

laboratory research. The central issue is to continue asking questions to seek answers. Recognizing that not all research or clinical experience is weighted equally, providers and patients should make informed and shared treatment decisions based on potential health benefits and potential harm. Applying that approach to individualized patient care is at the core of EBD.

Relying entirely on an evidence-based approach will not furnish us with the necessary tools to provide appropriate and safe dentistry for all of our patients. Instead, we need to complement our evidence-based practice models

with additional science-based approaches that can offer a more complete appreciation of what constitutes excellent patient care.

The real value of EBD is not only to provide guidance regarding patient care but also to identify the voids and deficiencies in existing research and to initiate steps as a profession to fill those voids. In this way, we can continue to address not only the current oral health care needs of our patients, but the needs of future patients as well. The ADA definition³ of EBD makes clear that it is a science-based process—and that there is no need to juxtapose science and

evidence as contrasting ideas. ■

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Dr. Meyer is the director, Division of Science, and the senior vice president, Science/Professional Affairs, American Dental Association, Chicago.

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2. Smith GCS, Pell JP. Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials. *BMJ* 2003; 327(7429):1459-1461.

3. American Dental Association Center for Evidence-Based Dentistry. Definition of EBD. “<http://ebd.ada.org/About.aspx>”. Accessed Dec. 2, 2010.

LETTERS

JADA welcomes letters from readers on articles that have appeared in *The Journal*. The Journal reserves the right to edit all communications and requires that all letters be signed. Letters must be no more than 550 words and must cite no more than five references. No illustrations will be accepted. A letter concerning a recent JADA article will have the best chance of acceptance if it is received within two months of the article's publication. For instance, a letter about an article that appeared in April JADA usually will be considered for acceptance only until the end of June. You may submit your letter via e-mail to “jadaletters@ada.org”; by fax to 1-312-440-3538; or by mail to 211 E. Chicago Ave., Chicago, Ill. 60611-2678. By sending a letter to the editor, the author acknowledges and agrees that the letter and all rights of the author in the letter sent become the property of *The Journal*. Letter writers are asked to disclose any personal or professional affiliations or conflicts of interest that readers may wish to take into consideration in

assessing their stated opinions. The views expressed are those of the letter writer and do not necessarily reflect the opinion or official policy of the Association. Brevity is appreciated.

DENTAL SEALANTS

I'd like to comment on Dr. Margherita Fontana and colleagues' July JADA article, “Techniques for Assessing Tooth Surfaces in School-Based Sealant Programs” (Fontana M, Zero DT, Beltrán-Aguilar ED, Gray SK. *JADA* 2010;141[7]: 854-860).

While the article is basically a literature review, it does make some recommendations that are supported by the Centers for Disease Control and Prevention (CDC),¹ American Dental Association (ADA)² or the International Caries Detection and Assessment System.³ The article makes an effort to explain that school-based sealant programs should not be confused with office-based sealant programs, and argues that the criteria for the placement of sealants should therefore be different.

I suspect all of us are familiar with the term “diagnosis”

and the evidence gathering that is part and parcel of reaching a diagnosis. We have also been schooled in dental ethics and the various statutes governing the dentist's role in making a diagnosis prior to treatment. Here is where politics and the clever use of words have managed to circumvent the traditional dentist-patient relationship.

In an effort to get on board with the popular mantra, “if we can just save one (fill in the blank) [in this case, tooth],” all other considerations must be swept aside. Instead of calling it a diagnosis, a clever new term, “cavity detection,” has been added, making it easy, and legal, for anyone to do. Furthermore, hygienists are instructed to avoid sealing “cavitated” teeth.

Evidently, the ADA and CDC haven't been exposed to clinically sound teeth that are, in fact, cavitated. As the authors indicate, “both support the use of unaided visual examination as the method of choice for deciding” whether to seal a tooth.^{1,2} They further discour-

age the use of a sharp explorer for the sole purpose of detecting carious lesions.^{1,4}

The justification for this apparent lack of interest in a diagnosis is an absence of a foolproof caries detection method and a desire to justify a program that, at best, saves a few kids from an unpleasant toothache and, at worst, gives parents a false sense of dental health. I'm guessing this "ignorance is bliss" approach wouldn't quite satisfy my dental examining board if I were to use the same protocol in my office. So, it appears we've established a setting where we as a profession can feel good about ourselves and are able to say "we're treating the underserved," albeit with mostly auxiliary personnel.

If the best organized dentistry can do is plead for more tax dollars for programs that treat those with a true need alongside those with a dental home and insurance, we've lost sight of the value of a dental degree. And perhaps utilization of midlevel providers is what is needed to address those menial tasks, like sealants, so we can concentrate on the more lucrative parts of our practices.

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1. Gooch BF, Griffin SO, Gray SK; Centers for Disease Control and Prevention. Preventing dental caries through school-based sealant programs: updated recommendations and reviews of evidence. *JADA* 2009;140(11):1356-1365.

2. Beauchamp J, Caufield PW, Crall JJ, et al.; American Dental Association Council on Scientific Affairs. Evidence-based clinical recommendations for the use of pit-and-fissure sealants: a report of the American Dental Association Council on Scientific Affairs. *JADA* 2008;139(3):257-268.

3. Ismail AI, Sohn W, Tellez M, et al. The International Caries Detection and Assessment System (ICDAS): an integrated system for measuring dental caries. *Community Dent Oral Epidemiol* 2007;35(3):170-178.

4. American Dental Association, Council on Scientific Affairs. Treating caries as an infectious disease. *JADA* 1995;125(spec iss):2S-15S.

Authors' response: We

thank Dr. Muehleis for his thoughtful review of our article. The recent clinical recommendations for sealants¹ and the guidance for sealant placement in school-based sealant programs² (SBSPs) are evidence-based recommendations developed by a panel of experts in caries prevention and treatment, oral epidemiology, evidence-based reviews and representatives from professional organizations. Although the two sets complement each other, the school-based sealant guidance focused more closely on questions that have been directed to SBSPs.

SBSPs are designed to reach children who are less likely to visit the dentist and benefit from the traditional dentist-patient relationship. Children from poor families are at the highest risk of dental caries, but are also least likely to receive sealants. School programs can increase access to services, such as sealants, among vulnerable children by targeting schools where 50 percent or more of the students are on the free and reduced-cost meal programs. In addition, school programs can link students with treatment services in the community and facilitate enrollment of eligible children in public insurance programs.

It is important to note that "cavity detection" is not a new term to replace diagnosis. As stated in the article, the terms "caries detection" and "caries diagnosis" are often erroneously thought to be equivalent. However, detection refers to finding the existing carious lesion. "To diagnose" means not only to find the lesion but also to decide if it is active, progressing or arrested. As described in the article, "In SBSPs the decision to seal rests almost entirely on visual detection of the presence or absence

of surface cavitation." The criteria and methods discussed in our article focus primarily on the detection of cavitated lesions as the cutoff point for sealant placement in SBSPs. We did not discuss the ability of methods to diagnose dental caries.

Consistent evidence indicates that the overall incidence of caries in permanent molars will be lower among children who received sealants compared with their counterparts who did not.^{3,4} Sealants predictably reduce the occurrence of disease. However, like other preventive strategies, they do not totally eliminate dental caries, and practitioners may occasionally observe a child with caries in a permanent molar sealed in a school program. Sealant placement is a reversible procedure that easily allows the dentist subsequently to apply additional caries management strategies, such as a restoration if needed.

Failure of caries prevention in a sealed tooth in that child who is later seen in private practice does not constitute failure of the entire school sealant program, just as the failure of a preventive measure in a private office does not constitute failure of that entire dental practice.

Many school sealant programs work with local dentists, public health clinics, parents, school nurses, local dental associations and other partners to help students without a source of dental care receive comprehensive dental services. This important and effective public health approach complements clinical care systems to promote the oral health of children and adolescents.

This article and others published earlier⁵⁻⁷ were written to increase awareness among private practitioners about school

sealant programs and practices within these programs. Increased awareness and participation among dental professionals is critical to the success of program efforts to refer children who are in need but are without a usual source of care.

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1. Beauchamp J, Caufield PW, Crall JJ, et al.; American Dental Association Council on Scientific Affairs. Evidence-based clinical recommendations for the use of pit-and-fissure sealants: a report of the American Dental Association Council on Scientific Affairs. *JADA* 2008;139(3):257-268.

2. Gooch BF, Griffin SO, Gray SK, et al.; Centers for Disease Control and Prevention. Preventing dental caries through school-based sealant programs: updated recommendations and reviews of evidence. *JADA* 2009;140(11):1356-1365.

3. Ahovuo-Saloranta A, Hiiri A, Nordblad A, Mäkelä M, Worthington HV. Pit and fissure sealants for preventing dental decay in the permanent teeth of children and adolescents. *Cochrane Database Sys Rev* 2008;(4) CD001830. "onlinelibrary.wiley.com/cochrane/clsysrev/articles/CD001830/frame.html". Accessed Sept. 27, 2010

4. Mejäre I, Lingström P, Petersson LG, et al. Caries-preventive effect of fissure sealants: a systematic review. *Acta Odontol Scand* 2003;61(6):321-330.

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6. Griffin SO, Gray SK, Malvitz DM, Gooch BF. Caries risk in formerly sealed teeth. *JADA* 2009;140(4):415-423.

7. Kolavic Gray SK, Griffin SO, Malvitz DM, Gooch BF. A comparison of the effects of toothbrushing and handpiece prophylaxis on retention of sealants. *JADA* 2009;140(1):38-46.

DENTIN HYPERSENSITIVITY

This letter is in reference to Dr. Tanita Narongdej and colleagues' August JADA article, "The Effectiveness of a Calcium Sodium Phosphosilicate Desensitizer in Reducing Cervical Dentin Hypersensitivity: A Pilot Study" (*JADA* 2010; 141[8]:995-999).

When conducting a clinical trial to assess the efficiency of dentin desensitizing agents, it

is best that the study adheres to the established guidelines. This is done to create a standard for future testing and evaluation of products for the clinical treatment for dentin hypersensitivity.¹ The American Dental Association Council on Scientific Affairs has put forth guidelines for evaluating products for the clinical treatment of dentin hypersensitivity. According to Section IV, Clinical Test Protocol, "materials, instruments and items selected for tests to produce the stimulus must be measurable, reproducible and behaviorally predictable."²

"The methodology employed to evaluate clinically the effectiveness of a desensitizing agent must be reliable and reproducible."

In the JADA article, tactile and cold stimuli were employed to elicit tooth hypersensitivity. The degree of hypersensitivity was then assessed with the help of a visual analog scale.

The use of an explorer to evaluate the sensitivity has been criticized, as it is said to introduce variability in pressure. The authors could have used a probe like the Yeaple probe, where the pressure applied to the surface being tested can be measured. This helps apply the same tactile pressure on all the teeth tested, at each time during the clinical trial.³

When applying the cold stimuli, the authors could have used syringes with cold water placed in a water bath kept at a temperature of 7°C. This will help to maintain the constant stimuli throughout the study,

and will also help to avoid false-positive results.³

In conclusion, the methodology employed to evaluate clinically the effectiveness of a desensitizing agent must be reliable and reproducible. The standardization of the clinical trial methods is needed to establish a yardstick for future testing and assessment of methods for treating dentinal hypersensitivity.

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1. Holland GR, Narhi MN, Addy M, Gangarosa L, Orchardson R. Guidelines for the design and conduct of clinical trials on dentine hypersensitivity. *J Clin Periodontol* 1997;24(11):808-813.

2. American Dental Association Council on Scientific Affairs. Acceptance program guidelines: products for the treatment of dentinal hypersensitivity. "www.ada.org/sections/scienceAndResearch/pdfs/guide_prod_hypersensitive.pdf". Accessed Nov. 30, 2010.

3. Gillam DG, Newman HN. Assessment of pain in cervical dentinal sensitivity studies: a review. *J Clin Periodontol* 1993;20(6):383-394.

Author's response: The use of a Yeaple probe is the best method to evaluate sensitivity. However, we did not have one, so we tried our best to limit the variability in pressure by training the operator to apply pressure to the digital scale before the experiment.

For the cold stimuli, the use of a syringe may not be a proper method since it is more difficult to control the area. We found that the sponge kept in the thermometer-controlled water is more controllable. We can apply the sponge to the cervical area without water soaking the whole tooth.

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ORTHODONTIC BRACKETS

As an orthodontist who was an early advocate of indirect banding in the 1950s and indirect bonding in the 1970s, I was especially interested in Dr. Mette Kuijpers and colleagues' August JADA article, "The Effect of Antisialogogues in Dentistry: A Systematic Review With a Focus on Bond Failure in Orthodontics" (Kuijpers MAR, Vissink A, Ren V, Kuijpers-Jagtman AM. JADA 2010;141[8]:954-965).

The indirect technique for bracket placement, which I have used since the 1970s, allows easy placement of multiple brackets with the use of antisialogogues. This technique also gives much more accurate placement with much easier cleanup than the direct technique. Other benefits include less stress on the operator and greater comfort for the patient.

Bracket placement on a model with tacky glue and tray fabrication with a one-step silicon material allows for simplicity and comfort.

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Authors' response: We thank Dr. Magness for his reaction to our systematic review about the use of antisialogogues in dentistry with focus on bond failure. In the search strategy for this review, studies applying direct and indirect bonding were included. In our analysis of the studies concerning use of antisialogogues and bonding in dentistry, and on bond failure in orthodontics in particular, we did not find evidence that use of antisialogogues lowers the bond failure in orthodontics, irrespective of whether direct or indirect

bonding was applied. Unfortunately, only one study looked properly at the use of antisialogogues and bonding in orthodontics,¹ while no study concerning bonding in dentistry was found.

The very good experience-based results with indirect bonding and use of antisialogogues that Dr. Magness mentions in his letter might also be due to a very good protocol for bonding brackets that he applies, to the use of an indirect bonding technique in which the tray lowers the risk of saliva contamination, and to the shorter duration of the bonding procedure. In other words, from a case series it is difficult to conclude whether the results are particularly based on the use of antisialogogues during the bonding. A double-masked randomized controlled trial in which the patients are randomized in two groups, one group receiving indirect bonding with antisialogogues and one group receiving indirect bonding without, is the only way to get an objective, evidence-based answer on this question. It would be applauded when Dr. Magness would perform such a study.

Thus, the current literature provides no evidence for the preferential use of antisialogogues to improve bonding results in orthodontics, and might imply that a good bonding protocol is more important.²⁻³

The pros and cons for using indirect or direct bonding are beyond the scope of our study. What is relevant is that for neither procedure has the positive effect of antisialogogues been shown. Since the added value of antisialogogues, if present, might be negligible, the negative effects in the form of systemic effects of the medication outweigh the supposed positive effects.

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1. Ponduri S, Turnbull N, Birnie D, Ireland AJ, Sandy JR. Does atropine sulphate improve orthodontic bond survival? A randomized clinical trial. *Am J Orthod Dentofacial Orthop* 2007;132(5):663-670.

2. Maia SR, Cavalli V, Liporoni PC, do Rego MA. Influence of saliva contamination on the shear bond strength of orthodontic brackets bonded with self-etching adhesive systems. *Am J Orthod Dentofacial Orthop* 2010;138(1):79-83.

3. Campoy MD, Plasencia E, Vicente A, Bravo LA, Cibrián R. Effect of saliva contamination on bracket failure with a self-etching primer: a prospective controlled clinical trial. *Am J Orthod Dentofacial Orthop* 2010;137(5):679-683.

CAREER OPTIONS

I read with interest Dr. Roger Levin's August JADA "Perspectives" article, "A Better Practice: Practice Options for New Dentists" (JADA 2010;141[8];1023-1024). The author describes four main career options for the new graduate: become an associate, work for dental service organizations, join the military or open a solo practice. The most compelling argument in favor of the first three of these, at least, is the high student loan debt that many students find themselves facing upon graduation. However, I was disappointed that a fifth option, academic dentistry, was not presented as a viable one for a new dentist.

In a report on the 2007 dental school faculty work environment survey, Haden and colleagues¹ note that on average over 300 budgeted, vacant faculty positions exist in U.S. dental schools. Currently, less than 1 percent of our graduates nationally enter a career as a dental educator.² Unless new graduates see dental education as a possible career choice, there is no reason to expect those numbers to improve.

The need to attract young dentists to education goes beyond the existing vacant positions. The “graying” of the faculty nationally will exacerbate that shortage as retirement approaches. The explosion of biomedical research will likely change the practice of dentistry as we now know it, and graduates educated to apply new scientific discoveries to patient care will be most prepared to teach a new generation.

There is no doubt that financial remuneration in academics is generally less than what can be earned in practice outside of higher education, making a career choice of education less attractive financially. Creative solutions to narrow the income gap should certainly be explored, but the nonfinancial incentives for an academic career must also be made known. New faculty have reported intellectual and scientific challenges and stimulation, lifestyle and interest in teaching as positive factors influencing their decision to choose a career in academics.³

Dentists practicing outside academics have reason to be concerned about the dearth of faculty in our educational institutions. Without sufficient faculty educators, will the number of new dentists we can train eventually decrease, affecting market conditions adversely for those looking to sell their practices? A shortage of new dentists generally will also translate into a shortage in underserved areas, intensifying the access-to-care issues currently facing our nation.

Faculty recruitment should start before students graduate. Dentists practicing in and outside of academics can assist with recruitment by including it as one of the career options for the newest members of our profession.

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1. Haden NK, Hendricson W, Ranney RR, et al. The quality of dental faculty work-life: report on the 2007 dental school faculty work environment survey. *J Dent Educ* 2008;72(5): 514-531.

2. Okwuje I, Anderson E, Valachovic RW. Annual ADEA survey of dental school seniors: 2008 graduating class. *J Dent Educ* 2009;73(8):1009-1032.

3. Schenkein HA, Best AM. Factors considered by new faculty in their decision to choose careers in academic dentistry. *J Dent Educ* 2001;65(9):832-840.

Author's response: I would like to thank Dr. O'Donnell for her letter, and I wholeheartedly agree with her point that academic dentistry is indeed a viable career choice for new dentists. There is no doubt that our profession must actively recruit faculty to teach in our educational institutions or, as Dr. O'Donnell mentioned, we will find ourselves facing a host of problems including a shrinking number of trained dentists and even less access to oral health care for those in underserved areas.

New dental school graduates should consider all of their career options, education among them.

Again, I thank Dr. O'Donnell for adding to the discussion and reminding us that the newest members of our profession who have chosen academia are enjoying stimulating and satisfying careers.

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PUBLIC OPTIONS

As a member of the American Dental Association (ADA) and president of the Association of State and Territorial Dental Directors, I would like to enrich

the menu of practice options for dentists presented by Dr. Levin in his August JADA column, “A Better Practice: Practice Options for New Dentists” (*JADA* 2010;141[8]:1023-1024). The rapidly evolving field of community-based clinical dentistry in public health settings offers excellent opportunities to new dentists, dentists making a midcareer change, and senior dentists thinking about making a refreshing transition out of private practice.

New graduates facing staggering student loans can enjoy loan repayment from many state programs. In addition, the National Health Service Corps (NHSC) provides federal loan repayment opportunities. Dentists receiving support from these programs can find employment opportunities within community-based clinics such as federally qualified health centers, local or non-profit public health or mobile clinics, Indian Health Service or tribal clinics and other safety-net clinical programs. There are also uniformed career opportunities within the Public Health Service Corps or in military dental programs, with many offering advanced or specialty training to qualified dentists.

Community-based programs target underserved and low-income populations and are subsidized by states, private philanthropy foundations and the federal government. These programs offer competitive salaries and outstanding benefits, and many offer malpractice coverage. Even experienced dentists can now apply for loan repayment opportunities with the NHSC while serving part-time in community-based programs while building their own practices.

Nonetheless, the attraction to public health dentistry is not

only financial. Many dentists throughout the full spectrum of age and experience find the personal rewards of public service far more enriching than private practice.

Promotion of the importance and attraction of public health dentistry by the ADA is a measure of the organization's success as the leader in advocating for oral health across the lifespan and for all populations.

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DENTAL RADIOGRAPHS

I am writing regarding Dr. Rodney Wentworth's June JADA Ethical Moment, "What Ethical Responsibilities Do I Have With Regard to Radiographs for My Patients?" (JADA 2010;141[6]:718-720). There has been ongoing speculation regarding the advantages of digital dental radiography. Now the time has come to make the authorities and the persons concerned aware of the possibilities of fraud.

Malicious manipulations of digital dental images are now becoming common by means of various image manipulation softwares¹ for insurance claims, damaging evidence material, and for presentations and publications made by clinicians worldwide.² Concerns about image manipulation have been expressed in *The New England Journal of Medicine*,³ *The Lancet*,⁴ *Science*⁵ and *Journal of Endodontics*.⁶ There have been articles reporting the inability of the dentists to recognize the manipulated images⁷; we can only imagine the competence of the non-dental folks working in insurance offices.

Various measures have now

been adopted by the insurance companies and the publication houses to detect tampered images, such as acceptance of digital images in their original software format or in a more secured format like DICOM. Software companies have also taken some steps serving the forum by introducing easily understandable encryption methods that help us to watermark and password-protect images.

In spite of the above measures taken to secure images, there is a lack of international standards and laws to stop the fraudulent manipulation of images. Stringent policies and measures need to be formulated to pacify the impact of digital radiography fraud in the field of dentistry.

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1. Bruder GA, Casale J, Goren A, Friedman S. Alteration of computer dental radiography images. *J Endod* 1999;25(4):275-276.

2. Tsang A, Sweet D, Wood RE. Potential for fraudulent use of digital radiography. *JADA* 1999;130(9):1325-1329.

3. Sudbø J, Kildal W, Risberg B, Koppang HS, Danielsen HE, Reith A. DNA content as a prognostic marker in patients with oral leukoplakia (Retracted in: *N Engl J Med* 2006;355[18]:1927). *N Engl J Med* 2001;344(17):1270-1278.

4. Sudbø J, Lee JJ, Lippman SM, et al. Non-steroidal anti-inflammatory drugs and the risk of oral cancer: a nested case-control study (Retracted in: *Lancet* 2006;367[9508]:382). *Lancet* 2005;366(9494):1359-1366.

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6. Calberson FL, Hommez GM, De Moor RJ. Fraudulent use of digital radiography: methods to detect and protect digital radiographs. *J Endod* 2008;34(5):530-536.

7. Visser H, Krüger W. Can dentists recognize manipulated digital radiographs? *Dentomaxillofac Radiol* 1997;26(1):67-69.

Author's response: Thank you to Dr. Shrivastava, MDS for his comments. He brings up an important practical issue affecting not just digital radiographs, but also any type of digital images used to document reimbursement, promo-

tion of products, documentation of research in published studies and educational presentations.

The ADA Principles of Ethics and Code of Professional Conduct¹ addresses this with the principle of Veracity which, in its simplest terms, states that "[t]he dentist has a duty to communicate truthfully." Manipulation of images without disclosure not only has ethical concerns, but may have legal ones as well.

Thank you to Dr. Shrivastava for the additional information on another ethical issue associated with digital technology.

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1. American Dental Association. American Dental Association principles of ethics and code of professional conduct, with official advisory opinions revised to January 2010. Chicago: American Dental Association; 2010:9. "www.ada.org/sections/about/pdfs/ada_code.pdf". Accessed Nov. 29, 2010.

COVERAGE DENIED

In Dr. Marilyn Lantz and Dr. Patrick Foy's August JADA Ethical Moment column, "What Is the Ethical Course of Action When a Third-Party Payer Denies Coverage for a Treatment I Recommend Simply Because the Treatment Is Not One of the Plan's 'Evidence-Based Best Practices'?" (JADA 2010;141[8]:1025-1026), I could feel the frustration of the doctor asking the question about evidence-based dentistry and the third party using it to deny benefits.

To me, this problem is just one more way that insurers will either deny or delay benefits.

Drs. Lantz and Foy's statement, "As the patient's dentist, you are in the best position to determine which specific treat-

ments are most appropriate,” is the most important one in their response to the question.

The bottom line to this issue is the intrusion by third parties into the doctor-patient relationship, resulting in a potential loss of confidence by the patients in their doctors. Until the American Dental Association and Congress put a stop to this intrusion, it will get worse, not better.

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Authors’ response: We want to thank Dr. Samuels for his comments. We agree with Dr. Samuels that it is frustrating for dentists and patients when third-party payers deny coverage for a treatment recommended by a dentist because the treatment is not one of the plan’s “evidence-based best practices.” As Dr. Samuels implies, the practices of third-party payers, including their level of involvement in the patient-dentist relationship, are regulated by both state and federal agencies. The American Dental Association (ADA) has always advocated on behalf of the primacy of the patient-dentist relationship with such agencies and other entities. In fact, in its most recent Strategic Plan (2011-2014),¹ the ADA states its belief that “the integrity of the patient-doctor relationship is sacrosanct.”

As we stated in our article, dentists have a duty to involve their patients in treatment decisions “in a meaningful way, with due consideration being given to the patient’s needs, desires and abilities.”² The use of evidence-based dentistry incorporates not only science, but the practitioner’s expertise and the patient’s needs and preferences in the decision-making process. Providing patients with the most up-to-

date information and evidence to incorporate into their decision making about their treatment choices is an important way that dentists can support patient autonomy, irrespective of the coverage offered by their dental benefit plan.

Whether or not the legislative relief Dr. Samuels desires is achieved and whether or not one views the third-party practice we described in our article as an “intrusion into the doctor-patient relationship” as Dr. Samuels characterizes it, we maintain that dentists who find themselves in this situation can be most effective in helping patients decide on the best treatment option and in advocating with the patient’s dental benefits company for the best interests of the patient, by thoughtfully using their knowledge and skills in evidence-based dentistry.

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“www.ada.org/sections/about/pdfs/ada_code.pdf”. Accessed Nov. 29, 2010.

READING HABITS

I am writing regarding Dr. Marilyn Lantz and Dr. Patrick Foy’s August Ethical Moment column, “What Is the Ethical Course of Action When a Third-Party Payer Denies Coverage for a Treatment I Recommend Simply Because the Treatment Is Not One of the Plan’s “Evidence-Based Best Practices?” (JADA 2010;141[8]: 1025-1026).

For one, single ethical moment, I thought evidence-based dentistry (EBD) would free me from evaluating the ever-increasing number of dental journals. I would just read the evidence-based (EB) ones and forget the rest.

After that moment passed, I wondered, what about the rest of the articles? Unfortunately, there are so many articles that only a few could ever be reviewed.

So, like it or not, the rest of us will have to review them ourselves. Fortunately, most dentists can read, and the articles are in English. Although some articles present a hopeless tangle of graphs and data; most do not. Most articles have a discussion and conclusion column—that is helpful. It seems condescending to presume that only articles that have been evaluated by certain certified people are awarded the dental seal of approval. Is there a cloaked inference that the rest of dentists lack the ability to determine whether or not an article has worth? Is it inferred that a nonevidence-based reviewed article has no worth, or is it just that dentists can’t be trusted to adequately evaluate an article?

Disagreements are commonplace among dentists.

For example, at Indiana Uni-

versity School of Dentistry in Indianapolis, Dr. Don Arens conducted a class for the four of us in the graduate program. We were to critically review four assigned endodontics articles each week for a semester. For an hour each week, we would review the articles. What surprised us was that we almost never agreed as to whether the article was properly done, if the conclusions were valid, or if it was a good or bad article.

Remember, we all had previous experience practicing dentistry. We were doing research being overseen by research professors, and we couldn't agree.

When you think about it, most articles are based on some kind of evidence. I would disagree that all evidence has to be scientific. Some articles use scientific evidence, some articles use empirical evidence.

That is true for medicine and dentistry.

Some things can't be done scientifically. Some "scientific" studies work in vitro but don't work in vivo.

Ultimately, it is the dentist who has to decide if the information is valid or not based on his or her knowledge, skill, judgment and experience. Also, a single article's or research project's results are only presumptive. Those results have to be validated by additional independent identical studies to verify those results.

In the August Ethical Moment column, the dentist is offering one treatment plan and the insurance company is denying it and proposing another. Since we do not know the patient's dental condition, we really do not know if both plans were equally good or bad. Insurance companies tend to make decisions based on cost, not EBD.

Since the patient and the

dentist have agreed on a treatment plan, the insurance company's dentist, who does not have the benefit of having evaluated the patient and only has x-rays and an examination sheet, is out of bounds by overruling the proposed plan and recommending another.

Prescribing treatment with only x-rays and an examination sheet is a blueprint for failure.

For the insurance company's dentist to say the proposed treatment is wrong seems like it could be bordering on the unethical.

In conclusion, my vote would be for the practicing dentist. Also, I agree with the dentist who is skeptical of EBD. Like everyone else, an EB reviewer can only evaluate what is in an article. Not everyone may agree with the reviewer's conclusions. One only needs to read the letters to the editors to find disagreement with some of the previous month's articles.

**W. Braden Speer, DDS,
MSD
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Authors' response: We appreciate Dr. Speer's thoughtful comments and appreciate the opportunity to respond.

It is certainly true, as Dr. Speer asserts, that there are so many articles published in the dental literature that it is increasingly difficult for individual dentists to keep up with all of them, and that most published articles present data, discussions of data and conclusions drawn from examination of the data by the authors of the articles. It is also true that experts disagree about the adequacy of research study designs, interpretations of data generated in research studies and many other aspects of the design, execution and interpretation of data derived from clinical research studies.

It is precisely these problems that evidence-based approaches are designed to address.

Evidence-based approaches require the use of formal processes for review and evaluation of scientific evidence that facilitate assessment of the quality of studies and the quality of the evidence generated by performance of the studies. They offer a "value-added" approach to traditional literature review methods many of us learned in our educational programs.

Evidence-based dentistry (EBD) approaches allow us to answer questions such as "How good is the evidence?", "Is this the best available evidence?",¹ and "Is the evidence strong enough to warrant a change in the way I practice dentistry?" EBD offers a process to build consensus among experts.

EBD reviewers must learn a specific set of skills to conduct evidence-based reviews. In October 2010, the ADA Center for Evidence-Based Dentistry and The Forsyth Institute conducted an intensive, five-day training course for dentists in evidence-based principles and tools, including systematic reviews and applications for clinical decision making. The ADA Center for Evidence-Based Dentistry also offers ongoing programs for dentists interested in developing these skills, including the EBD Champion Program, the ADA Evidence Reviewer Workshop and the EBD Web site at "ebd.ada.org". We encourage all dentists to visit the ADA's EBD Web site.

We agree with Dr. Speer that dentists should use scientific evidence to support the dentist's professional judgment in the clinical decision-making process and stated this in our article. In fact, the ADA's definition of EBD states that "EBD is an approach to oral health-

care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences."²

Finally, in the scenario discussed in our column, the third-party payer did not tell the dentist who wrote to us that his treatment was "wrong." The third-party payer denied coverage for the proposed treatment because they claimed that it was not one of the plan's "evidence-based best practices." As we stated in our article, we believe that dentists who have acquired and can use EBD skills are in the best position to advocate on behalf of their patients with third-party payers in the situation described.

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RECALLING PAIN

I applaud Dr. Hanna Salé and colleagues' July JADA research article, "Accuracy

of Patients' Recall of Temporomandibular Joint Pain and Dysfunction After Experiencing Whiplash Trauma" (Salé H, Hedman L, Isberg A. JADA 2010; 141[7]:879-886). The accuracy of patients' recall of events is a significant factor for both appropriate clinical assessment and for any litigational aspect of motor vehicle accident (MVA) trauma.

I am a clinical dentist with training in law, MVA trauma and temporomandibular disorders, and I have witnessed similar findings as reported by the authors.

The issues I would like explored, perhaps in future studies, involve whether or not the patients' ability to recall accurately is dependent upon the traumas' resultant G forces, the victims' beta amyloid 1-42 titers pretrauma and post-trauma, and the potential minor brain injuries (MBI) that are frequently overlooked.

Even very low G force can result in a very significant MVA trauma. Is there any correlation between such forces and the whiplash symptomatology of the victim?

Beta amyloid 1-42 is a proteomic biomarker for neuropsychological burden. Patients with titers above 300 nanograms measured energetically tend to exhibit forgetfulness. What are the titers for the 40 percent of whiplash patients who experience inaccurate recall? What were their prewhiplash titers?

MBI is actually very common in a significant number of whiplash traumas. Could MBI be responsible for the inaccurate recall?

**David Satloff, DMD, EJD,
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Authors' response: We want to express our appreciation for Dr. Satloff's interest in our article and for his discussion points.

Clinical investigations consistently require ethical considerations. Our prospective and long-term follow-up project of patients after exposure to a whiplash trauma is no exception, but it also encompasses an ethical dilemma.

As Dr. Satloff points out, the ideal research design comprises assessment of the pretraumatic status of variables to be studied. Clearly, it is not doable to identify those individuals of the general population who might

be involved in a future whiplash accident. Hence, the only possibility to examine presumptive accident victims in order to determine the G force exerted in the individual accident or to determine pretraumatic beta amyloid 1-42 titers would be to use an experimental setting. This implies that one would expose people to a trauma that can presumably give them a lifelong handicap, which is ethically unacceptable.

To collect patients' reports regarding pretraumatic symptoms right after the accident is the most adequate way to access this information. Research has shown that patients' recall of symptoms remains correct for some days. In addition, initial as well as long-term comparison with a matched control group is also a prerequisite for valid data on posttraumatic development of symptoms.

Our finding that 40 percent of the patients were inaccurate in their recall of symptoms after one year has implications in 1) interpretation of results from previous retrospective research studies and 2) study design for future research projects. It is, however, inadequate to apply the results regarding inaccurate recall on single patients because 60 percent of the patients were accurate in their recall.

With today's knowledge, we cannot identify whether one specific patient recalls accurately or not. But we know that patients develop temporomandibular joint (TMJ) disorder symptoms five times as frequently as matched controls during the year following whiplash trauma.¹ The patients in our study of accurate recall did not have a contact head injury at the time of the accident nor had they experienced any unconsciousness, which

makes minor brain injury less likely among the patients.

We have recently followed up the very same patients and control participants 15 years after the accident. The follow-up includes magnetic resonance imaging of TMJs, clinical examinations of neck and TMJs, and questionnaires. Patients and control participants were spread all over Sweden and even to North America. We have managed to contact each and every one and have examined over 90 percent of the patients and control participants. This investigation will provide us with new information regarding the long-term impact exerted by a whiplash trauma on the TMJs.

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