has been in solo practice for 5 years in a large, growing Midwestern community, I have had the opportunity to observe the state of our specialty from the standpoint of a young, private practitioner. I have also discussed with many of my peers the quality of their orthodontic education and the state of the specialty as they have experienced it. Like it or not, the reality of private practice in the 1990s is that we are practicing in an environment in which "competition" is the main theme, and "busyness" is the most pressing issue. And our specialty is also under siege from new modes of competition that offer patients orthodontic care that is "cheaper" in both senses of the term—often less expensive but even more often of lower quality. The threat to the current practitioner, and the public, comes from those who are not playing by the same rules because they are unqualified to perform comprehensive orthodontic treatment. The signs of an impending revolution in orthodontics are evident. Yet even though the *problem* lies outside the specialty, I firmly believe that the *answer* lies within.

It is necessary for the specialty as a whole to take a long hard look at the most important part of our orthodontic practice and the primary reason that we are in the profession in the first place: to provide quality care to our patients. The real answer to the threat that is now confronting us lies in the management of our patients *from an orthodontic standpoint*. The time has come for the orthodontic specialty to distinguish itself once again as the leader in providing quality care to the public.

We must do better orthodontics. The future of the specialty and of private practice within the specialty are at stake and excellence is the only credible method by which they can be saved. As Richard J. Smith so aptly stated, "The quality of our care is our justification and our future."¹

And this is as it should be. We are, after all, specialists. By virtue of our position we must be better. One of the reasons general practitioners use to justify their treatment is that in many cases their diagnosis,

treatment, and end result are not much different from those of the orthodontist down the street. And it may hurt to hear it, but in many cases this is true more often than we would like to admit. As a specialty, we need to do more than just fight to stay ahead of the wave, because before we know it we will be swept away against our will. We need to make a quantum leap ahead, in all aspects of our specialty. **We must raise the standard of care.**

If we are delivering consistently better results than others doing orthodontics, then the general dentists and the public should know about it. The fact of the matter is, however, that the general dentists and the public often are unaware that there is any difference. Yet there is another possibility that is even more unsettling. The other possibility is that we, as a specialty, have not made great enough strides over the years to remain as the undisputed leader in the field of orthodontics by distinguishing our work from that done by others. The successful practices will develop the improved skills that are necessary to succeed in a more competitive environment.

So what does this mean? On the surface perhaps everyone would readily agree that doing better orthodontics is an obvious and universal answer to the problem. I am proud to say that I am a member of a specialty that I feel, as a whole, is extremely committed to delivering excellence to the people that put their trust in us as health care professionals. Yet, what are the underlying implications involved in delivering better quality care? Again, these are things that are not easy to hear. At stake are some fundamental issues that must be addressed by the specialty in an honest and in-depth manner.

The problem lies in the fact that almost every member of the specialty would agree with this position on a philosophic basis. Yet we must be willing to address these issues on practical terms and on a practical basis. Few have put into practical terms what this really means, and once realizing what it really means, few are willing to incorporate the needed changes into their standard operating procedures. However, time is running out. A crisis has begun; one that almost every practicing orthodontist would agree is having a direct impact, in some cases small and in other cases very

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large, on the number of new patients seen, on practice income, and on the type of cases that we are treating. And nobody is more acutely aware of this situation than the orthodontist who has started an office within the last 5 years. It is time for the specialty to take a close look at itself, individually and collectively, and to make some fundamental changes.

First, we need *specific, comprehensive, universal orthodontic treatment goals*. For a profession that is constantly in search of “cookbook” answers to complicated questions, it would seem that the basic concept of establishing treatment goals would be one that would have been accomplished decades ago and taught within the first month of graduate orthodontic training in every department in the country. Yet how many orthodontic students graduate from 2 or 3 years of specialty training without a clear picture of the treatment goals from a facial, skeletal, dental, or functional perspective? One of the most frustrating areas for an orthodontic student is that the treatment goals are too often stated in a loose, disjointed, often incomplete fashion. Some areas have historically even been left unstated. Unfortunately, the statement, “The orthodontic treatment goals are universally accepted” is still not completely true in the 1990s. This lack of agreement, which on the one hand has made orthodontics a fascinating and intriguing specialty has, on the other hand, plagued the profession for years and has often led to divisive splits in treatment philosophy. More often than not, a particular practitioner’s treatment philosophy is an amalgamation of the methods and techniques found to work best in his or her hands.

It is of paramount importance for the orthodontist to be able to picture the ideal orthodontic treatment goals (facial, skeletal, dental, functional) clearly in his or her mind.² Orthodontists must know where they are going *before* they set out and begin moving teeth. When a certain artist was asked how he made his sculpture of Moses he replied, “I just chipped away everything that wasn’t Moses,” implying that he knew *exactly* what Moses looked like before he started. The same holds true for facial, skeletal, dental, and functional goals.

The long-held treatment goals in dentistry of stability, health, esthetics, and function also apply directly to orthodontics. However, if one takes the time to ask what these treatment goals mean in orthodontics, one finds that there is not only disagreement on the answers to these questions, but that the answers given historically are often incomplete at best. What does the concept of stability mean in orthodontics? What does the concept of health mean in orthodontics? What does the concept of esthetics (facial, dental) mean in orthodontics? What does the concept of function mean in ortho-

odontics? Granted, many of these questions require further research, and it is difficult to separate the art from science of orthodontics. But we have been saying this for over 50 years. We, meaning individual practitioners and the specialty as a whole, need answers to these questions. What are our frontal facial and profile esthetic treatment goals? A pleasing face? What does this really mean? What are our skeletal treatment goals, in all three planes of space (AP, vertical, transverse)? Do we see these parameters consistently on *every* patient? What are the static occlusal goals? A Class I occlusion. What is an ideal Class I occlusion? Andrews³ described it nearly 25 years ago, yet most graduate students and some practitioners cannot clearly picture in their minds the correct tooth positioning required in all three planes of space. What is the static occlusal treatment goal for an extraction case? Should it be any different? Are spaces acceptable? Is function possible? What are the functional occlusal goals? Is “efficient mastication” an accurate enough description of functional occlusion? Are gnathologic goals attainable orthodontically?

Treatment results will always be better if we strive to achieve the highest standards. If our treatment goals are higher than others practicing orthodontics, then our results will be consistently better as well. The goal must be to create a noticeable difference in the standard of care delivered by an orthodontic specialist. This is no more evident than where we make our living—moving teeth. The lack of consistency in orthodontic finishes led Dr. Andrews to attempt to find the occlusal characteristics that are common to all “ideal” occlusions found in nature, which he hoped would yield a more standardized static occlusal objective for the orthodontic specialty.³ The lack of consistency in obtaining coordinated jaw function with occlusal function from orthodontics led Ron Roth^{4,5} to develop his concept of functional occlusion and the orthodontic treatment mechanics that make the concept attainable. Each pioneered a path toward the standardization of orthodontic goals and thereby, as others had before them, raised the consistency level of the profession in obtaining quality orthodontic finishes.

Next, to be successful in today’s practice arena we need *more emphasis on occlusion, TMJ function and dysfunction, facial esthetics, and periodontics in our graduate programs*. These currently are and in the future will be the main areas of concentration in dentistry. Occlusion is taught in undergraduate dental programs, but more often than not, it is taught too early in the program and then is not reemphasized at the end of the program. Most students are hearing about Bennett sideshift and curve of Spee before they even know what a central incisor looks like. In graduate orthodontic

programs, when it should be reemphasized in great detail, it is often a forgotten topic. We cannot just make a living by straightening the teeth; there are many people "straightening teeth" in the 1990s. The reality of the situation is that orthodontists will be called on to do two things in the future:

1. Straighten the teeth noticeably better than anyone else.
2. Fix the bite or correct the occlusion.^{6,7}

To accomplish these two objectives, our graduate students need a thorough, almost exhaustive background in occlusion.^{8,9}

State-of-the-art principles and techniques regarding temporomandibular joint (TMJ) function and dysfunction must also be emphasized at the graduate level, for TMJ function is playing a much more prominent role in orthodontic correction. Every patient must be screened thoroughly and accurately for TMJ dysfunction before orthodontic treatment is instituted.^{10,11} Any signs of dysfunction must be noted, and in most cases an attempt should be made to correct the situation *before* orthodontic appliances are placed. Muscle problems consistently respond very favorably to occlusal splint therapy.¹² They also respond to orthodontic appliance placement. Yet, unfortunately, unless the occlusion is detailed very accurately, muscle symptoms may recur after orthodontics. Sometimes they recur even if static and functional occlusal goals are met. It is of critical importance to be able to tell these especially sensitive patients up front, before therapy is begun, that extra measures, such as equilibration, splint wear, may be needed at the end of their time in braces. A reversible diagnostic technique, such as occlusal splint therapy, can prove invaluable in many instances.

Temporomandibular joint sounds and internal derangements are much more serious, complex problems.^{10,11} It is readily apparent that it may not be practical or even possible to eliminate all joint sounds through the clinical techniques available today.¹² However, all joint sounds do require a thorough evaluation and assessment before treatment is begun and they should be (1) treated by reversible means if possible, (2) brought to the patient's attention, and (3) monitored throughout treatment and into retention.

Esthetics, both facial and dental, is becoming a very important area in our contemporary culture. The concept of beauty and what constitutes harmony and balance are highly subjective. The problem that most people have, especially orthodontic graduate students, is that although they can look at a face and say "Yes, I like it" or "No, I don't like it," they cannot describe *why* they find it attractive or unattractive. Emphasis needs to be placed on evaluation and description of the relationships between soft tissue and hard tissue.

Traditionally, orthodontic treatment planning has placed its emphasis on the relationship of the hard tissues (skeletal and dental) with little regard to soft tissue relationships. Contemporary orthodontic treatment must place a strong emphasis on the facial analysis in the clinical exam, diagnosis, and treatment planning. This includes soft tissue drape and its relationship to the hard tissue. The skeletal system underlies the soft tissues, but variations in tissue thickness and muscle function mean that soft tissues do not always reflect exactly the skeletal structure. Orthodontic treatment often creates changes in the soft tissue. Thus orthodontic treatment based strictly on the evaluation of the hard tissues may not produce esthetically desirable changes in the soft tissue. In other words, the occlusion may become better at the expense of the facial appearance. If there is a disagreement between the soft tissue and skeletal evaluations, more often than not the soft tissue evaluation should take precedence.¹³

The importance of esthetics on self-image cannot be overstressed. The psychologic and social development of young persons is related in increasing amounts to attractiveness and a favorable self-image. This is also true for adults. Although they may not say so explicitly, many adults are seeking orthodontic treatment today for primarily esthetic changes. A sensitivity to patient expectations and motivations, as well as treatment possibilities, must be developed if one is to end up consistently with satisfied patients.

The quality of orthodontic records must be upgraded. Orthodontists must take better records for the following reasons:

1. To provide the best possible treatment for our patients.
2. To provide high standards of performance for the specialty.
3. To prevent lawsuits.
4. To distinguish orthodontic specialists from others practicing orthodontics.

When the records of some general practitioners doing orthodontics are more complete and of higher quality than the records of other orthodontists, there is a problem. As specialists we are obligated to keep better records just as we are obligated to provide better quality treatment. Contemporary, comprehensive orthodontic records should include social history, medical history, dental history, radiographs (lateral cephalogram, frontal cephalogram, full mouth series, panorex, hand wrist, and TMJ, when indicated), photographs (extraoral, intraoral), comprehensive clinical examinations, and orthodontic study models *mounted in centric relation*.^{5,14}

We must develop a comprehensive orthodontic classification system that will consistently reveal the true nature of the problem(s) as presented by each individual

patient. Orthodontic diagnosis has been embarrassingly archaic in its classification of the orthodontic problems involving the skeletal, dental, and soft tissue relationships. Just as an Angle Class II, Division 1 dental relationship does not indicate the true source of the problem, be it a maxillary dental or skeletal protrusion, a mandibular dental or skeletal retrusion, or any combination thereof, the term *prognathic* does not indicate whether the problem is a true mandibular overgrowth, a maxillary retrusion, or a combination. Orthodontists must become more orderly and specific in their classification of the skeletal, dental, and soft tissue problems. The terms have been around for many years. However, the development of a comprehensive system that uses these terms has been fairly recent. The Ackerman-Proffit system^{15,16} of orthodontic classification was developed in the 1960s. In the 1990s it still has not been universally accepted.

The Ackerman-Proffit system was a giant step forward in the area of orthodontic classification and diagnosis. Most importantly it was the first system to emphasize and separate the three planes of space both skeletally and dentally. Also, by organizing the diagnostic information as they have, the method of examining the five major characteristics in sequence provides an orderly way of organizing the diagnostic information to be sure that no important points are overlooked. For these two reasons it was a landmark breakthrough in the area of orthodontic diagnosis.

However, two problems exist with this classification system for the young orthodontist. The first is that it is a bit cumbersome to use. The areas of concern are not isolated enough to tune into the individual problems. Secondly, it is not by itself comprehensive enough to diagnose a case accurately. Significant areas of concern, which may make or break a specific diagnosis and treatment plan, are not included. An even more comprehensive orthodontic classification system must be developed.

Orthodontic diagnosis must be more critical, addressing specific problems with specific treatment mechanics. In orthodontic diagnosis two points are essential:

1. The skeletal and dental relationships in three planes of space must be evaluated.
2. The skeletal relationships must be assessed individually, separate from the dental and soft tissue relationships.

Orthodontic diagnosis is more than just the Angle classification, amount of overjet, and amount of overbite. It is a three-dimensional entity. Just as three planes of space exist in nature, the orthodontic treatment problems exist three-dimensionally in facial, skeletal, and dental relationships. The key to diagnosis is

tuning into the specific problems of each patient. Too often in the past the skeletal and dental relationships have been evaluated as an amalgamation without attempting to delineate more precisely between the individual skeletal and dental positions. Although they are intimately related, they are nevertheless individual entities that merit individual evaluation. Only then does the diagnostic picture become clearer.

To aid in this process one must have a cephalometric analysis which instills confidence in the practitioner to assess these parameters. With measurements that have been developed in the past it is possible to evaluate individually the following parameters from a lateral cephalogram:

1. Skeletal anteroposterior (AP): the relationship of the maxilla to mandible (Class I, II, III).
2. Skeletal AP: the relationship of the maxillary apical base to the mandibular apical base.
3. Skeletal AP: the position of the maxilla in space (protruded, within normal limits, retruded).
4. Skeletal AP: the position of the mandible in space (protruded, within normal limits, retruded).
5. Skeletal vertical: the vertical facial pattern/growth rotation.
6. Dental relationships:
 1. Upper incisor angulation, anteroposterior and vertical position.
 2. Upper molar anteroposterior position and vertical position.
 3. Interincisal angle.
 4. Lower incisor angulation, anteroposterior and vertical position.
 5. Lower molar anteroposterior position and vertical position.
7. A simple airway assessment.

Lateral cephalograms have been a standard since their development. We must take full advantage of this valuable diagnostic tool.

Orthodontists must place more emphasis on facial soft tissue relationships,² periodontal status,¹³ and TMJ function.^{5,7,14} In the past, orthodontic diagnosis has superficially passed over these areas. That is not enough in today's orthodontic arena. Two very important areas of orthodontic diagnosis are an in-depth evaluation of the TMJ and study models *mounted in centric relation*, if our treatment goal is coordinated function of the teeth and jaws.^{5-10,14}

Finally, orthodontic treatment time must be kept to a minimum. There is nothing that we can do that will have a more favorable effect on the public than to decrease our treatment time. This is a very complex issue. Granted, much depends on the patient's input into the case, and this will always be a variable that is difficult

to control. But there are many things that we can do to accomplish this objective. First and foremost however, we must be able to make accurate, honest assessments of the problems and the potential mechanics to solve these problems. For example, many practitioners advocate early orthodontic treatment for the correction of orthodontic problems. In many cases this two-phase treatment regimen yields marvelous results. Yet in many other cases it results in prolonged treatment that in turn results in less than satisfactory results and less than enthusiastic patients. The key is to treat specific problems that can and should be corrected early while reserving treatment for other specific problems that should be treated later. The goal of early treatment should be to do what must be done now and what cannot be done later. If appliances will need to be placed at a later date in the majority of cases, the indications for early treatment can be more specific in scope.

This is just a brief overview of some of the important issues in orthodontics today. Of course, there are many others. The core issue, however, is that we must raise the standard of care delivered to our patients. The future of orthodontics as a specialty and of private practice within orthodontics are at stake. That is the reality of the situation. Others are now experiencing the problems that our specialty has dealt with over the last 50 years. We must be smart enough and cohesive enough as a specialty to continue to move ahead of many of these problems. The clearest answers come from experience. We have been there. We have a clear understanding of the problems. More importantly, we have already developed solutions to the problems. It is time to implement these solutions. If we do not focus our attention on this point and if we do not impress the public with the difference in quality that we provide, we will not distinguish ourselves sufficiently to succeed.

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