

ABO certification in the age of evidence and enhancement

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The American Board of Orthodontics (ABO) phase III certification examination was originally constructed and recently modified to “help the Board determine the candidate’s knowledge of clinical orthodontics and provide a basis to assess the quality of the candidate’s clinical treatment results.” For the most part, the ABO phase III examination measures the orthodontic treatment-induced changes in occlusion in a limited and biased patient sample. The process and outcome measures used in the current model—the discrepancy index and the objective grading system—are so narrowly focused that an orthodontist might lack up-to-date clinical knowledge, psychomotor and critical thinking skills, diagnostic acumen, patient management ability, and patient-centered ethics, and still pass the examination largely because of mechanically morphing the patient’s teeth into the board’s construct of ideal occlusion. The goal of this article is to provide provocative insight into the core concepts that drive the ABO phase III certification process and to recommend an alternative paradigm predicated on a patient-centered, evidence-based clinical practice model. (*Am J Orthod Dentofacial Orthop* 2006;130:133-40)

The American Board of Orthodontics (ABO) phase III certification examination was originally constructed and recently modified to “help the Board determine the candidate’s knowledge of clinical orthodontics and provide a basis to assess the quality of the candidate’s clinical treatment results.”¹ For the most part, the ABO phase III examination measures the orthodontic treatment-induced change in occlusion in a limited and biased patient sample. The process and outcome measures used in the current model—the discrepancy index (DI) and the objective grading system (OGS)—are so narrowly focused that the orthodontist might lack up-to-date clinical knowledge, psychomotor and critical thinking skills, diagnostic acumen, patient management ability, and patient-centered ethics, and nevertheless pass the examination largely because of mechanically morphing the patient’s teeth into the board’s construct of ideal occlusion.

Recently, the ABO’s primary focus has been to implement 2 new indexes (OGS and DI) to increase interpractitioner reliability in phase III examination case selection and scoring. However, do these changes in the ABO phase III examination discriminate between

quality and superiority of the practices of certified versus noncertified orthodontists? Is orthodontic care by certified clinicians any different from care by noncertified clinicians? It makes great sense that the validity of the ABO examination (versus reliability) relative to its mission statement should be substantiated before much more time and energy are directed toward developing instruments in search of measurement. Our goal is to provide provocative insight into the core concepts that currently drive the ABO phase III certification process and to recommend an alternative paradigm predicated on a patient-centered, evidence-based clinical practice (EBCP) model.

VALIDITY OF THE ABO PHASE III EXAMINATION CHALLENGED

The validity of the ABO examination demands that tests such as the DI and the OGS measure what they intend to measure (internal validity). That is, does the DI objectively and accurately measure across-the-board differences among the various malocclusion categories and dentofacial types? Does the OGS accurately measure all possible permutations of occlusion? Are the DI and the OGS limited because they are static measurements and do not indicate how a patient actually functions? Do the DI and OGS evaluate whether a patient’s oral and general health has improved because of orthodontic treatment? Is the long-held premise of Angle’s normal occlusion still relevant in an evidence-based world?

In a broader sense, the ABO examination must

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Evidence-Based Clinical Practice

1. Pose an answerable question
2. Search for the evidence
3. Critically appraise the evidence for its relevance and validity
4. Make a decision by integrating the evidence with clinical experience and patient values
5. Evaluate the performance after acting on the evidence

Fig. Five-step process for integration of EBCP, based on philosophy of Cochrane Collaboration.

distinguish, in an appreciable and measurable way, between what certified and noncertified orthodontists know and do (external validity). What is the value of preparing selective cases that do not reflect routine orthodontic results? If there is no measurable difference between ABO certified and noncertified orthodontists, then there is a need to either develop a more meaningful ABO examination or abandon certification in orthodontics. The ABO should have the obligation and the burden of demonstrating that its certification process "enhances excellence and the standard of orthodontic care" as the objectives profess.

The emerging EBCP model has been discussed in several recent dental and orthodontic publications.²⁻⁵ EBCP is defined simply as decision-making and problem-solving by using a hierarchy of scientific evidence derived from clinical research. Integration of the EBCP model into individualized, patient-centered orthodontic treatment requires a 5-step process (Fig).^{6,7} The EBCP model determines whether to apply interventions and which interventions to apply based on weighing benefits and risks, inconveniences, and costs in the context of patient values. In this model, the clinical orthodontist must integrate the best scientific information available with his or her clinical experience to better serve each patient's values and needs. The fundamental concepts on which the ABO phase III examination is based should be reexamined via the EBCP model.

The ideal-occlusion paradigm

In theory, the ABO operates on a 2-part premise that assumes that 1 ideal occlusal scheme naturally occurs in the species that is correlated with superior oral health and function, and that this occlusal scheme is an achievable and maintainable orthodontic goal for all patients. The ABO is still somewhat infatuated with the traditional and paternalistic view of malocclusion as

a disease, and the view that deviations from the ideal need treatment or cure. The ABO generally recommends that orthodontic patients be finished to a Class I molar relationship with the mesiobuccal cusp of the maxillary first molar in the buccal groove of the mandibular first molar and the teeth in the arches aligned on a line of occlusion, with little overbite and overjet. This is taken directly from Angle's concept of ideal occlusion, which is the last Victorian idea in dentistry today. Malocclusion, the orthodontic disease construct, refers to any deviation of the teeth from Angle's ideal occlusion. Unfortunately, ideal occlusion is used synonymously with normal occlusion.

It would appear logical that deviations from ideal occlusion would have a causal relationship with both dental decay and periodontal disease. It is sometimes argued that it is easier to clean straight teeth (or those with ideal occlusion) than crooked and malposed teeth. However, recent data suggest that a patient's willingness and motivation for maintaining oral hygiene have a greater impact on dental disease than how well the teeth are aligned. That is, the effect of malocclusion on dental disease is less important than the patient's oral hygiene status.⁸

Several studies in the late 1970s that examined many orthodontically treated patients 10 to 20 years posttreatment provide some insight on long-term relationships between deviations from ideal occlusion and oral health.^{9,10} In both studies, comparisons of patients who underwent orthodontic treatment with untreated subjects in the same age group demonstrated similar periodontal status, despite the ideal occlusions of the orthodontically treated group. There was no evidence of a beneficial effect of orthodontic treatment on future periodontal health.

In addition, routine orthodontic treatment does not appear to have an iatrogenic effect on the periodontium. Long-term studies demonstrated that physiologically sound orthodontic treatment does not increase the likelihood of later periodontal manifestations. Although there are case examples showing the effects of non-physiologic orthodontic treatment in the literature (moving teeth outside the envelope of a patient's alveolar and basal bone housing), there are no well-controlled prospective studies on the predictability of periodontal tissue responses to any orthodontic mechanical therapy.

Some dentists have suggested that even minor deviations from ideal occlusion will trigger parafunctional habits such as bruxism and clenching. If this were true, most subjects' occlusions would need treatment to prevent pain in the masticatory muscles. Data suggest that, because many people have moderate

deviations from ideal occlusion (about 50%-75%), and they far outnumber those with temporomandibular dysfunction (5%-30%, depending on the symptoms examined), it is unlikely that occlusal patterns alone cause hyperactivity of the masticatory muscles associated with the temporomandibular joint.¹¹ In addition, occlusion,¹²⁻¹⁶ condyle position,^{17,18} and orthodontic treatment¹⁹⁻²² have not been shown to cause temporomandibular dysfunction.

The weighted evidence in contemporary literature does not support ideal occlusion as an absolute requisite for orthodontic health. Furthermore, evidence is lacking for any oral-health benefit derived from obtaining ideal occlusion in orthodontic treatment.²³ A more biologically valid concept of normal (ideal) occlusion would include a range of variations in the relevant occlusal variables that are compatible with acceptable oral health and unimpaired function. The difficulty in treating malocclusion as a disease is that it is currently impossible to determine the point at which a normal variation in any occlusal variable in the dentition becomes abnormal or induces pathologic function. Consequently, there has never been consensus among orthodontic researchers as to where to set the threshold for diagnosis of a handicapping malocclusion. Alas, if we are held to an ideal occlusion standard, we could become frustrated by a greater than acceptable failure rate in clinical orthodontics.

Occurrence of ideal occlusion

How often does ideal occlusion occur in the United States? The most appropriate evidence lies in the epidemiological literature. A large-scale national survey of health-care problems and needs in the United States between 1989-1994 was conducted by the Division of Health Statistics of the US Public Health Service: the National Health and Nutrition Estimates Survey III (NHANES III).²⁴ This study included about 14,000 people and was statistically designed to provide weighted estimates for approximately 150 million persons in the sampled racial, ethnic, and age groups. The survey provides current dental data for US children and the first organized data set for malocclusions in adults. The characteristics of malocclusion surveyed in the NHANES III were the irregularity index (a measure of incisor alignment), the prevalence of midline diastema greater than 2 mm, and the prevalence of posterior crossbite. Overjet and overbite, or open bite, were also calculated. Although the survey did not directly evaluate molar relationship, Angle Class II and Class III molar relationships could be estimated from overjet characteristics. The variables measured in the NHANES III that relate to Angle's concept of molar occlusion and

Table. NHANES III data for percentages of US population with incisor irregularity and ideal overjet in 18-50 age group

	Maxilla (%)	Mandible (%)	%
Irregularity index			
0-1 ideal	43.2	33.7	
2-3 mild crowding	26.5	27.3	
4-6 moderate crowding	19.7	23.3	
7-10 severe crowding	8.0	11.4	
>10 extreme crowding	2.7	4.3	
Overjet			
Ideal 1-2			41.1

the line of occlusion are summarized in the Table Ideal incisor alignment was seen in 43.2% of the maxillary arches and 33.7% of the mandibular arches in the 18 to 50 age group. Ideal overjet was seen in 41.1% of that group. When all measured characteristics of malocclusion from the NHANES III were tabulated, 30% of the population at most had Angle Class I malocclusions. That is, this subgroup demonstrated ideal sagittal molar relationships but had at least 1 deviation from ideal occlusion. If, however, the distribution of occlusal variations in the population is examined along the model for a normal bell-shaped curve, the subgroup of ideal occlusion would most likely be 3 SD above the mean and represent only about 3% of the population. A critical appraisal of these data leads the orthodontic clinician to the conclusion that ideal occlusion is more imaginary than real.

Is ideal occlusion achievable and stable?

Is ideal occlusion an achievable and maintainable orthodontic goal for all patients? The most appropriate evidence to answer this question is in the recent orthodontic literature. An evaluation of 521 consecutively treated orthodontic patients in a university graduate orthodontic clinic showed that only 39.7% passed the ABO's OGS (score of ≤ 30 points deducted).²⁵ The data indicated that the number of treated patients passing the OGS consecutively diminished over the study's 3-year duration. The investigators suggested that the patients who were treated longer tended to burn out and complied less with the prescribed treatment plan. We offer an alternative assessment of their data—that neither the type of orthodontic mechanics used by the faculty or residents nor the speed at which the treatment was completed would change the fact that some failing occlusions were never amenable to conversion to the ideal construct in the first place. In this surveyed orthodontic population, the percentage of patients achieving nearly ideal occlusion posttreatment

is in parity with the percentage having Class I malocclusions in the general adult population (NHANES III data).

If we accept the data suggesting that not all prospective patients can attain ideal occlusion through orthodontic intervention, how many of them will be able to retain it in the long term? A recent study assessed the long-term posttreatment changes in occlusion measured by the OGS.²⁶ One hundred subjects were randomly chosen from the archives of a university orthodontic clinic. Plaster study casts at posttreatment and postretention were measured. The mean overall OGS score at posttreatment was 21.5 points; this indicates that most patients selected for the study would have passed the OGS component of the phase III examination. At postretention, this mean score had improved significantly by approximately 4 points. However, alignment was the only criterion associated with a mean long-term worsening, as well as a less predictable pattern of change. The researchers indicated that well-treated patients tended to deteriorate, and poorly finished ones tended to improve; this suggests a regression to the mean. The authors concluded that settling occurs after orthodontic treatment, and that "the attainment of perfect occlusal results does not ensure stability."²⁶

Based on the most up-to-date evidence, ideal occlusion as defined by Angle and the ABO is rather unattainable for a segment of the population and is probably unstable in the long term. Reliance on the spurious premises of the ideal-occlusion paradigm discussed above weakens the internal validity of the ABO's phase III examination.

Several broader issues concerning board certification

A 2005 article in *Pediatric Dentistry* by Kumar et al²⁷ demonstrated no differences between board-certified and nonboard-certified pediatric dentists with regard to certain practice characteristics. The practice characteristics evaluated in this study were professional growth and practice management, emergency readiness, treatment-guideline use, patient selection, safety, and behavior management. The study's limitations were thoroughly enumerated by the authors: self-reported data from a nonvalidated questionnaire and the use of practice characteristics rather than clinical outcome measures.

With regard to medicine, a systematic review (evidence-based model level 3) in 2002 by Sharp et al²⁸ was equivocal regarding the validity of medical boards. Of 33 articles meeting the inclusion criteria, 16 demonstrated a relationship, 3 showed a worse outcome,

and 14 found no association. In addition, in an essay entitled "Assessing a physician's worth," McCartney²⁹ raised some serious concerns about the validity of board certification. He viewed medical board certification as a reflection of a physician's ability to complete a cognitive-based knowledge-level task at a particular instant in time. He also claimed that an evaluation of a 1-time performance is not a valid measure of consistent, repeated performance at an acceptable standard of care. It was further argued that a medical board examination does not measure many important traits required to be a valuable health-care provider. McCartney believed that a physician's ability cannot be measured by reviewing several self-selected charts. Although he admitted that the certification process is a valuable measure in assessing knowledge-based materials, this is only 1 of many factors that should be evaluated. Some factors that he believes should be accounted for in the medical board-certification process are ethics, life experience, manual dexterity, patient satisfaction, work habits and ability to handle stressful situations, response to criticism, and ability to participate as part of a health-care team.²⁹

Highest standard of excellence

The ABO has argued that its "main objective has been and continues to be to achieve the highest standards of excellence in clinical orthodontics via certification."³⁰ The question that then should be asked is, "How does the current ABO examination ensure quality patient care and protect the public from irresponsible and unqualified practitioners?" The ABO's Gateway Offer allows residents finishing their orthodontic programs to take the phase II examination and pass, pay \$1880, and become board certified without treating a patient on their own. Furthermore, there would be no evaluation of their clinical abilities outside their residencies, which were supervised by qualified faculty. How have these doctors achieved the highest standard of excellence in clinical practice? How does recertification after the initial 5 years, by using their 6 best-treated patients, measure the scope of orthodontic practice?

DISCUSSION

The President's Council on Bioethics has evaluated the ambiguity between therapy and enhancement in health care. In a staff working paper, the council wrote:

A therapy, roughly defined, is a treatment for a disorder or deficiency, which aims to bring an unhealthy person to health. An enhancement is an improvement or extension of some characteristic,

capacity, or activity. Both definitions assume at least some general sense of a human norm, which individuals must either be helped to reach, or which they might be aided in surpassing.³¹

Presently, there is no universally accepted definition of what orthodontic health is and surely no universally accepted definition of the point at which further improvement in occlusion is enhancement rather than necessity. Orthodontics should embrace the concept of enhancement as part of wellness and must include it in the continuum of the orthodontic services we render. A patient's desire for dentofacial esthetic change is inextricably linked to his or her emotional wellness.

With the advent of new and less cumbersome technologies in orthodontics, patients who might not have been inclined to undergo treatment with full conventional appliances now seek treatment. These treatment modalities have been dubbed compromises by the orthodontic orthodoxy. In the new orthodontic-enhancement paradigm, these treatments should not be viewed as compromises but considered "limited enhancement of unfavorable or unacceptable tooth position."³² This is not an argument for second-rate orthodontic treatment. It is a case for ensuring that the patient receives the enhancement he or she seeks and does not automatically receive a remake of their entire occlusion. As long as organized orthodontics, and in particular our board, continues to evaluate and examine orthodontists on the basis of a mythical ideal-occlusion paradigm, our specialty will move farther away from the rapidly growing field of enhancement health care.³³

In the past century, there was a tendency to treat the oral cavity as "an autonomous anatomical landmark, which happens to be located within the body and, as such, the oral cavity has been seen as separate to the body, and the individual."³⁴ The ABO must regard the oral cavity, and in particular dental occlusion, as part of a patient's systemic health, well-being, and overall quality of life. *Quality of life* is defined as "a person's sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her."³⁵ *Health-related quality of life* refers to the impact of health and disease on the quality of life.³⁶ More specifically, *oral health-related quality of life* encompasses many areas such as survival of the person and the dentition, absence of disease and symptoms, appropriate physical functioning associated with chewing and swallowing, absence of discomfort or pain, emotional functioning associated with smiling, social functioning associated with normal roles, perceptions of excellent oral health, satisfaction with oral health,

and absence of social or cultural disadvantages due to oral status.³⁶ The shift to an evidence-based enhancement model for board certification requires the development of process and outcome measures that recognize and quantify the effects of orthodontics on quality of life, health-related quality of life, and oral health-related quality of life. With this shift in focus, board certification in orthodontics will truly evaluate the knowledge and the clinical competency of graduates of accredited orthodontic programs, and attach importance to the patient's perception of the beneficial effects of treatment.

It seems that what is lacking in the specialty that should also be considered in the ABO certification process could be generally described as discernment and caring. *Discernment* addresses the orthodontist's ability to critically evaluate the periodic literature or the validity of information in continuing education courses. It would also include the orthodontist's ability to differentiate new and useful clinical techniques and materials from faddish information with little or no usefulness. The whole idea of evidence-based decision-making would be included under discernment.

Under *caring* would be consideration of an orthodontist's character, ethics, willingness to give back to the specialty, and concern for the care of the indigent. Caring is the opposite of how much money an orthodontist makes or how straight he or she makes a patient's teeth. In the broad sense, caring includes the disciplines encompassed in the humanities versus the sciences. Interestingly, Nanda and Kierl³⁷ stated that successful orthodontic treatment depends not only on the practitioner's knowledge and skills, but also on the patients' or parents' cooperation, orthodontic knowledge, and willingness to be involved in treatment decisions. Surely, we are evaluated by the public not only on how well we straighten teeth, but also on how caringly we deliver our treatments. Many orthodontists possess excellent technical skills, but they lack the people skills important for success in orthodontics. Certainly, it can be difficult or impossible to objectively evaluate all these parameters, but their importance must not be ignored. Curiously, no part of the ABO phase III examination asks, or determines, how satisfied the patient was with treatment.

An alternative model for certification

Nearly 20 years ago, the *American Journal of Orthodontics* changed its name to the *American Journal of Orthodontics and Dentofacial Orthopedics*. The rationale for this decision was that the scope of orthodontic practice was more than just straightening teeth. The new title implied that we could orthopedically

reconfigure the skeletal pattern of our patients' jaws along with straightening their teeth. Research over 2 decades has demonstrated that, aside from the changes induced by rapid palatal expansion devices, we have yet to substantiate the claim that orthodontics can induce much orthopedic change in the sagittal dimension. Nonetheless, many of our colleagues and the American Association of Orthodontists truly believe that we are oral orthopedists.

So, in that spirit, let's examine certification in a parallel specialty—orthopedic surgery. Orthopedic surgeons treat many maladies ranging from bracing patients with scoliosis to surgically replacing hips.³⁸ The Part II oral examination of the American Board of Orthopaedic Surgery (ABOS) is given yearly in the ABOS headquarters in Chicago; over 700 candidates take it each year.³⁹ The purpose of the ABOS certification process is to evaluate the candidate's clinical competence through a credentialing process and an examination. Applicants who have passed Part I must continuously and actively practice orthopaedic surgery for 22 months immediately before the examination, and 12 consecutive months must be in 1 location. Time spent in fellowships does not count toward this period. Applicants must send a comprehensive 6-month case list to the ABOS. Candidates list all consecutive cases treated from July 1 to December 31 of the year before the examination. At the end of January, the candidate sends the list to the ABOS office. The ABOS credentials committee meets to review the information received and determines the candidate's admissibility. Once the candidate is accepted for the examination, the ABOS selects 12 cases from the candidate's list. Of those, the candidate may bring 10 cases. The candidate is instructed to bring all pertinent materials (x-rays, charts, video or photo prints, operative notes) for the 10 cases. The examination lasts approximately 1.5 hours, divided into three 35-minute periods with 2 examiners in each period. The examiners ask questions about the cases during each period. The specific skills that are evaluated are data gathering and interpretive skills, diagnosis, treatment, technical skills, outcomes, and applied knowledge.³⁹ Candidates who pass the examination are certified as diplomates of the ABOS for 10 years. Overall, this model seems to be similar to that of the American Board of Plastic Surgery,⁴⁰ another close medical cousin to the orthodontic specialty.

The ABO could easily integrate many elements of the ABOS model into the current system of certification. By saying this, we are not axiomatically concluding that any medical board certification is better than any dental board certification. We are saying that the ABOS appears to have greater face validity than does

the ABO. To this end, orthodontists should be in practice for at least 2 to 3 years before taking the phase III examination; this is the time it takes to finish treatment for most orthodontic patients. The complete list of finished patients for the previous year in a candidate's orthodontic practice should be submitted to the ABO. The list should be grouped into categories that reflect the diversity of patients and treatment regimens encountered in an orthodontic practice. These categories should reflect not only the patient's anatomical elements (Angle class or facial type) but also why the patient sought orthodontics and what treatment was used. After a thorough review, the board should randomly select 10 or 12 cases. The candidate will then report to the examination with all pertinent materials related to these patients. As far as the objective scoring of the examination, the ABO examiners will need to create new and broader process and outcome measures that scrutinize a candidate's clinical knowledge, understanding of evidence-based practice and esthetic enhancement, psychomotor and critical thinking skills, diagnostic acumen, patient-management ability, patient-centered ethics and communications, discernment, and caring.

Recommendations

Several specific recommendations will be made, particularly relevant to the notions of evidence and esthetic enhancements, as well as a consideration for the questionable validity of ideal occlusion. The first and foremost recommendation has to do with the validity of the ABO certification examination. Whether the ABO desires to change or reconfigure its existing certification examination, the validity of ABO certification must be researched and proven to be useful. In this modern age of evidence, it makes no sense on 1 hand to petition practicing orthodontists to make clinical decisions based on evidence and on the other hand for the ABO to make decisions on certification based on rationalism. The bottom line could not be any clearer; the ABO must provide the evidence and proof for its certification process.

Second, the ABO has stated that the phase III examination is more of a self-examination process. The notion is that ABO candidates learn something from the phase III examination that they can take home and then better treat their patients. A past ABO president and several officers purport that:⁴¹

"Board certification may not make you a better orthodontist than your neighbor, but it will make you better than you were before. . . . The fact is that most candidates review a great number of their cases, both good and bad, in preparing for the examination, and

most have stated that they have made significant changes in their practice as a result of this case selection process." By paralleling the ABO certification process more closely with that of the ABOS, which uses a random case-selection process, there is greater likelihood that a combination of the best and worst cases will be examined.

Third, we wonder whether, as part of the ABO phase II or III examination, candidates could be asked to critically review an orthodontic (scientific) paper and then be quizzed on it, or write a paper on an assigned topic in orthodontics as part of the phase II or III examination citing literature or evidence to support their views with an oral interrogation to follow. This sort of instrument would evaluate an area of extreme importance for ABO certification that we have previously described as discernment (critical thinking). It seems that few orthodontists understand science and the notions involved in evidence-based care. Isn't this where we should be headed in the 21st century?

Fourth, we recommend that the ABO should consider evaluating orthodontic cases based on the magnitude of the change (delta) in the DI (or the peer assessment rating) from pretreatment to posttreatment. This could be considered for several or possibly all cases. The idea here is that the cases might not have to be finished to a so-called ideal Class I occlusion. The orthodontic treatment of such a case would by no means be considered second-rate. That is, the case would demonstrate excellence in orthodontics because it was extremely difficult, exhausting the clinical ability of even the best practitioner. Perhaps you could even say that the results of the case were heroic, even though an ideal occlusion was not achieved. The evaluation of the cases would be from the framework of the extent and magnitude of the orthodontic correction from start to finish as compared with the all-or-nothing resemblance to ideal occlusion. This suggestion would better fit the esthetic enhancement and the oral health-related quality of life paradigms discussed here and move beyond the concept of universally achievable ideal occlusion.

CONCLUSIONS

The last 20th century ABO contribution to our specialty was the development of a special gauge to measure more detail about the static occlusion of orthodontic study casts. With this and other new instruments, it appears that the ABO has a bias toward the microscopic evaluation of occlusion via dental plaster, while possibly ignoring the more important aspects of what defines a competent orthodontist. Is orthodontics really a mechanistic profession that focuses on the final

outcome of a narrowly defined ideal occlusion, which is in no way a measure of oral health and quality of life? What about the importance of science and evidence-based care, growth, and the biologic and physiologic aspects of tooth movement to orthodontics? We believe that orthodontists who can incorporate evidence-based decision-making into their clinical practices will achieve excellence in orthodontics.

With the dawn of the new millennium and the modern-day paradigms of esthetic enhancement and evidence-based decision-making, it is time to look at the ABO phase III examination and decide whether it is going in the right direction. The ABO certification process should be tested for its validity. Without verification of the ABO examination process, certification might just be an exercise in putting plaster on the table. Furthermore, the ABO must provide evidence for its recent statement that "the new model will both enhance the quality of orthodontic education and elevate the level of care for the public we serve."³⁰ With a proper shift in focus, board certification in orthodontics will truly evaluate the knowledge and clinical competency of graduates of accredited orthodontic programs; reevaluate clinical competency during a diplomate's career through recertification; contribute to the development of quality graduate, postgraduate, and continuing education programs in orthodontics; and contribute to certification expertise throughout the world.¹

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