Diagnosis and treatment of temporomandibular disorders: emergence of a new care guidelines statement

To the Editor:

I am writing in response to the editorial written by Dr. Charles Greene titled “Diagnosis and treatment of temporomandibular disorders: emergence of a new care guidelines statement.”

I have been treating temporomandibular disorder (TMD) patients for nearly 25 years using the best available techniques and technologies. I am a Diplomate of the American Board of Orofacial Pain and the American Board of Craniofacial Pain. I am also an American Dental Association Evidence-Based Dentistry Champion.

According to Dr. Greene, “the dental literature of the past 25 years has been rather clear in demonstrating that the use of so-called adjunctive diagnostic devices does not add much to the ability to correctly diagnose orofacial pain problem.”

First, the equipment does not make the diagnosis. The dentist makes the diagnosis by using information gathered from patient history and examination augmented, when appropriate, by objective physiologic measurement data as well as other modalities, including imaging technologies.

Second, these neuromuscular dental concepts and the accompanying instrumentation are successfully used around the world by thousands of dentists. A significant body of literature published in peer-reviewed journals over the past 25 years, including Cooper’s 1997 study published in your journal,1 have concluded that:

Patients with TMD have elevated electric resting surface electromyography activity and weak or asymmetric functional activity.2–9

Electromyography of masticatory muscles together with electronic jaw tracking are clinically useful and objective methods of quantifying physical components of TMD in patients screened for treatment.1,10,11

Electronic measurements create objective milestones in planning treatment and evaluating outcome.12–15

David B. Miller, DDS

REFERENCES

doi:10.1016/j.tripleo.2010.09.080

AADR TMD statement is timely and necessary

To the Editor:

The recent American Association for Dental Research science transfer statement regarding the appro-
appropriate diagnosis and management of temporomandibular disorders (TMDs) represents a timely update of the first version crafted by the Neuroscience Group. This statement represents an excellent integration of the available evidence, emerging from a 3-year vetting process that entailed multiple levels of scientific review. OOOOE should be congratulated for taking this bold step of disseminating this TMD statement to the dental profession.

Based on the history of this controversial field, it is likely that opposition to these guidelines will occur, but what evidence will be provided to support such opposition? Although the use of evidence as the basis for clinical practice is hardly new, evidence has become a more prominent feature of contemporary practice. Today, it is even fashionable to talk about evidence, as long as the evidence supports our clinical activities. When the evidence collides with our belief systems, it is certainly important for the conscientious practitioner to examine whether the evidence is valid, but this sometimes can be difficult (e.g., when the supporting science is outside our area of expertise). It is often easier to simply deny or reject the evidence rather than adhering to evidence-based guidelines when they would require that we change our actions or beliefs. Given the extensive review process that led to this TMD statement, it would seem that the burden of proof regarding whether the statement is “true” or not should shift to the individual who chooses to deny or disagree and reject the stated conclusions.

The topic of biobehavioral factors, often neglected in biomedical contexts, is nicely included in both the statement and the introduction by Greene. They note, based on the evidence, that biobehavioral factors are important for understanding and managing pain in general and chronic pain in particular. Furthermore, the statement indicates that standardized and validated psychometric tests may be used as part of assessment. Evaluation of the biobehavioral domain is normal standard of care in rehabilitation medicine, and protocols, such as the Research Diagnostic Criteria for Temporomandibular Disorders provide an accurate template and method for doing so within dental settings. Standardized and validated tests are, in the long run, more accurate than clinician judgment in detecting who is at risk.

As a researcher and clinician in this field for >25 years, I would like to highlight the overall importance of such evidence-based consensus guidelines in patient evaluation regarding what kinds of procedures (e.g., technologic diagnostic devices) should not be used as well as what kinds of procedures (e.g., standardized self-report instruments for assessing biobehavioral status) should be used. Pain is the overwhelmingly most common symptom that propels individuals to seek professional care, and the patient’s history of pain remains the standard for whether there is, in fact, a complaint that warrants investigation, diagnosis, and treatment; the history of pain remains the cornerstone for the differential diagnosis among the various overlapping pain disorders affecting the orofacial region. When the history of complaint is properly used, the pain characteristics remain, based on the available scientific information, the sufficient level of information (aside from adjunctive use of imaging) for that all-important first working diagnosis, and for establishing the benchmarks regarding assessment of disease course as a response to treatment. The desire to use “technologic diagnostic devices” is often the result of not adequately appreciating the value inherent in the classic history and clinical examination.

Richard Ohrbach, DDS, PhD
Oral Diagnostic Sciences, University at Buffalo
Buffalo, NY

REFERENCES

doi:10.1016/j.tripleo.2010.10.036

A response to the AADR’s “Managing the care of patients with temporomandibular disorders: a new guideline for care”

The field of temporomandibular disorders (TMDs) is certainly controversial, with many clinicians and researchers differing in their thoughts of etiology, diagnosis, and management. The rationale behind these differences lies in the fact that TMD is a multifactorial group of musculoskeletal disorders often with combined etiologies that demand different treatment strategies. In the past, we dentists often attempted to manage all TMD patients with a single treatment regime. Such focus often misses the full scope of these musculoskeletal problems. I believe the statements made in the position paper presented by the American Association for Dental Research (AADR) are true and accurate. They directly reflect our current knowledge base. We must professionally come to the realization that our TMD data are far from being perfect and in some instances are nonexistent. This is not a reflection of an
illiterate profession, but more a reflection of the complexity of the problem. The fact that past treatments were successful does not provide evidence regarding why or how the treatment favorably affected the symptoms.

As health care providers, we must appreciate that our main professional duty is to reduce the suffering of our fellow men and women. We are obligated to do this with the overriding principle of “do no harm.” Therefore, our treatment choices must be based on scientific evidence. In the absence of evidence, we are obligated to provide the most conservative approach possible. The AADR statement is merely reminding us of this obligation. If we think that different or more aggressive treatments are indicated, it is our obligation to demonstrate the evidence that supports such direction. Until that time, we need to select treatments for our patients with the overriding premise of “do no harm.”

On the surface, one would assume that diagnostic instruments do not harm. They certainly do not harm the patient when they are used to collect data. However, if the data derived from these instruments lead the clinician to incorrectly diagnose an orofacial pain problem or to select inappropriate treatment, then harm can be done. It is logical to assume that instruments that provide more data and perhaps more measurability should be helpful in diagnosing and selecting treatment. However, the validity, reliability, specificity, and sensitivity of these instruments must be demonstrated before data can have meaning.

Some clinicians are upset with the AADR position statement. Perhaps this is because it does not align with their own personal experiences and clinical opinions. I suggest that instead of being upset, we use this opportunity to motivate us to research more and better ways of managing TMDs. The overriding concept is that this must be done in the best interest of our patients and must be founded on evidence-based science.

Jeffrey P. Okeson, DMD
College of Dentistry, University of Kentucky
Lexington, Kentucky

doi:10.1016/j.tripleo.2010.10.038

New technologies on TMJ diagnosis

To the Editor:

I have recently read an article in OOOOE (August, 2010), “Diagnosis and treatment of temporomandibular disorders: emergence of a new care guidelines statement,” with special attention to the paragraph affirming that electronic diagnostic devices, such as electromyography, jaw movement trackers, and sound recorders have failed to meet standards of reliability and validity, not satisfying the requirements for sensitivity and specificity that are essential for clinical diagnosis of individual patients.

I have been using these technical devices (Myotronics system) since 1995 in Brazil, gathering >9,000 examinations since then. The editorial alerts us to the true need for a new guideline statement, but it jumps to a mistaken conclusion when affirming that this equipment fails in reliability and validity. These technologies are extremely accurate in giving detailed information on biometry, and the reliability of the data is above any doubt or questioning. Actually, the equipment’s role is to give us information about the patient, and this goal is a clear achieved. It is our (professional) role to establish the relationship between the data given by the system and temporomandibular joint (TMJ) pathology. The writers of the article failed in establishing the technology–TMJ disorder connection, and that is far from meaning that the technology is not reliable.

This connection is a long journey, and we have already gone a long way working hard (40 years of surveys and published papers all over the world) to establish secure and clear relationships between TMJ disorders and electronic device data in several clinical situations. For example, it is now inadequate to undertake surgical procedures such as orthognatic and TMJ surgery without deep analyses of patient muscular, jaw tracking, and sound information. I remind you that this same technological confusion has happened in the past with other diagnostic technologies that have improved afterward to be trustworthy become very useful in medicine. Denying this shows, at least, disrespect and inconsideration to several serious scientists.

Please keep in mind that America is the “cradle” of medicine technology development, and the editorial makes an apologia of discrediting an important tool for diagnosis, leading TMJ science to a slow-motion pattern of development. You must realize the important place of OOOOE and the responsibility attached to the position of Chief Editor. Only God is omniscient, but we humans must have “omniscient behavior,” keeping our minds open to new achievements of the future.

Rudiney J. Daruge, MD, DDS, MS, PhD
Campinas, Brazil

doi:10.1016/j.tripleo.2010.10.039

One has to wonder . . .

To the Editor:

One has to wonder . . .

Why Dr. Greene has chosen to try to prevent the practice of neuromuscular dentistry (NMD). Could it be that he is motivated by the same concern for protecting
the classic practice of orthodontics as has been taught
for the past several decades, emphasizing straight teeth
with little regard given to the final mandibular position
created in relation to the base of the skull, often result-
ing in a retruded mandible? The same rationale applies,
by the way, to the rules implemented by the Royal
College of Dental Surgeons (RCDS) of Ontario, which
is overrun with orthodontists and vehemently opposed
to any technique encouraging mandibular advancement
procedures. Apparently only mandibular retrusion is
acceptable. There is no reason for this in science or
logic. There has never been.

Why he quotes the efforts of the RCDS and Dr.
Mohl, when they have been completely discredited and
sanctioned by the Ontario public court system and the
U.S. Food and Drug Administration, respectively, for
pursuing their vendetta against NMD without scientific
validity. The RCDS has since softened their stance
against the practice of NMD in Ontario, a fact ne-
llected in Dr. Greene’s diatribe.

Why no dentist trained in NMD has ever abandoned
NMD. I’ve made this simple statement over the past 15
years in front of audiences all over the world, number-
ing in the thousands. Never once has it been challenged.
How powerful must this philosophy be? The same
cannot be said for any other philosophy, as I personally
know dentists who have abandoned all other ap-
proaches. We all do.

Why the superior belly of the lateral pterygoid pulls
forward. If indeed the condyle is supposed to be back
and up, or forward and up, or just straight up, why did
Mother Nature attach a muscle directly to the head of
the condyle that pulls it forward? Centric relation is not
supported in the literature or in logic. If it were correct,
the TMJ would be the only joint in the body that
operates physiologically at an extreme position. No
joint does.

It’s time to reflect upon that time in dental school
when you thought you knew some things, to find out
years later that what you thought you knew (based on
selected scientific studies) was wrong (e.g., dentin
bonding). Thinking you know something is truly the
greatest deterrent to learning, and it is a point Dr.
Greene has yet to arrive at. He arrogantly believes that
his approach is correct, by paying attention to selected
scientific studies and ignoring not only the majority of
those very studies, but also logic and Mother Nature at
the same time. He suffers from the same delusion as
most dentists ignorant of the true value of NMD. It is
not about the money, it is about patient care. Allowing
someone to suffer for years, when a solution exists, is
not only malpractice, but ethically unforgivable. What
if Dr. Greene’s wife were suffering every day, unable to
eat properly, unresponsive to splint therapy and phar-
maceuticals, as 2 of my own patients were within the
past month? What if finding a neuromuscularly bal-
anced position was able to relieve that pain? Would he
still be pursuing this goal?

One has to wonder.

Tony Pensak, DDS
University of Western Ontario
London, Ontario

doi:10.1016/j.tripleo.2010.10.040

Diagnosis and treatment of
temporomandibular disorders

To the Editor:
I thank the editor for giving me the opportunity to
respond to the many letters that were sent to this
journal regarding the publication of my editorial
about the American Association for Dental Research
(AADR) statement on temporomandibular disorders
(TMDs).1 Some of the letters expressed positive re-
actions, but several were negative. I have read many
of those negative letters and e-mails, and the most
striking thing about them is that almost all have
come from a particular group of practitioners who
describe themselves as being “neuromuscular dentists.”
The tone and substance of each letter is remarkably the
same, combining personal invective against me with
outrage at OOOOE for daring to publish this document.
Once those thoughts are expressed, the authors move on
to praise the technologies they use in their practices, often
including testimonial anecdotes about all the TMD pa-
tients they have cured. Other journals also have received
copies of these same letters.

After so many years of arguing about the validity and
utility of these technologies, there is no point in revis-
it ing the details of this controversy. Instead, I believe
the readers of OOOOE would be better served by my
clarifying a few points about how the AADR statement
on TMDs was developed, including how it came to be
published in this journal as well as in other dental
journals around the world.

The AADR is the U.S. branch of the International
Association for Dental Research, which is the premier
research organization in the dental profession. The
IADR Neuroscience Group which developed the TMD
statement is composed of basic and clinical scientists
from every part of the world, and for many of them
orofacial pain is a major research area. Many of the
important TMD and orofacial pain clinics in dental
schools and hospitals around the world have Neuro-
science Group members on their faculty, and thousands
of patients have been treated and studied within those clinics.

The AADR has a Science Information Committee (SIC) that is charged with the task of developing and ultimately presenting state-of-the-art summary statements about various oral health topics. If readers will look at the Web site cited at the beginning of the TMD statement, they will find 8 current statements about topics such as TMDs, fluorides, sealants, nutrition, amalgam, and so forth. These statements are accessible for direct viewing on the AADR Web site and are intended to provide both practicing dentists and members of the public with the latest scientific information about these topics.

The approval process for new or revised statements was summarized in my article, along with a history of events leading up to the current statement. I wrote a 1-page introduction for the Journal of the American Dental Association and several other journals to give readers some background about the development of the TMD statement. Because I am a member of the editorial board for OOOOE, I was invited to write a longer introduction in the format of an editorial; consequently, I take full responsibility for what appears in that portion. However, the TMD statement itself was not authored by me alone; instead, it went through an elaborate process of writing and revision within the Neuroscience Group before it was submitted to the SIC. The final product was modified many times to ensure accuracy of each sentence and each reference, and only then did the AADR Board of Directors and AADR Council approve it.

Therefore, the criticisms of the statement that describe it as a biased personal opinion are incorrect. Instead, it is based on in-depth reviews and analyses of the extensive literature dealing with the diagnosis and treatment of TMDs. As a result, the conclusions in that 1-page statement represent a broad consensus among expert researchers and clinicians in the orofacial pain and TMD field.

Finally, it should be noted that the AADR statement deals with only 2 of the major issues in the TMD field: diagnosis and treatment. Practitioners are advised to use validated diagnostic methods and to initially provide conservative and reversible therapies. If the letter writers want to follow a different pathway, nobody is stopping them, but the rest of the dental profession deserves to hear what the largest dental research organization in their field has to say about these matters. This is what the original goal was in developing these guidelines and in disseminating them around the world, and we see no reason to apologize for doing that once the TMD statement was formally adopted by the AADR. Instead, we have been working with journal editors and TMD interest groups in countries spanning the globe to get the Statement translated into several languages for publication and also to distribute it electronically. In addition, the statement has now been formally endorsed by organizations including the American Academy of Orofacial Pain and the European Academy of Craniomandibular Disorders.

Therefore, those who direct criticisms toward the author or toward this journal are simply out of touch with this larger reality. I hope the readers of OOOOE will consider all of these issues as they reach their own conclusions about the real value and significance of the AADR statement on TMDs, and I thank the editors for having the courage to publish my editorial.

Charles S. Greene
College of Dentistry, University of Illinois
Chicago, Illinois

REFERENCES

doi:10.1016/j.tripleo.2010.10.037