

## LETTERS

**J** ADA welcomes letters from readers on topics of current interest in dentistry. The Journal reserves the right to edit all communications and requires that all letters be typed, double-spaced and signed. 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.

**CUTTING EDGE**

Congratulations on having an avant-garde journal. It makes me very proud, after 51 years in practice, to see my ADA journal on the cutting edge of scientific advancement.

**David S. Wagner, D.D.S.**  
**Palm Beach, Fla.**

**OLD HAT**

About 45 years ago at an American Academy of Periodontology convention, I sat next to Dr. Harry Ross, a sage from New York City. I asked him how he treats refractory periodontal patients who have excellent oral hygiene and frequent treatments, but still go slowly downhill.

He suggested a low-dosage (250 milligrams), long-term, daily tetracycline regimen. I tried this and logged over 50 patients for 40-plus years. This adjunctive treatment stopped further deterioration and actually fostered pocket closing. Over the many years, there were no allergies or side effects, and these people never got colds!

Since cutting my practice

down to a few hours a week, many records were returned to the referring dentists or discarded along with my log.

Last year, the media showered the public with the new miracle pill to stop periodontitis. It sounded like the next best discovery since the wheel! My point here is that the new treatment is old hat and has been used for many years without great acclaim.

**Robert S. Wolfsohn, D.D.S.**  
**Buffalo, N.Y.**

**FLOSSING DEFENDED**

I read, "Assessing the Efficacy and Safety of an Electric Interdental Cleaning Device," by Dr. Roger L. Isaacs and colleagues (January JADA), with great interest. I do not dispute the results reported in that article with respect to the periodontal outcomes measured. However, the implications that this method can be presented to unmotivated (as opposed to manually impaired) dental patients as an acceptable substitute for flossing concern me. What about decay?

In my 14 years of general practice, the majority of interproximal decay that I have diagnosed has started at the interproximal contact point, not cervically at the level of the col. I do not believe this device can clean through the contact point, nor have I read any claims anywhere that purport this to be the case. Would not suggesting to patients with full dexterity that using the Braun Oral-B Interclean could legitimately take the place of flossing give those patients a false sense of security when it comes to the prevention of interproximal decay? Unless I saw hard clinical evidence to the contrary, I

could not in good conscience make that suggestion.

A periodontist with whom I have worked closely for over 10 years told me that he tells those patients to whom he recommends a Proxabrush that they should floss as well.

I can see where this device might prove to be a useful adjunct to flossing for the maintenance of periodontal health, but I do not think it should be characterized as an equivalent replacement for flossing in the débridement of the contact point. Again I ask, what about decay?

**Barry F. McArdle, D.M.D.**  
**Portsmouth, N.H.**

**Author's response:** In reply to the question, "What about decay?", we did not measure the possible effect of floss or the interdental cleaner on dental caries and have not stated an expected effect of either. We have left speculation to the reader as to whether the plaque reduction shown by either of the two devices might have such an effect.

In reply to the second question, we did not suggest that patients with full dexterity use the Braun Oral-B Interclean for the prevention of interproximal decay. In the discussion, we write that any advice practitioners give to patients in regard to interdental cleaning methods must be based on the patient's dental characteristics. At best, there is only 15 percent of the population using dental floss as often and as well as we would like. That leaves 85 percent (despite our recommendations, instructions and attempts at motivation) who could possibly benefit from a device such as the rotating filament we

were testing. Some of this 85 percent are the ones we hope can benefit from this new device.

Finally, I was taught that the first evidence of interproximal caries is on the enamel gingival to the contact point. I have seen nothing in 22 years of the full-time practice of general dentistry and 30 years of clinical testing of oral products (on a part-time basis) to make me think otherwise.

**Roger L. Isaacs, D.D.S.**  
**Indiana University**  
**Indianapolis**

#### WORDS OF CAUTION

Since the two recent JADA articles by Dr. Shepherd and Drs. Muftu and Chapman<sup>1,2</sup> and Dr. Berman's letter to the editor<sup>3</sup> are being used to promote and market the Bicon implant system to our membership, I would like to offer some observations and words of caution.

Dr. Shepherd's December 1998 article first extensively criticizes screw-retained implant systems and then presents the advantages of his screwless Bicon implant system. His principal theme is that the Bicon system is easier, simpler and less expensive, making it more accessible to our patients and to us. He even presents a dollar estimate equating a simple implant restoration to a three-unit fixed bridge and claims his implant system is "affordable to most dental patients."

However, both JADA articles recommend that these implants not be splinted, but be placed and restored on a single, tooth-by-tooth basis. Doing so can become costly.

Dr. Shepherd's first case shows three adjacent implants

with three separate crowns.

Using his numbers for estimated surgical and prosthetic costs of \$900 to \$1,100 per implant and \$600 per crown, the fee for this case would be \$4,500 to \$5,000.

His second case is an 18-implant, 24-crown, fixed-splinted maxillary and mandibular restoration. Projected cost: over \$30,000. Given that Bicon materials cost \$210 to \$315 per unit, one must conclude that the Bicon implant system, like the other systems, is actually out of reach financially for many of our patients.

This is especially true if we follow Dr. Shepherd's guideline of one implant for each missing tooth. Other systems, in which implants are splinted, would use fewer implants for these two cases and, contrary to Dr. Shepherd's claim, become simpler and possibly less expensive than the Bicon system.

Drs. Muftu and Chapman's August 1998 JADA report<sup>2</sup> is on an excellent hospital-based prospective study of 432 Bicon implants put into 168 patients by one surgeon and in place from less than one year to as long as four years. They report a 90 percent six-year implant survival rate in the mandible with very few prosthetic complications. Six- and eight-year follow-ups on this patient group are planned for and are necessary. However, though their success criteria require the absence of progressive bone loss, they did not report any bone level measurements in their article.

All implant systems have their problems, and Bicon is no exception. This implant has been available for many years as the Stryker implant and was

never widely used. It is neither the common screw design, nor the tightly press-fit cylinder design, but a unique tapered "finned" implant that requires dry, very low-speed machine and hand drilling in order to harvest the bone chips for grafting on top of the implant, which is placed 3 to 5 millimeters below the alveolar crest. This grafted covering may prove to be an unpredictable weak point.

Also, the narrow 2-mm abutment neck may be subject to fracture, especially if angled. Since it is made from the titanium-aluminum-vanadium alloy, rather than pure titanium, research also needs to be done on the long-term progressive bone loss, implant fracture and exfoliation of Stryker implants.

As Dr. Berman<sup>3</sup> states in his letter to the editor, multiple long-term, university-based trials of the Bicon implant are indicated. I agree and feel that the corporate sponsor and not the public should fund such clinical trials of commercial products. With this kind of corporate-university partnership, reliable answers can be acquired and we can practice evidence-based dentistry instead of old-fashioned anecdotal case-report dentistry. Then real progress can be made to answer such questions as:

What are the implant and bridge success rates in 100 consecutively treated patients with restored implants in their mouths for more than five years utilizing a titanium alloy, finned implant placed solely with hand pressure 3 to 5 mm subcrestally into bone that has been drilled without cooling with a bone graft plug to fill the hole and later restored with a press-fit abutment having a 2-mm-diam-

eter neck and then crowned individually without splinting?

**Theodore L. West, D.D.S.,  
M.S.D.**

**Columbia University  
School of Dental and  
Oral Surgery  
New York**

1. Shepherd NJ. Affordable implant prosthetics using a screwless implant system. *JADA* 1998;129(12):1732-8.

2. Muftu A, Chapman RJ. Replacing posterior teeth with freestanding implants: four-year prosthodontic results of a prospective study. *JADA* 1998;129(8):1097-102.

3. Berman CL. Curbing implant complications (letter). *JADA* 1998; 129(12):1666.

#### **TMD AND THE LAWS OF PHYSICS**

One wonders how there is a part of the human body—namely, the temporomandibular joints—that seems to defy the laws of physics. It is commonly accepted by medical clinicians that the brain, neck, muscles, blood vessels, nerves and all other soft tissues can be stretched and torn indirectly by acceleration forces such as those experienced in rear-end motor vehicle accidents.

According to the authors, however (Drs. Robert Ferrari and Myer Leonard, "Whiplash and Temporomandibular Disorders: A Critical Review," December *JADA*), those same structures of the TMJs that are located between the brain and neck somehow miraculously defy these laws. Does this even begin to make sense?

Because of the complexity of the biomechanical forces involved, the authors state that it is impossible "to conduct appropriate, randomized, double-blind, placebo-controlled studies." They then proceed to discredit any use of anecdotal evidence. Is this not somewhat of a cyclical argument? How are we then to treat our patients, by

statistics or one at a time (anecdotally)? Is there any other part of the body that when accelerated beyond its ability to adapt, thus resulting in physical damage, gets so handily thrown into a cultural, psychological problem as the TMJs?

The TMJs are constructed of basically the same tissues as any other joint; yet can you imagine any reasonable doctor attributing knee injuries strictly to cultural or psychological factors? Has the profession stooped so low as to blame a lack of understanding and ability to diagnose on the psyche of our patients?

Is it true that the forces involved in motor vehicle accidents are multifactorial in nature and do not lend themselves to isolated studies? Even in controlled crash test studies, care is given to provide data that are suggestive in nature and never totally conclusive. Exploration of copious engineering and bio-data reveals that the large leap from mathematical analysis of car crashes to predicting human injury is rarely crossed. Never do you find such conclusions as those drawn by this article unless there is an agenda by the authors to support a pre-existing opinion.

It is obvious from the start that this article does not belong in such a publication as *JADA*. It is nothing more than a compilation of footnoted opinions, some highly discredited, used to bolster the authors' own opinion.

There are many studies that do support traumatic origin of TMJ injuries via indirect forces, but they are never mentioned except for a few in the negative sense. This submission was obviously not peer-reviewed by

dentists trained in biomechanical trauma or motor vehicle accidents.

It's amazing how productive citizens who become involved in motor vehicle accidents and experience pain in the TMJs are suddenly, categorically dismissed as "carrying some risk of developing such symptoms in the future," as stated in this article. In other words, the article argues that the TMJs can't be painful, but if they are, it is probably psychological. If clinical signs are detected, the patient would likely have developed them anyway!

The truly sad result is the effect this article will have on patients suffering from these potentially debilitating injuries. Our legal system is antagonistic by design. As a result, third-party payers, their attorneys and their stable of independent medical examiners will now be armed with a *JADA* publication that will further damage, degrade and insult a segment of our population looking to our profession for a remedy to their pain.

The very patients whom many responsible dentists try to restore to a pain-free existence have now been reinjured by the academic system that we as practitioners voluntarily support.

**Christopher Brown,  
D.D.S., M.P.S.**

**Calhoun, Ga.**

**Larry L. Tilley, D.M.D.**

**Calhoun, Ga.**

**Authors' response:** We appreciate the comments from Drs. Brown and Tilley, and direct them to our response to several other letters published in the March issue of *JADA*.<sup>1</sup> We would add only that unidimensional (dualistic) models, particularly those of Drs.

Lockerman,<sup>2</sup> Suarez,<sup>3</sup> and Brown and Tilley are simply too wrong to be useful, and indeed may be part of the problem rather than the solution.

**Robert Ferrari, M.D.,  
F.R.P.C.  
Edmonton, Alberta,  
Canada  
Myer S. Leonard, M.D.,  
D.D.S.  
Minneapolis**

1. Ferrari R, Leonard MS. Authors' response (letter). JADA 1999;130:320,322.

2. Lockerman LZ. A second opinion (letter). JADA 1999;130:164-5.

3. Suarez OF. More about TMD (letter). JADA 1999;130:318, 320.

#### STRAIGHT-LINE ACCESS

Dr. Michael Davis presents some useful guidelines for preventing material fracture when making endodontic access through all-ceramic crowns in his recent article, "Providing Endodontic Care for Teeth With Ceramic Crowns" (December JADA).

Dr. Davis states that "endodontic excavation of the coronal one-third of the tooth must be as conservative as possible." This statement and the case presented ignore the endodontic fundamentals of straight-line access to the apex or first canal curvature and allowing pulpal anatomy to dictate the size and shape of the access.

The photograph in Figure 1 depicts an underextended access opening that does not allow mechanical instrumentation of the circumference of the canal (particularly the lingual portion, as the access is underextended at the facial/incisal aspect). The ability to completely remove coronal tissue from the pulp chamber and pulp horns through this opening must also be questioned.

Frequent complications resulting from inadequate access

include missed canals, inadequate cleaning and shaping, perforation, ledge formation, instrument breakage, apical transportation and inadequate obturation, as well as dentinal discoloration from pulpal residue.

In addition, the likelihood of root fracture during obturation may also be increased as the result of increased pressure on canal walls by spreaders and pluggers placed in underprepared canals.

Conscientious practitioners who have performed a significant number of endodontic procedures are familiar with the "as conservative as possible" mentality when making access through crowns and bridge abutments.

However, one must be disciplined in ensuring adequate extension of access openings. The unnecessary removal of sound tooth structure or crown material must certainly be avoided, but proper access is critical to endodontic success.

**Robert M. Rybicki, D.D.S.  
Resident, Graduate  
Endodontics**

**Michael A. Heuer, D.D.S.,  
M.S.  
Director, Graduate  
Endodontics Program  
Northwestern University  
Dental School  
Chicago**

**Author's response:** Drs. Rybicki and Heuer raise highly valid issues regarding technical difficulties encountered with endodontic therapy of teeth with all-ceramic crowns.

Unfortunately, specific problems of all-porcelain crowns do not allow for more idealized access opening. This is usually

possible with all-metal crowns, anterior ceramometal crowns with linguo metal, or teeth without crown coverage.

Straight-line apex access is a nearly universally acceptable technique. Access may be through the incisal edge, occlusal surface, or buccal or lingual if the tooth is angulated. Modern materials and methods provide the ability to restore a variety of endodontic access openings. Composite resins and glass ionomers supply masking opaquers, dentin shades, enamel shades and subsurface maverick tints.<sup>1</sup> Silane, HF and microair abrasion may further condition porcelain prior to restoration.

However, porcelain must have adequate bulk for strength. Apparently ideal access opening for cleaning and obturation thins and undercuts linguo porcelain of all-ceramic crowns. Certainly, this increases the risk of failure from direct contacts of anterior guidance.

More important are indirect stresses of diametral tensile and flexural forces. These stresses are generated from direct and offset incisal loading, which most threaten thin porcelain.<sup>2</sup> Reducing porcelain thickness by a factor of two lowers flexural strength by a factor of four. Ceramic is best lingually accessed at a right angle, creating a peripheral porcelain butt. This preserves maximal material thickness around the access opening.

Drs. Rybicki and Heuer, with their perspectives as prominent endodontists, are to be commended for helping highlight inherent challenges and trade-offs encountered with endodontic treatment with all-ceramic crowns. Because of the materi-

als involved, a seemingly routine case is anything but. Endodontic therapy must factor in restorative materials, occlusion and biomechanics.

**Michael W. Davis, D.D.S.  
Harpowell, Maine**

1. Davis MW. Esthetic direct restoration of endodontic access openings of ceramo-metal crowns. *AACD J* 1997;13(1):34-42.

2. McLean JW, ed. *Proceedings of the First International Symposium on Ceramics*. Chicago: Quintessence; 1983.

#### **SAFETY NEEDLES**

Each year in the United States, approximately 590,000 health care workers are injured by needlesticks.<sup>1</sup> In an effort to protect health care workers from a variety of bloodborne pathogens, the California state legislature passed, and former Gov. Wilson signed, a bill to require that safety needles be used to protect workers from disease. While the reputed goal of this legislation—to improve worker safety—is laudable, virtually no scientific data exist in dentistry to support the use of these so-called “safety needles.”

Dentistry poses unique risks for accidental needlestick injury. In particular, the injection of local anesthetic, performed in the small space of the oral cavity, appears to be associated with increased risk of accidental percutaneous injury, including needlesticks. While most percutaneous injuries in dentistry are superficial, needlesticks appear to be involved in a large number of those injuries that result in deep-exposure incidents (30 percent).<sup>2</sup>

Experiences at the UCSF School of Dentistry have revealed a number of problems with available “safety needle” devices. Those commercial devices targeted for use in dentistry that are available at this

time exhibit a tendency to break when cartridges are changed for a patient or when the needle is resheathed at the end of a procedure.

Moreover, because these “safety needles” have proven difficult to manipulate, and because the needle must be resheathed for each application of anesthetic given (repeated use), the dental care provider must continuously handle the safety device, increasing the danger of an accidental stick.

There are no specific guidelines or criteria that would indicate which features constitute a safety needle device for use in dentistry. As an example, single-handed resheathing (which none of them have) and the ability for repeated injection use are not currently available with these “recommended devices.”

In dentistry, we need a product that takes into consideration the lengths of procedures and the necessity of repeated injection episodes using the same device in the same patient. These new safety devices, so far, do not present a satisfactory advance over traditional injections, because injuries are likely to continue to occur frequently even with such safety devices.

Our experience at the UCSF dental school does not convince us that “safety needle” products currently available will improve the safety of dental health care workers. Proven data from manufacturers on the longitudinal use, efficacy, cost and potential for injury prevention of such devices should be available before we implement the utilization of such devices.

**Charles N. Bertolami,  
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Professor and Dean  
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Molly Newlon, D.D.S.  
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Dental Practice**

1. Jagger J. Estimated annual number of U.S. occupational percutaneous injuries and mucocutaneous exposures to blood or at-risk biological substances. *Adv Exposure Prev* 1998;4(1):3.

2. Ramos-Gomez F, Ellison J, Greenspan D, Bird W, Lowe S, Gerberding JL. Accidental exposures to blood and body fluids among health care workers in dental teaching clinics: a prospective study. *JADA* 1997;128(9):1253-61.

#### **AFFLUENCE AND DENTAL CARE**

I strongly disagree with Dr. Gordon Christensen's observations and core philosophies as presented in the January issue of *JADA*, “Dentistry's Mission and the High-Fee Practice.”

In fact, I find the underlying tone very disturbing to dentistry. He describes an elective dentistry-oriented practice that draws most of its patients from affluent families. Since Dr. Christensen does extensive research in products, this opinion at first glance may sound like a fact. Where did he get his data for this one? Six of seven footnotes referenced his own opinion. I find just the opposite to be true when discussing affluence vs. care.

My very average patients with average means are able to spend for their teeth if they de-

sire. Some patients have money concerns, yet drive new cars. If money were the real issue, we should issue floss to low-income people. Prevention is cheaper, and it is a choice.

I just completed a \$7,800 treatment on a housekeeper who had saved up to pay out of her pocket to see a good dentist. Other patients have asked their family to help when they valued the need for the care. My so-called high-end patients, who drive cars far more expensive than mine, often have mouths full of patch-up dentistry. Some of this care is cosmetic, but only after a healthy mouth is present.

Nowhere in any of Dr. Christensen's model descriptions of a dental practice did I see patient health as criteria. Rather, he seemed focused on doing more things to more people, at a moderate fee. If a patient wants fast and cheap they can sign up for an HMO. The choice is already there.

Many of my patients have a free dentist available by contract but choose to pay me. By definition, capitation offices require high volume (or no volume) to be profitable. He mentions a moderate fee as a standard quite often, and this confuses me. What is Dr. Christensen's definition of a moderate fee? Is this relative to my costs or the patient's income or the patient's expenses at home? No matter what fee we charge, someone will always think it is too high, while others will see it as fair.

Finally, his model of a dental practice for the 21st century would have me chair-hopping for multiple-patient scheduling in several operatories. He references his article titled

"Educating Patients—a New Necessity,"<sup>1</sup> but indicates that his model of care seems not to leave much room for that.

I would not want to practice this way, and the patients that I have attracted would leave me. True, I could see more patients, but drilling on more people faster does not help to make them need less drilling.

Thanks for the viewpoint and your philosophy, but please stick to double-blind studies and product research.

**Stephen G. Blank, D.D.S.**  
Port St. Lucie, Fla.

1. Christensen GJ. Educating patients—a new necessity. JADA 1993;124(8):86-7.

**Author's reply:** I appreciate and respect Dr. Blank's opinions and observations. He seems to have missed one of the most significant aspects of the article. High-quality dentistry is often too expensive for people.

Dentistry can be less expensive for the American public if dentists accomplish high-quality dentistry faster (by optimizing auxiliary use), at a moderate fee—in other words, if practices are more efficient.

Dr. Blank's type of practice is excellent, and I congratulate him for it. I just finished one of my educational videotapes on the types of practice styles in free-enterprise dentistry in which the low-volume, high-fee, high-quality practice is one of the modes. However, as I stated in the article, not everybody can afford to be a patient in this type of practice. High-quality, excellent oral health care can be delivered in several other modes. I've done it for 40 years!

Remember that we're on the same side—fee-for-service den-

tristry. We just accomplish it differently. Go for it!

**Gordon J. Christensen,**  
D.D.S., M.S.D., Ph.D.

#### SUBSIDIZED SCHOOLS

I just read your article about the [cola company's] subsidy of a school ("Outrageous," Editorial, March JADA).

I certainly agree with you about the unhealthy aspects of children drinking this garbage and the resulting caries activity, not to mention weight increase and filling up with non-nutritional foods. But I am sorry you did not emphasize the larger picture, which is much more insidious.

Here is a school that is prostituting itself for money by allowing a large and powerful interest to dictate policies—the least of which is the placement of soda machines. The message they are giving the students is that anyone can be bought if they give enough money.

That message subverts a lot of the good messages that a school is supposed to be giving. How would you feel if a milk company would sponsor this school? Would that make it allowable, since decay is no longer a factor?

We, as a nation, are proud of the separation of church and state. We should also be proud of separating powerful interests who want to influence the public domain such as our school system.

I applaud your article, but it did not go nearly far enough.

**Claude W. Springer,**  
D.D.S.

Great Neck, N.Y.

#### CONTACT POINTS

I read with interest Dr. Christensen's update on com-

posites in dentistry in the February issue of JADA. I would like to mention that the new packable resin-based composites do not form contact points in a predictable fashion, as advertised by some of the manufacturers.

I have been using these materials for about two years, and although the composite resin is easy to handle and adapts well to Class II cavities, achieving a good contact surface and proximal contours still requires the use of a sectional matrix and a

BiTine ring (Darway Inc.). Other methods to obtain contact points may also be useful (that is, a Belvedere composite instrument).

**Thomas P. Keogh, M.D.,  
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