tion in Texas where premiums climbed just 1 percent—nowhere near the 28 percent increase forecasted by those against patient protection.

What may derail PARCA is not the threat of increased premiums but its liability provisions. The insurance companies are obviously concerned because PARCA will hold them liable. Employers also are fearful, even though Rep. Norwood has added a provision that would protect them from malpractice suits.

The battle lines have been drawn. PARCA supporters want those making medical decisions to be held responsible for their actions—even if they are not physicians. Opposing them are the heavily financed insurance and business lobbies, who are stepping up their efforts to defeat PARCA.

It's conceivable that PARCA might not survive in its present form—only time will tell. But even if it doesn't, it has placed the issue of patients' rights on the nation's front burner. Eventually some form of legislation will pass—that's a given. Additional legislative actions will follow and will continue until patient rights are fully acknowledged and protected.

The American Dental Association—its Washington office and its grassroots supporters—should take pride in bringing this issue to national prominence. Others, far better positioned, were unwilling to do so. The ADA's efforts truly represent the wisdom professed in "The Little Engine That Could."

"I think I can ... I thought I could." ■

LETTERS

JADA 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.

CARDIAC CARE

Dr. Roger Alexander has written an excellent and pertinent review of the current state of the automated external defibrillator, or AED, its development and its use outpatient settings ("The Automated External Cardiac Defibrillator: Lifesaving Device for Medical Emergencies," June JADA).

Impedance-compensating, low-energy biphasic waveform devices have been proven efficacious in terminating ventricular fibrillation in out-of-hospital cardiac arrest patients,[1] and are less demanding to use than standard defibrillators.

Training first responders such as police and firefighters to use AED devices appears to be safe and effective, though the training of nontraditional responders has been less convincing.[2]

Although the incidence of acute cardiac events in the dental setting is low, these devices may well become the standard of care and perhaps should occupy a visible place in every outpatient care center, including dental offices.

Dentists should be at least as skilled as traditional first responders in the assessment of the cardiac patient in their offices. This includes having the knowledge and equipment necessary to recognize a cardiac rhythm abnormality and to provide appropriate intervention.

P.M. Loeffler, D.D.S, M.D.
Indianapolis

1. White RD. Early out-of-hospital experience with an impedance-compensating low-energy biphasic waveform automatic external defibrillator. J Interv Card Electrophysiol 1997;1(3):203-10.

2. Riegel B. Training nontraditional responders to use automated external defibrillators. Am J Crit Care 1998;7(6):402-10.

STAVING OFF CYNICISM

For some doctors, today's changes in health care insurance may be so wrenching as to create a dangerous change of attitude.

"Doctors" are now "providers"; accountants rather than doctors decide treatment; and some patients change doctors as often as their socks, provided the doctor is on their list. In such rapidly changing times, cynicism can set in. This is especially true when a doctor's income is threatened.

Cynicism is defined as the state of being derisive or scornful of the motives, virtue or integrity of others or, for that matter, one's self. For some, cynicism is a way of life. For most, thankfully, cynicism is brought out only by dangerous or stressful times—when there is no way out, or the out or the last hope is gone.

Nothing can be worse than the loss of hope. Hope, a vision

or mission for the future, is what gives purpose and direction to life. It is what makes life worth living. When hope is lost, cynicism sets in.

The people who struggled less than 100 years ago to make dentistry a profession understood hope and vision. They sacrificed time, money and effort to achieve their dream.

At a time when the future was unclear, they took an apprenticed trade that took one or two years to learn and transformed it into a highly trained profession, whose mission is to contribute to the improvement of the human condition.

The most important element in this transition was the principle of holding the well-being of the patient paramount. It was taken for granted that a good doctor would be justly rewarded.

Unfortunately today, cynicism has set in and the "every man for himself," "me first" attitude is muddying the waters. We are hearing, "First, I must take care of myself, then I can take care of patients."

How long will it take for the doctor to lose his or her most valued possession: moral authority? Then, the doctor will be only a provider, a tradesman, a worker.

While we strive to correct the problems of health care insurance, we must stick to our professional ethics and principles, even when our income is unsure. Doctors must again be free to present their patients with treatment options. And patients must be free to choose a doctor and treatment based on criteria other than the profit margin of an insurance company. This is especially true in dentistry, where the insurance is only a small stipend anyway.

The return to a free health care system will not occur if doctors act selfishly. When we started dental school, no one guaranteed our incomes. We knew that it would depend on our abilities and hard work. It also depends on the respect we receive from the public. I believe the public will respect a principled professional who treats them fairly, sooner than a self-serving cynic.

Alvin D. Jacobs, D.D.S.
New York

CANCER AWARENESS

I applaud your July 1999 editorial, "One More Time," on the need to improve early detection and treatment of oral cancers.

I, too, have been writing about this matter for some years to boost awareness of this cause of death for more than 8,000 Americans last year.

As a dentist and someone active with the American Cancer Society in New York, I can tell you that the ACS has been lobbying state legislatures across the country to use a portion of the tobacco settlement money for smoking prevention and cessation programs.

Statistics from states where these programs have already been implemented show them to be very effective, especially in getting kids to stop (or not start) smoking. These efforts, which we as a profession should be more actively involved with, go a long way toward cancer prevention.

Educating the public is also vital for better cancer prevention and increased early detection.

Although I have been doing oral cancer examinations routinely with all my patients since dental school, it's only recently that I've made a point of explicitly telling my patients exactly what I'm doing and why. Without exception, the reactions have been positive, and some have confided that they always wondered why I was pulling out their tongue with a piece of gauze during their dental checkups.

This leads me to believe, as you mentioned, that a major factor in the abysmal statistics you quoted is that the vast majority of patients simply do not realize that they have, in fact, been examined for oral cancer during their checkups.

I feel we all need to make a point of telling our patients what we're doing when we check for oral cancer. It often can be the means of opening a dialog with the patient about related issues, such as stopping smoking or getting regular physical examinations from a physician, which can only contribute to better health for our patients.

Alan N. Queen, D.D.S.
Flushing, N.Y.

BATTLING CANCER IN NEBRASKA

In his July JADA editorial, Dr. Lawrence Meskin gave us some timely and salient observations and exhortations on the dentists' role in the early detection of oral cancer. I would like to make some additional observations and suggestions for dentistry's fight against oral cancer.

In 1959, I served as chairman of the Omaha District Dental Society's ADA Centennial Committee. One of our projects was to sponsor one of the first mass oral cancer screenings in the nation. It was a tremendous success, with 150 dentists doing oral cancer ex-

aminations in our civic auditorium at no fee for the public. Promotion of such events is an excellent way to educate our citizens and dentists on the role dentists play in detecting oral cancer.

It is true, as Dr. Meskin states, that many patients are not aware that their dentist has done an examination for oral cancer. They would be more aware of it if, when no lesions are found, dentists would say something out loud such as "no signs of oral cancer."

Dentists will be surprised at the reaction some patients express. "Thank the Lord for that" or "I love to hear that" are not uncommon reactions. It also makes patients more appreciative of the value of periodic oral examinations.

Dr. Meskin mentions the "abysmal record" shown in the Maryland Cancer Register's recent report, which stated 83 percent of oral cancers are diagnosed by nondental personnel. It might not be quite as bad as it sounds.

We must remember that most dentists refer suspicious lesions to physicians for biopsy and final diagnosis and that the physician is frequently the one submitting the report.

When I was president of the American Cancer Society Nebraska Division a few years ago, we surveyed Nebraska dentists as to how regularly they examined patients for oral cancer lesions and how often they discovered cancerous or precancerous lesions.

The results were very encouraging indeed as to the role these dentists actually are playing in the detection of oral cancer. Let us continue our efforts to reduce needless loss of life to oral cancer. It is our responsibility as dentists to do this.

Benton Kutler, D.D.S.
President, Nebraska Dental Association
Omaha, Neb.

BATTLING CANCER IN UTAH

Just a quick note to thank you for your editorial in July JADA. Dentists are on the oral cancer frontlines when it comes to early intervention and resources for help.

You might be interested to know that this year this subject is the primary focus of our continuous quality improvement program, having been designated as such by our association's Board and House of Delegates.

We intend to do everything we can to increase the awareness of dentists, to encourage them to perform thorough diagnoses for oral cancer and to clearly communicate their opinions to patients.

Monte Thompson
Executive Director
Utah Dental Association
Salt Lake City

MORE TO IT THAN SMOKELESS

We read with great interest the cover story in July JADA on leukoplakia and smokeless tobacco, or ST ("Oral Leukoplakia Status Six Weeks After Cessation of Smokeless Tobacco Use," Gary Chad Martin, D.D.S., M.P.H., and colleagues).

The authors are to be commended for their work, particularly as it relates to the oral impact of the cessation of ST use. However, we believe that two major issues demand comment.

Early in the article, data are presented on ST use. This is immediately followed by statistics on oral and oropharyngeal cancer in the United States. Some readers might gather from this that ST is associated with a majority or at least a significant percentage of oral cancer cases. That, of course, is not true.

Most oral cancer in the United States is related to the use of alcohol and/or smoked tobacco products. There is anecdotal evidence to connect ST use with oral and oropharyngeal cancer, but epidemiologic data from this and other countries are not conclusive.

We are not advocates of ST, and we applaud attempts at a reduction in its use. Having acknowledged this, we feel it is critical that the readership of this Journal focus on patients who represent the overwhelming majority of the oral and oropharyngeal cancer cases in the United States.

The second issue is the tremendous attention paid to the relationship between leukoplakia and malignancy. Leukoplakia is usually characterized histologically by hyperkeratosis, which is a common response to local irritants.

This is seen in Dr. Martin's study, in which nearly all of the ST related leukoplakias resolved promptly when the irritant was withdrawn. Even in white lesions, which do contain areas of mild or moderate dysplasia, progression to carcinoma may be difficult or impossible to demonstrate.

In long-term studies of leukoplakias, their association with malignancy is very low (0.13 to 6 percent). By comparison, persistent red lesions, with or without white components, are very likely to be carcinoma in situ or invasive cancer. In a high-risk patient, a persistent red lesion

should be considered cancer until proven otherwise.

We believe that clinicians reading JADA should be cognizant of the most common appearance of early, asymptomatic oral squamous cell carcinoma. While white lesions must not be ignored, an undue focus on leukoplakia may make us less likely to spend the time and energy needed to find far more subtle and far more ominous red changes.

While dentists are probably better equipped and motivated to detect early, asymptomatic oral cancer than are our physician colleagues, recent surveys suggest that there is much room for improvement even in the dental community.

This well-written article provides some important information about ST-related white lesions. The use of ST should not be condoned, particularly in young people, and persistent mucosal alterations of any description should never be overlooked.

Let us remember, however, that neither ST nor white lesions are our worst enemies. Our biggest enemies are cigarette smoking, alcohol abuse and denial on the part of the patient, and our own complacency and unfortunate tendency to miss innocuous red changes on a reddish-pink background.

Hillel Ephros, D.M.D., M.D.
Seton Hall University School of Graduate Medical Education
Paterson, N.J.

Meredith Blitz, D.D.S.
University of Medicine and Dentistry of New Jersey
Newark, N.J.
and Seton Hall University School of Graduate Medical Education
Paterson, N.J.

FROM SOUTH OF THE BORDER

I am a Mexican pediatric dentist trained at the University of Southern California. Your editorial entitled "Capricious Nonsense" (June JADA) hit my neural senses.

As a pediatric dentist, I see my fellow American colleagues putting more kids to sleep, either by sedation or general anesthetic, because they are scared to death of getting involved in a lawsuit by using traditional behavior management techniques like hand over mouth or simply voice control.

I really think that the United States is the greatest country in the world, but definitely some things are really wrong in an absurdly litigious society.

Eduardo A. Ovadia, D.D.S.
Tecamachalco, Edo. de Mexico

EXTRACTION VS. NONEXTRACTION

I read with great interest the August JADA article by Dr. S. Jay Bowman entitled "More Than Lip Service: Facial Esthetics in Orthodontics."

The extraction-vs.-nonextraction argument has been raging since the early 1900s, when Drs. Edward Angle and Calvin Case argued the merits of their own philosophical views. This almost 100-year-old argument still exists today with sometimes more passion than critical thinking fueling the debate.

I am an orthodontist who does extract premolars when I feel it is needed, but only after careful review of each patient's particular case; that is, tooth-size/arch-length discrepancy, dental protrusion, facial characteristics, mucogingival attachment, overbite and overjet, to name a few.

Adopting a totally no-extraction stance is unwise and is not supported in the modern literature. "Arch development" or arch expansion to accommodate severe tooth size-arch length discrepancies can lead to stability problems, mucogingival defects and less-than-ideal esthetic results.

We, as health care professionals, must provide care based on scientific evidence and long-term treatment outcomes, not on political or personal viewpoints based on anecdotal evidence or hearsay.

Just as there are patients who would be better served with a certain restorative material over another, there are orthodontic cases that are better treated by extracting premolars than not extracting them. Obviously, the converse is also true.

The key to successfully making the most appropriate choice for each patient is the ability to make this treatment decision based on sound biological principles, well-conceived and controlled clinical studies, and a careful evaluation of each patient.

My thanks to Dr. Bowen for the thoughtful, well-written article based on a thorough review of the literature.

Todd G. Anderson, D.D.S., M.S.
Alexandria, Minn.

A SECOND OPINION

The time has come to tell it the way it is. I take umbrage that Dr. S. Jay Bowman used his cover article in August JADA as a vehicle to attack general dentists and observant orthodon-

tists who have witnessed in their practices deplorable orthodontic results that have facially and functionally handicapped their patients.

No amount of spin can eradicate these facts. What we are presently seeing are the orthodontic results of a conventional drive technique solution of malocclusion (retraction mechanics of the midcentury) entailing the year and a half of "In and Out" extraction orthodontics. The dental profession should applaud those brave clinicians who had the courage to stand up and say, "Enough is enough."

Early treatment time mechanics with proper diagnosis and treatment planning have dramatically reduced the need for permanent teeth extractions with better facial esthetics and healthy supportive structures as a result.

These clinical results are continually being shown at national meetings and probably would show up more often in so-called refereed literature if it were not for the "Academic Mafia."

All forms of orthodontic care would benefit from scientific research to determine what does and does not work. However, it is a bit backward to require early treatment strategies to meet a higher standard of validation than conventional orthodontic care simply because the conventional is more customary—especially when it almost always contains more risk.

Those of us who have been practicing in this important area of dentistry know what these comments are all about. So leave the spin to the politicians and let us go together into the next millennium looking for better ways to serve our patients.

Leonard J. Carapezza, D.M.D.
Wayland, Mass.

AND A THIRD

The article, "More Than Lip Service: Facial Esthetics in Orthodontics," (August JADA) was refreshingly intellectually honest and sorely needed in current orthodontics.

To reinforce the author's theme, there has developed in the orthodontic culture a dogma that if one can treat without extraction, it's a big deal. And worse, it's used as a selling point to promote case acceptance.

The removal or nonremoval of teeth for orthodontic purposes is neither good nor bad; it's just what's correct. Extraction can be a powerful therapeutic tool with great potential for beneficial change in the dentition, the lip posture and lower facial profile. It's the responsibility of the orthodontist to use it in such a way that this potential is properly directed.

Extraction is one of the most difficult decisions faced by the orthodontist, but it shouldn't be a highly charged subject, obscured by subjective smokescreens of impersonal statistics, personal emotions and specious prognostications of future problems.

The extraction dilemma is further exacerbated by the belief that beyond the patient's inherent normal growth, it may be possible with orthodontic appliances to enhance or retard jaw growth and development, and thereby produce an orthopedic effect either in timing or magnitude, and thus eliminate the need to remove teeth.

A voluminous literature suggests that small changes may be possible orthopedically, but even they may be lost in time and difficult to differentiate from normal variation in growth.

In fact, the objective must be to use a diagnostic analysis and a mechanical force system that ensures that normal growth is not impeded, interrupted or redirected so that normal downward and forward growth and development occurs.

In essence, the prejudice of the operator is not an adequate justification for following a particular course of action. And as the author correctly states, neither are the strong unsubstantiated claims of people who are in a position to influence us.

Robert D. Helmholdt, D.D.S.
Fort Lauderdale, Fla.

EVIDENCE-BASED DENTISTRY

A letter published in August JADA decries evidence-based dentistry as a deceptive new "buzzword," which is "all smoke and no substance."[1]

An experienced dentist who fails to keep abreast of ever-evolving dental science research is akin to a dentist in practice for 30 years who has one year's experience repeated 30 times.

The letter writer should carefully read Dr. S. Jay Bowman's cover story in the same edition of JADA that published [the letter in question]. In his excellent article, Dr. Bowman reviewed evidence-based orthodontics. His research demonstrates that some orthodontists and generalists, beginning in the 19th century, believe that correcting virtually every malocclusion with nonextraction does not achieve superior esthetic results compared with pre-molar extraction orthodontics. Thus, research trumps long-held beliefs.

A dental degree means doctor of dental science, not doctor of theology. The latter extols a belief system notwithstanding any contrary research science.

Atavistic dentists religiously follow (or adhere to) the maxim "a person persuaded against his will is of the same mind still." By contrast, science tests hypotheses to determine if a belief is scientifically sound and provable.

As dental scientists, we should remain open-minded and willing to change beliefs depending on new research, which is evidence-based.

Edwin J. Zinman, D.D.S.
San Francisco

1. Cook TR. Evidence-based dentistry. JADA 1999;130:s1159-60.

LIKED THE LETTER

Although I do not see the connection to political correctness, multiculturalism or ethnic bias, I was pleased to read the letter on evidence-based dentistry in August JADA.

My reaction to this concept is similar. Weren't we all trained in the scientific basis of dentistry? Aren't dental schools mandated to base their curriculum on the most current available knowledge of dental subjects? Hasn't the profession progressed exponentially in many ways as the result of accepted academic methods?

To me, the term "evidence-based dentistry" is a redundancy. I am very proud of the sound scientific basis of my dental education, and I apply it to clinical practice to the best of my ability. The only purpose of this concept that I can see is to serve as an admonition to our colleagues to continue practicing in the manner in which they were trained.

Wayne W. Maibaum, M.A., D.M.D.
Yonkers, N.Y.

FORM FOLLOWS FUNCTION

With regards to the August JADA, it is my observation that there exists a common thread that links three of the published articles. However, this link is missed in all three articles.

"The Role of Cosmetic Dentistry in Restoring a Youthful Appearance"; "More Than Lip Service: Facial Esthetics in Orthodontics"; and "Destruction of Human Teeth" all overlook the underlying issue—that form follows function.

If this freshman biological term is modified to dental terminology—dental esthetics (form) follows proper occlusion (function)—much of what is discussed in each of the three articles becomes blurred.

For example, "The Role of Cosmetic Dentistry in Restoring a Youthful Appearance" and "Destruction of Human Teeth" have much discussion on tooth wear and its detrimental effects. What is missed is the fact that if good occlusal principles exist (for example, if centric relation equals centric occlusion; lateral or canine guidance and anterior guidance are present), then tooth wear is minimal.

There are many 80-year-old people whose dentitions still approximate teen-age teeth! These octogenarians and others who possess minimal wear dentitions all have excellent occlusions that follow the above principles.

Furthermore, tooth wear follows known patterns related to occlusion types. Therefore, it must be that good occlusion minimizes tooth wear. If there is no tooth wear, then teeth must be large and youthful-looking.

On another subject, it is my observation that individuals with good occlusion do not brux or develop temporomandibular disorders. Of the hundreds of TMD patients I have treated, all lacked one or more of the principles of good occlusion. Therein, it may be stated that the goal of cosmetic dentistry and disease prevention should be good occlusion. What follows then is good esthetics. Form follows function.

In regards to orthodontics and facial esthetics, the same principles must apply. It is my observation that the issue of extraction vs. non-extraction and its effects on facial esthetics is moot. The issue should be what treatment gives the patient the best function and most stable occlusion. The best function (occlusion) invariably leads to the best esthetics (form).

It is interesting to note that the author only makes mention that this article is apparently about borderline extraction vs. nonextraction cases [in an illustration] and not in the body of the text. Notwithstanding, it is my experience that many orthodontic cases that involve skeletal problems are treated by extraction. The result is that in attempting to close space, the molars are left above the plane of occlusion, resulting in balancing interferences that lead to avoidance syndrome. This syndrome in turn leads to tooth wear, periodontal disease or TMD. Unfortunately, most fail to recognize this problem.

Attempting to correct skeletal problems by extracting teeth leads to other problems. The most common problem I have

found is that many extraction cases are finished with 1 to 2 millimeters of overbite. It is virtually impossible to gain acceptable anterior and canine guidance with such minimal overbite. This lack of anterior and canine guidance leads to tooth wear over the years.

Whether it be general dentistry, cosmetic dentistry or orthodontics, if the emphasis is on good occlusal principles (function), excellent esthetics (form) will result. Dentists need to think function (occlusion) first and form (esthetics) second.

Warren J. Schlott, D.D.S.
Brea, Calif.

SELF-INTEREST VS. SOCIETAL GOOD

This is in response to "Dentistry's Best and Brightest" (Editorial, August JADA; Dr. Lawrence H. Meskin's graduation address to the Class of 1999, University of Colorado School of Dentistry).

I became enraged by the quotes and advice that were given by Dr. Meskin to the University of Colorado's School of Dentistry, class of 1999. It is yet another example of more socialistic ideas eroding our already diluted capitalistic society. It is hard enough that our politicians are trying to violate our individual rights; we are now being led to socialistic dentistry by one of our own.

Socialism is a philosophy that assumes that government is entitled to take part of the individual's private property (that is, money). This philosophy is based on an incorrect assumption that the individual is sacrificed for the "benefit" of society, and that government is responsible for solving society's problems.

This view is opposite that of our founding fathers, who revered the philosophy that individuals are capable and responsible for solving their own problems, and that the government exists only to protect the individual against fraud and brutality.

Dr. Meskin states that dentists have an inherited "covenant with society" and that, in return for "giving the dental profession a virtual monopoly to provide the public with dental services," practitioners have the "responsibility of placing society's dental needs" ahead of their own personal concerns.

It is true that the government can create monopolies (unfortunately), but it cannot hand out skills. It is the individual who chooses to learn and develop [his or her] ability in order to perform [within the] profession.

Indeed, the government does try to control that which is already established and then expects a favor in return once it gains its control over a profession. The government can do this only with our permission which I, as one individual, refuse to give.

The quote by Dr. Meskin should be found to be very inflammatory, that dentists "have the responsibility of placing society's dental needs ahead of our own personal concerns." Yes, Comrade, from those according to their ability, to those according to their needs. This sounds like Marxism to me.

Dr. Meskin then proceeds to tell a story about a man who has to decide to lie or not. Is this story suppose to prove Dr. Meskin's idea that we are supposed to tell the truth of societal obligations? If Dr. Meskin wants to enlighten the University of Colorado's School of Dental Medicine, he should tell them that honesty, integrity, pride and thoughtfulness will lead them to financial security.

Those with the highest virtues and talent have the right to demand the highest value for the services they provide. I am an honest orthodontist because it is in my self-interest, not because of some absurd, socialistic societal obligation representing backward logic.

Dr. Meskin wants [me] to be "self-sacrificing and look beyond the interests of [myself] and [my] client(s)." And says that I "must look to society as a whole."

Studying to become a dentist is not a sacrifice; it's an investment of my time, money and effort. In return, dentistry allows me to pursue my passion for an art and a science, as well as an opportunity to provide for my family.

I did not choose it as a sacrifice to please society or the government. Dentists, ask yourselves about sacrifice. Sacrifice at whose cost? Sacrifice at whose benefit? Have you ever noticed that it is ultimately the one who benefits the most from those sacrifices who tells you to sacrifice?

I worked diligently to earn my degrees (and I am still paying my student loans). I work hard at what I do to become the best I can be (continuing education, research, read articles and so on).

This self-investment benefits my patients who are counting on me to get the best result for them. They receive excellent treatment, and I get compensated, a value for a value. How

can I look beyond this relationship with my patients, and why should I?

"What will the future hold for you as emerging members of the dental profession?" asked Dr. Meskin. I will tell you this, if we follow Dr. Meskin's socialistic advice, we will be working for the state and not ourselves (we are 50 percent of the way there already, according to the amount of taxes we pay).

Do you think dentistry will be able to attract the best and brightest under socialistic demands? No, they are too smart for this. They will, instead, choose other professions like [builder] H.B. Zachry's. Just count the number of times Mr. Zachry mentions the word "I" in his philosophy. His self-interests have allowed him to know how to live and die. He never mentioned societal obligations or sacrifices.

For the sake of dentistry, I strongly advice Dr. Meskin to read ["Anthem," by Ayn Rand].

Dr. Robert G. Kreashko
Lower Burrell, Pa.

DIGITAL RADIOGRAPHY

In September JADA, there is an article about the potential misuses of digital radiography ("Potential for Fraudulent Use of Digital Radiography," Drs. Andrew Tsang, David Sweet and Robert E. Wood).

After pointing out ways that you can doctor a digital radiograph, the authors states, "We strongly caution against [the insurance industry accepting electronic radiographs] because of how easy it is to produce altered images."

That is like saying that because a few dentists abuse their prescription privileges, we should not be allowed to write prescriptions. Now that a medium such as digital radiography has reached the point of being as good or better to use than conventional radiographs, and the ability exists to expedite the processing of insurance claims, this rationale doesn't really seem to make sense.

L. Scott Brooksby, D.D.S.
Las Vegas

RADIOGRAPHIC HYSTERIA?

The study done by Drs. Tsang, Sweet and Wood (September JADA), using altered digital radiographic images to obtain authorization for unnecessary dental treatment should not have been published by JADA.

It seems that these three dentists are not in full-time dental practice, dealing with dental insurance on a daily basis. If so, they would have realized that dental insurance companies do not need further reason or hysteria to make reimbursement more difficult for those of us in private practice. JADA should have reached the same conclusion.

The authors report that a new form of fraud is emerging. Let me assure them that most dentists do not have the time or the computer expertise to alter images in the manner of their study.

Adobe Photoshop is a complicated graphics program with a steep and long learning curve. Film recorders, reversed images, photographic enlargers and copy film are all out of the realm of the amateur and are expensive and complicated equipment to operate, none of which would usually be found in the dental office.

If a radiograph was sent to a graphics professional or service bureau for image manipulation and final reproduction as a radiographic image, it would involve four different generations of images to obtain the final image, and the costs would be much more than the fee for the single crown.

Most dental plans do not require pretreatment radiographs for restorations and root canals. Altering radiographs to show fractures, decay or periapical pathology is only an exercise in showing that it can be done.

Most dental plans allow small maximum calendar-year amounts. This is a long-standing and not-increasing control already in place by the insurance industry. The authors suggest further controls, saying that the insurance industry should only accept digital images on original software or that an error sign could appear on an image that has been manipulated.

This is not a good solution, as mostly all digital images need contrast or sharpening manipulation. The ability to enhance and enlarge the digital image is the beauty and the advantage of digital radiography.

There are always going to be a very small percentage of unethical dentists who might try to obtain fraudulent reimbursement. I am doubtful that they would make the capital investment necessary for digital radiography. Do the authors really believe that the manipulation of images to show fracture or decay will become a large-scale problem?

Some insurance companies are now accepting electronic claims without radiographs for full crowns. These companies have come to the realization that most dentists are honest,

and that the cost of hiring consultants, reviewing radiographs and returning them exceeds the cost of the occasional crown that would be denied for cosmetic or other reasons.

It is ludicrous that a small, two-dimensional image, either film or digital, is reviewed, usually by a nondentist, who then determines the necessity of treatment of the entire masticatory system.

Instead of working to safeguard the insurance industry against manipulated radiographs, as the authors suggest, dentistry should work toward a simpler method of claim filing and reimbursement without radiographs.

Digital or film radiographs, photographs and intra- and extraoral images should be information we gather about the patient to best treat the patient for optimum oral health. None of these images should be used singularly to determine reimbursement by the insurance industry.

David M. Monen, D.D.S.
Chattanooga, Tenn.

A NOTE FROM INDUSTRY

As a software development company that specializes in dental software, we read with significant interest the article, "The Potential for Fraudulent Use of Digital Radiography" in September JADA.

Obviously, we are as concerned with the potential for fraud as the authors and have gone to great lengths to ensure the authenticity of the images generated by our software.

If a practitioner were to go to the same extreme to fraudulently alter a radiograph as the authors did in the article, it is almost certain that there is significant fraud occurring in that practice in several other areas, many of which relate even more directly to patient care.

Due to the amount of time and effort involved in radiograph manipulation, at least as described by the authors, it is highly likely that the practitioner would seek to defraud patients or insurance companies in ways that would require less effort with a greater potential return.

However, since the potential does exist for some individuals to attempt fraudulent image manipulation, we have developed an unmodifiable, patented image file format that prohibits image tampering, just as the authors mentioned.

If there is an attempt to alter one of our secure images—which is impossible given the encryption and tamper-checking algorithms present in the file format—the image will be rendered useless. (The encryption and tamper-checking mechanisms reduce the probability for successful manual image manipulation to less than 1 in $3.7 \times 10{,}178$.)

So that the secure image is viewable to virtually anyone, we have developed an image "viewer" that enables radiographs and other images to be transmitted to third parties and viewed in their unaltered form.

The recipient of the image does not have to have a copy of our software in order to view the image, since the viewer program is included in the image file itself. (The file size of a typical panoral radiograph and the viewer program, combined, is less than 1.0 megabytes.) Images may be copied to floppy disks or transmitted via electronic means such as e-mail and client/server systems.

Since the guaranteed-secure image can be viewed in a standalone program, and the viewer indicates the authenticity of the image, insurance companies and dentists are assured that the image they are viewing has not been imported into another image editing program and altered in any way.

We have already taken the necessary steps to ensure that insurance companies can view the images in their native format, just as the authors suggest in the article. However, since we include a viewer program with the secure image file, there is no need for the insurance company to purchase and run a copy of our software to view the images. Neither is there a need to develop yet another image "standard" so that everyone can view the images.

We appreciate the opportunity to enter into a dialog concerning digital radiography and the security measures that the software development community is taking to prevent fraudulent image manipulation. The positive steps that have already been taken by companies such as ours will ensure the continued growth of digital radiography and eliminate the concerns expressed by the authors.

Bob Roberts
Vice president, Sales and Marketing
Apteryx Inc.
Akron, Ohio