

# JOURNAL *of the*

MASSACHUSETTS DENTAL SOCIETY

Spring 2006



Are Your  
Patients  
Protected?



## THE RULE OF REASON

ONE OF THE MOST DIFFICULT DECISIONS WE FACE IN DAILY PRACTICE IS WHETHER TO attempt to save a questionable tooth by means of endodontic treatment (or perhaps retreatment) and complex restorative care, or whether to recommend extraction and replacement with prosthesis.

The list of issues to consider when making this decision is potentially endless, but some questions might include:

- What will be the ultimate, effective crown/root ratio if surgical crown exposure is needed?
- How much supportive tooth structure will there be after endodontic treatment?
- How will we stabilize the occlusion after extraction and before implant restoration?
- What alternate treatment plans will also meet the patient's needs?
- How healthy is the patient?
- How compliant is the patient?
- What are the patient's expectations?
- What is the ultimate cost to the patient?

As dentists, we are trained to preserve and restore a person's dentition with attention to comfort, function, and good esthetics. We are obliged to help our patients protect themselves from dental disease. As our technical and technological capabilities have progressed, the planning needed to reach these goals has become more complex.

We live in an age of unprecedented scientific growth and product availability. Some advancements are simply technologies looking for valid clinical application. Others have great promise but have yet to demonstrate any worthwhile advantage over conventional methods, which are also constantly improving. Change for the sake of change rarely proves to be satisfactory.

The movement for evidence-based dentistry will certainly prove advantageous in the decision-making process. As editors, we receive many submissions extolling the virtues of new technologies, but for the most part, we find little in the way of proof of value or long-term benefits.

Research and materials science have allowed dentistry to offer patients myriad beneficial new techniques and products, with continuous refinements to both. It will remain to be seen which of these will prove to be clinically useful in the long term.

How easy it would be for us if we had a numerical formula to solve the very human clinical problems in decision-making that we face daily. In restoring a person's oral health, it is critical to consider our proven methods while simultaneously looking to new advancements in formulating the treatment options we offer. While we, as dentists, are accustomed to achieving overwhelmingly positive outcomes in every procedure we perform, we must learn to accept the fact that we cannot save every tooth or solve every patient's problems in an ideal manner.

We must try to differentiate our reasonable expectations from those that are unreasonable. This will be beneficial to our patients' health and will contribute greatly to our own sense of well-being in the practice of our profession. ■

*David B. Becker*

*Arthur I. Schwartz*



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## WHY THE WORLD IS SHELL SHOCKED

**I**N THE 1970S AND 1980S, LARGE CUTS IN OIL SUPPLY SENT shockwaves throughout the market; once supply was restored, the price returned to normal. Today's oil crisis is very different; prices have doubled within the last two years and are not likely to return to their previous level. While tremors in supply are once again a factor, including those caused by the hurricanes in the Gulf of Mexico and the loss of supply in Iraq resulting from the U.S. invasion, the real cause of today's energy crunch has been 25 years in the making: The world's demand for oil has grown faster than the industry's ability to satisfy it. In essence, the factors affecting the dynamic of supply and demand in today's oil marketplace have rewritten the rules of the game.

The world's insatiable thirst for oil, led by an emerging China and India, has multiplied faster than the industry can produce it. Currently, there is precious little spare capacity left even among OPEC (Organization of Petroleum Exporting Countries) producers. In fact, some analysts are even skeptical that Saudi Arabia, the one member nation of OPEC that alleges it has spare capacity, is accurately disclosing its reserves.

According to some of the world's most respected analysts, the key factors that are responsible for the current oil crunch are:

- OPEC's obsession with avoiding market crashes
- The oil industry's emphasis on profits over new discoveries
- China's ever-increasing oil demand
- The existing U.S. dependence on crude oil
- The new role of investors in shaping energy markets (including a Saudi Arabian oil minister, Chinese yuppies, and a British oil baron)

The oil market has faced many price increases over the years, but some analysts suggest that the increases to come may make the previous ones pale by comparison. ■

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**GEORGE GONSER, MBA**

*Mr. Gonser is managing director of MDSIS.*

## THE STATE OF MASSACHUSETTS HEALTH INSURANCE—SPRING 2006

I WROTE AN ARTICLE SIMILAR TO THIS ONE A FEW YEARS AGO AND I feel that an update is in order. Since many dental offices renew their health insurance plans in the spring, it is only fitting to update the MDS membership as to what is happening in the industry and why insurance costs keep rising. With many industry experts predicting double-digit insurance premiums in 2006, many businesses are asking the following questions.

### **Why are insurance premiums continuing to rise?**

While there are many reasons for the premiums continuing to rise, the following are among the most important:

- *Medical inflation*—Medical inflation was held in check in the early to mid-1990s by aggressive recontracting of fee schedules. The savings essentially set up the industry for 5 to 6 years of single-digit premium increases. During that time, carriers began to heighten their expansion plans to other states and product lines. However, prescription drug costs were skyrocketing in excess of 20 percent annually and the provider community was heightening its resistance to further cost-cutting measures by the carriers. As the late 1990s rolled around, costs quickly began to overtake the gains and the result was the poor financial situation that plagued the industry from 1998 to 2001.
- *Life expectancy*—People are living longer. That is a good thing. However, in living longer, they draw from the health-care system longer, and with more costs.
- *Prescription drugs*—Prescription drug costs have risen 18 to 21 percent over the past 6 to 10 years. The advertising, technology, and scripts being utilized in treatment plans versus expensive and intrusive surgical alternatives have all resulted in high utilization and expense to the carriers.
- *Mandated benefits*—While many of the mandated benefits, such as no preexisting conditions for HMOs in Massachusetts, are wonderful for consumers, they are costly. We are lucky to have arguably the best care in the world here in this state; however, we pay more than any other state for our healthcare.
- *Consumer education*—Surprisingly, many subscribers are still utilizing emergency rooms as their primary source of care. The costs of doing so are staggering. Subscribers must be educated as to how and where to utilize their care. Due to the subscribers' lack of education and care, carriers are imposing penalties such as higher ER deductibles and more deductibles in general to cut costs and curb improper plan utilization. As costs continue to rise, plans will impose more deductibles, which will force consumers to consider their choices and decisions—creating larger financial repercus-

sions. This paradigm shift is known as consumer-directed care. Get to know this concept; you will be hearing more and more about it in the future.

### **As consumers, what can we do about the increasing cost of health insurance?**

Because Massachusetts is a difficult state for carriers to write insurance in due to restrictions, mandated benefits, guarantee issues, etc., the options have been decreasing, not increasing. Increases in costs are expected to be in the 10 to 12 percent range. To combat these increases, dental practice owners should look at a few items:

- What are your co-pays? If you have a \$10 co-pay, it may be worth looking into a higher co-pay. By implementing this change, businesses will see a savings on monthly premiums.
- Would your office be willing to take on a deductible? Carriers have introduced \$1,000 and \$2,000 deductible plans. These allow for co-pays for office visits, but X-rays and other ancillary charges would go against the deductible. Once the deductible is met, coverage would be 100 percent thereafter.
- How about switching to a stricter HMO from a preferred provider organization (PPO) or point-of-service (POS) plan? Switching to a more restrictive HMO plan can save you upwards of 10 to 15 percent.
- What about a health savings account (HSA)? HSAs work in conjunction with high-deductible plans by setting up an HSA that rolls over unused amounts each year and is funded by pretax dollars by employers, employees, or a combination of both. While the HSA concept has taken hold in certain parts of the country, it hasn't done so in New England—yet.
- Health insurance is a key employee retention and recruitment tool. Simply terminating the plan is really not an option because it will leave people uninsured and will jeopardize the office composition and livelihood.

### **Get the Right Help**

Securing the best agent/broker is essential in managing your insurance programs. MDS Insurance Services, Inc., navigates the insurance marketplace for you. MDSIS offers the following group benefit products: health insurance; life and accidental death and dismemberment insurance; short- and long-term disability insurance; Section 125 plans (POP/flex/dependent care); health savings accounts; Medicare supplement and Part D plans; and travel insurance.

To find out more about our products and services and how we can work with you, contact MDSIS at (800) 821-6033 or visit [www.mdsis.org](http://www.mdsis.org). ■





## PEER REVIEW

### DAVID LEADER, DMD

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## WHAT IS ALL THIS COMPLAINING?

**D**URING A RECENT CHECKUP, A PATIENT NOTES THAT SHE gets food stuck between two molars with some regularity. This is not a major problem for her. She says that it is easy to clean the area with a piece of floss, which she always carries with her.

On examination, her dentist notices that the two teeth in question, the upper left first and second molars, have a very loose contact. Her dentist provided one crown a few years ago and another one last year. Have the teeth drifted apart? Did he cement a crown with a poor contact last year? Does it matter? There is no easy way to fix this problem. He will have to remove one crown and refabricate it. The patient is not in a hurry to participate in perfecting this contact, so the patient and dentist decide to leave it alone for now.

This is a common situation. Dentists strive for perfection. Sometimes management and financial pressures weigh against doing a procedure again, and sometimes patients complain to the Massachusetts Dental Society. The Peer Review system handles these complaints.

When a patient files a complaint with the Massachusetts Dental Society, that complaint opens a peer review file. MDS staff members copy the files. Copies of the file go to the state peer review chair and the district peer review committee, and the original material stays in the Massachusetts Dental Society headquarters in Southborough. Upon conclusion of the complaint, the district committee and the state chair destroy their copies. The MDS keeps the original material for seven years on advice of legal counsel. Files that are less than two years old are in the charge of one MDS staff member. The MDS stores files that are two to seven years old on-site. MDS staff members maintain the security of the files and shred the files at the end of their service life.

Peer review is an informal, “non-legal” complaint resolution process. The files are only available to members of the peer review team, including volunteer dentists, and a few members of the Massachusetts Dental Society staff. Peer review files and staff are immune to subpoena by outside agencies and individuals. State and federal laws protect the privacy of peer review.

A review of the complaints filed in 2004 turns up some statistics that may be instructive. Forty-two written complaints are on record for that year, and the written complaints break down into 61 separate concerns. Some of the complaints express more than one issue.



An analysis of the various complaints shows that none of the complaints refers to implant treatment, veneers, periodontal treatment, or large cosmetic cases. Orthodontics, pediatrics, informed consent, or treatments of temporomandibular dysfunction or pain only play a part in one or two complaints each.

More patients report trouble with single-appointment restorations, endodontic treatment, and denture treatment. However, together these complaints account for only about a quarter of those made in 2004. The procedures that account for more than half of the complaints in 2004 are crowns and fixed bridges, with nearly half of those complaints referring to crowns with poor marginal adaptation or poor interproximal contacts.

All of the above complaints originate with patients. In many cases, the patients complain about treatment only after a subsequent dentist discovers a problem on another visit. Many of the peer review resolutions support the treating dentist.

The lesson most of these cases teach is that the best way to prevent a patient from complaining outside the treating dentist’s office is to take all patients’ concerns seriously, and to police one’s own treatment.

Look for errors. Insist on making corrections even when the patient is not certain that he or she would like to have them done. When there is a treatment error such as an open margin on a crown and the patient refuses to allow the treating dentist the chance to correct the error, record that refusal in the patient’s chart.

After seeing the above information, the doctor in this article’s opening example—an actual case—set up an appointment to replace a crown to close the diastema. Neither dentist nor patient wants to replace this crown, but it is the right thing to do. The correction will prevent future dissatisfaction and disaffection in this dentist-patient relationship. ■

# Yankee Dental



REACHING  
EXCELLENCE

YANKEE  
DENTAL  
CONGRESS<sup>®</sup> 31

## REFLECTIONS ON YDC 31



It is gratifying to see that two years of hard work have culminated in a successful meeting on so many levels. In particular, the comments I received from attendees regarding the quality of the scientific program, as well as the special events, continue to contribute to the Yankee reputation as a premier experience for the entire dental team. More than anything, the changes we have made this year reflect a change in mindset that we can reach beyond what we thought possible to have the largest attendance ever, in a quality meeting framework. We will continue to innovate for our attendees as we plan for our expansion to the BCEC in 2008.

Robert Faiella, DMD  
*MDS President*

# Reaching

*Journal of the Massachusetts Dental Society*



# Yankee Dental Congress 31



It was our intention to make a statement with Yankee this year: Yankee is getting bigger and better. Based on the final attendance numbers, I feel this goal was achieved. This year, we drew a record number of doctors, which I feel is largely due to the high quality of clinicians and courses offered and programs, such as our YDEC Specialty Symposia, that were created to attract doctors who may not have attended in the past, along with their practice team.

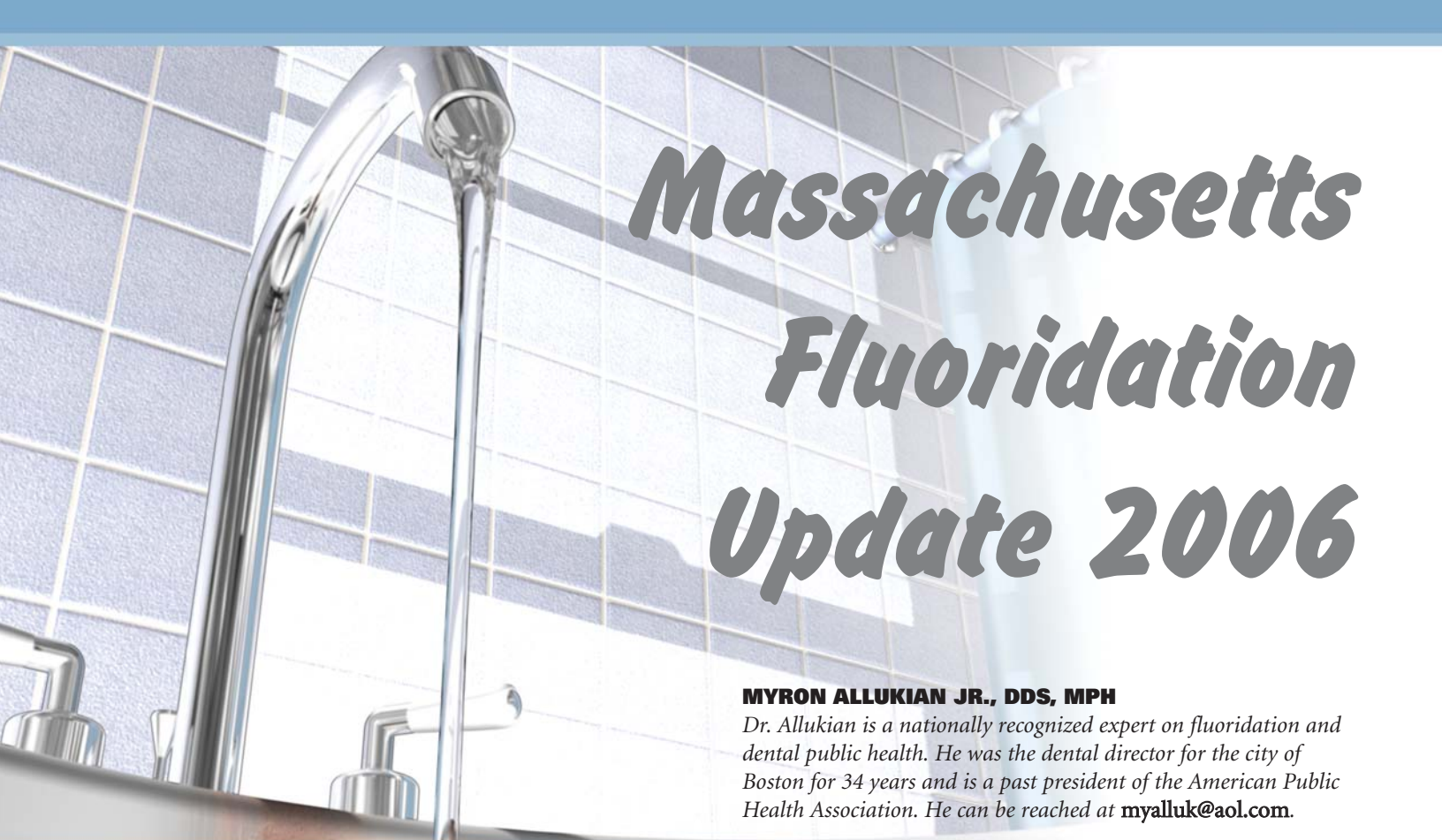
In addition to a high-quality educational program, we enjoyed some of the best special and cultural programming ever put together by any dental convention. Red Sox Manager Terry Francona drew a record crowd to Opening Ceremony; author Jody Picoult and author/personality Dr. Ruth Westheimer both drew sold-out audiences; and Jerry Seinfeld created a huge increase in Yankee's visibility. With everything combined, I believe that the level of expectations for Yankee took a big leap in one year.

With that said, I want to address the concerns I heard this year regarding the upcoming move to the Boston Convention and Exhibition Center in 2008. Some people have expressed to me their concerns that the move to the new facility would create a downward trend for Yankee. I think just the opposite is true. It's apparent that Yankee is ready and able to grow, but it needs room to do this. We are bursting out of our current space with well over 28,000 attendees. The new venue provides Yankee the space to reach new heights. We've already proved this by using the space to host one of the biggest comedy icons for entertainment. In context with Yankee's primary goal of education, we will be able to do the same with our scientific and allied programs. The bigger and more state-of-the-art venue will allow us to offer even more sophisticated forms of information, instruction, and professional growth all under one roof.

Michael Cognata, DMD  
YDC 31 General Chair

# Excellence





# Massachusetts Fluoridation Update 2006

## **MYRON ALLUKIAN JR., DDS, MPH**

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**T**his year, more than 3.8 million people living in 137 communities in Massachusetts will have the health and economic benefits of community water fluoridation (see Table 1).<sup>1</sup> However, Massachusetts is ranked only 35th in the country for fluoridation, with just 63 percent of our population on public water supplies living in fluoridated communities. Nationally, more than 170 million Americans, or 67.3 percent, of the U.S. population on a central water supply live in fluoridated communities.<sup>2</sup> The goal in Healthy People 2010, the United States' national health objectives to increase the quality and years of healthy life and to eliminate health disparities, is that 75 percent of the U.S. population will live in fluoridated communities by the year 2010.<sup>3</sup> Sadly, it appears unlikely that Massachusetts will reach this goal. However, this goal could be achieved nationally, as the San Diego area metropolitan water districts, affecting approximately 17 million people, have already agreed to fluoridate and are expected to become fluoridated in the next few years.

Although there has been some activity to move ahead with fluoridation in Massachusetts in recent years, progress has been slow for a variety of reasons. In order to achieve fluoridation for a community, the decision-makers and the public need to be well informed. A low-key educational campaign that may take several years, depending on the community involved, is necessary to dispel misinformation and achieve success. For example, the City of Worcester had a referendum vote on fluoridation in 2001; however, it was defeated for the fourth time with 56 percent of the vote in opposition. Although a significant amount of money was spent to achieve fluoridation, not enough time was spent to adequately educate all the constituents, given the history of strong antifluoridation sentiment in the city since the 1950s. In contrast, the effort to achieve fluoridation for Boston was an eight-year effort<sup>4</sup> and the movement to fluoridate the San Diego area began in the 1980s. This is not to imply that that many years are needed to fluoridate every community; both the Greater Boston and San Diego water districts are very large and complex. Every community has its own unique characteristics and decision-making process, but a low-key educational effort for all constituencies about fluoridation is a must.

### **Fluoride Misinformation and the Internet**

Due to the Internet, there is much more misinformation readily available to the public today on fluorides and fluoridation than in the past. This results in healthcare professionals having to spend more time to properly educate the public and policymakers on the health, safety, and economic benefits of fluoridation. When one "Googles" the word "fluoride," there are more than



**Table 1: 137 Massachusetts Communities Receiving Water Fluoridation—2006**  
**Fluoridated at 1 ppm—1 part fluoride per million parts water (ppm) or mg/l**

City/Town	Year of Start-up	2000 Population	City/Town	Year of Start-up	2000 Population
Acton	1970	20,331	Millis	1983	7,902
Acushnet***	2006	10,161	Milton*	1978	26,062
Amesbury	1968	16,450	Nahant*	1978	3,632
Amherst	1987	34,874	Natick	1997	32,170
Andover	1969	31,247	Needham (FL)*	1971	28,911
Aquinnah (WHA part)	1996	80(E)	New Bedford***	2006	93,768
Arlington*	1978	42,389	Newbury (Part)	1969	1,000(E)
Ashburnham	1957	5,546	Newburyport	1969	17,189
Athol	1952	11,299	Newton (FL)	1963	83,829
Attleboro	1973	42,068	Norfolk (Part)	1977	40(E)
Bedford	1978	12,595	North Andover	1975	27,202
Belchertown (part)	1987	243(E)	North Attleboro	2002	27,143
Belmont*	1978	24,194	Northborough	2001	14,013
Berlin (SP Mall only)	1997	—	North Reading	1971	13,837
Beverly	1952	39,862	Norwood*	1978	28,587
Billerica	1992	38,981	Oak Bluffs	1991	3,713
Boston*	1978	589,141	Orange (Part)	1975	120(E)
Bourne (Otis ANG)	1960	1,000(E)	Oxford	1987	13,352
Bridgewater (MCI)	1989	2,230	Peabody	1983	48,129
Brookline*	1978	57,107	Pelham (Part)	1987	309(E)
Burlington	1993	22,876	Pembroke	1969	16,927
Cambridge (FL)*	1974	101,355	Plainville (Part)		
Canton	1978	20,755	Quincy*	1978	88,025
Charlton**		150(E)	Reading	1970	23,708
Charlton (Part)	1996	150(E)	Revere*	1978	47,283
Chelsea	1978	35,080	Rockport (Part Natural)	1984	7,767
Cohasset	1956	7,261	Royalston (Part) (SRIC)**		400(E)
Concord	1970	16,993	Rutland	1985	6,353
Danvers	1951	25,212	Salem	1952	40,407
Dedham	1977	23,464	Saugus*	1978	26,078
Dighton (Part)	1971	2,200(E)	Scituate	1954	17,863
Dover (Part)	1997	159(E)	Seekonk	1952	13,425
Dracut	1982	28,562	Sharon	1953	17,408
Dudley (Part)**		45(E)	Shrewsbury	1953	31,640
Duxbury	1987	14,248	Somerset	1969	18,234
Essex	1970	3,260	Somerville*	1978	77,478
Everett*	1978	38,037	Southborough	1996	8,781
Fall River	1973	91,938	Southbridge	1971	17,214
Fitchburg	1975	39,102	Stoneham*	1978	22,219
Framingham (FL)*	1970	66,910	Sturbridge	1990	7,837
Franklin	1970	29,560	Sudbury	1960	16,841
Freetown Water Co.	1978	2,500(E)	Swampscott*	1978	14,412
Gardner	1987	20,770	Swansea	1969	15,901
Gloucester	1981	30,273	Taunton	1981	55,976
Groveland	1995	6,038	Templeton	1951	6,799
Hamilton	1956	8,315	Tewksbury	1983	28,851
Hardwick-EHS**		50(E)	Topsfield	1953	6,141
Haverhill	1971	58,969	Tyngsboro	1987	11,081
Hingham	1953	19,882	Wakefield*	1978	24,825
Holden	1995	15,621	Walpole	1977	22,824
Holliston	1970	13,801	Waltham*	1978	59,226
Holyoke	1970	39,838	Watertown (FL)*	1971	32,986
Hudson	1985	18,113	Wayland	2000	13,100
Hull	1953	11,050	Wellesley	1987	26,613
Ipswich	1971	11,873	Wenham	1967	4,440
Lawrence	1983	72,043	Westborough	1974	17,997
Lexington*	1978	30,355	Westfield (White Oak SH)**		—
Lincoln	1971	7,666	Westford	1994	20,754
Longmeadow	1989	15,633	Westminster	1968	6,907
Lowell	1982	105,167	West Newbury	1969	4,149
Lynn	1983	89,050	Weston (FL)*	1973	11,469
Lynnfield (FL)*	1972	11,542	Westport (Part)	1975	1,000(E)
(Lynnfield Center)	1959		Westwood	1977	14,117
Malden*	1978	56,340	Weymouth	1972	53,988
Manchester-by-the Sea	1983	5,228	Winchester (FL)*	1956	20,810
Mansfield	1997	22,414	Winthrop*	1978	18,303
Marblehead*	1978	20,377	Woburn (Part)*	1978	20,615(E)
Marlborough	1982	36,255	Worcester (Part)	1995	250(E)
Medford*	1978	55,765			
Medway	1953	12,448			
Melrose*	1978	27,134			
Middleton	1951	7,744			
			<b>Total Population Natural &amp; Adjusted</b>		<b>3,869,799</b>

\* – Members of the Massachusetts Water Resources Authority (MWRA) fluoridated in 1978 (old MDC)

\*\* – Naturally fluoridated at .7 or higher ppm

\*\*\* – Expected to fluoridate in mid-2006

(Part) – Communities partially fluoridated—check with local water department/board of health

(FL) – Fluoridating prior to MDC

(E) – Estimated population served

Prepared by: Massachusetts Department of Public Health—Office of Oral Health

[www.mass.gov/dph/fch/looh.htm](http://www.mass.gov/dph/fch/looh.htm)

Updated January 2006



5.4 million references; the first six are negative sources with misinformation, while entry number 7, the American Dental Association (ADA), is the first credible resource, followed by number 9, the National Center for Fluoridation.<sup>5</sup> In other words, of the first 10 references to come up, only two are credible resources. The findings are similar for the words “fluoridation,” “water fluoridations,” and even “fluoride toothpaste.” For the phrase “community water fluoridation,” the first 10 references are credible. When “tooth brushing” is used as a control, there are 3.2 million hits, with no negative references in the first 20. What this means is that the public or decision-makers who wish to learn about fluoridation end up receiving a lot of misinformation that could confuse them, create doubts, or convince them there is something wrong with fluoridation, when in fact, nothing could be further from the truth.

### **Recent Antifluoridation Activity and the Harvard Study**

In June 2005, the Environmental Working Group (EWG) petitioned the National Institutes of Health to list fluoride in tap water as a carcinogen based on “new data” from a Harvard School of Dental Medicine study.<sup>6</sup> The EWG is a Washington, DC, advocacy organization that has been characterized as “a peddler of fear . . . using unsound science to foment health scares . . .”<sup>7</sup> On July 22, 2005, the *Wall Street Journal* published an article titled “Fluoridation, Cancer: Did Researchers Ask the Right Questions?”<sup>6</sup> The article reported, “Questions about fluoridation have returned with renewed vigor because of allegations of scientific misconduct against a prominent researcher at the Harvard School of Dental Medicine.” The article goes on to say that “a study done by a doctoral student at Harvard reported an increase in the risk of osteosarcoma in boys who had lived in fluoridated communities.”

The alleged misconduct arose because the student’s professor had stated in writing to the National Research Council that there was no evidence that fluoridation increased the risk of osteosarcoma, a rare form of bone cancer that occurs in about 400 Americans each year. The student’s study had not been published or submitted for peer review. According to the ADA, “the student

notes in her thesis that there are several limitations to her study and recommends that the findings be confirmed with data from other studies . . . she notes that the study may not accurately reflect the actual amount of fluoride consumed by study subjects.”<sup>8</sup>

This is not the first time in the history of fluoridation that antifluoridationists have tried to confuse the public with misleading information and limited or non-peer-reviewed studies. The Harvard student’s retrospective study was part of a much larger study that is more sophisticated and includes bone specimens. If public policies were changed to allow one limited, nonpublished paper done by one student to dictate policy, we would be living in a very chaotic society. The bulk of the evidence released by previously published studies on cancer, osteosarcoma, and fluoridation show no evidence of a relationship. Even the *Wall Street Journal* article stated, “to be sure, one study proves nothing.”<sup>6</sup>

The media likes to present both sides and the antifluoridationists take advantage of this. In August 2005, a letter was sent to the Environmental Protection Agency (EPA) administrator and key congressional committees calling for a nationwide moratorium on fluoridation, citing the Harvard student’s study.<sup>9</sup> The EPA responded by stating, “EPA is aware of this work . . . it must be considered . . . scientific information must undergo independent peer review before being included for EPA decision making . . . and dose response evaluation is needed.”<sup>10</sup> Two months later, in October 2005, *Time* magazine published an article titled “Not in My Water Supply,” which reiterated the Harvard allegations and the alleged concerns about fluoridation.<sup>11</sup>

Once the full Harvard study is completed, one expects that it will show, as previous reputable studies have shown, no relationship between osteosarcoma and fluoridation. The American Cancer Society and the National Cancer Institute continue to recognize the public health benefits of fluoridation.

### **Overwhelming Support for Fluoridation**

The safety, health, and economic benefits of fluoridation have been well documented.<sup>12,13</sup> As a matter of fact, the U.S. Centers for Disease Control and

Prevention have called fluoridation “one of the top 10 public health achievements of the 20th century.”<sup>14</sup> More than 100 major reputable health and scientific organizations and agencies in the United States and abroad, including the World Health Organization, have recognized the public health benefits of fluoridation (see Table 2).<sup>12</sup> Since 1950, when the U.S. Public Health Service first endorsed community water fluoridation as a beneficial public health measure, every U.S. Surgeon General henceforth has also supported it.

In spite of the overwhelming evidence and more than half a century of fluoridation safety and benefits, there is still resistance to fluoridation. January 25, 1945, was the first day of adjusted community water fluoridation in the United States. This means we have had 60-plus years of experience with fluoridation, with millions of people in more than 10,000 water systems. We have yet to see any credible evidence of the allegations that have been made concerning negative health effects of fluoridation over the years. The allegations have ranged from “a Communist plot” to AIDS, cancer, heart disease, birth defects, allergies, mutagens, and kidney failure. In the past, these allegations have been refuted by reputable scientists, studies, organizations, agencies, and the courts, and they continue to be refuted today.<sup>15-19</sup> The National Research Council is currently reviewing all the recent studies on fluoride to determine whether there is a need to change the EPA’s maximum contaminant level of fluoride for a public water supply, which is now 4 parts per million—four times greater than the recommended level for fluoridation. This report is expected to be available in 2006.

### **History of Fluoridation in Massachusetts**

In 1950, the U.S. Public Health Service and the ADA recommended fluoridation as a public health measure. One year later, in 1951, the first three Massachusetts communities became fluoridated: Danvers, Middleton, and Templeton. These communities now have a total population of approximately 39,755.<sup>1</sup> From 1951 to 1956, another 14 communities became fluoridated, adding a population of about 257,811.<sup>1</sup>



**Table 2: National and International Organizations That Recognize the Public Health Benefits of Community Water Fluoridation for Preventing Dental Decay<sup>12</sup>**

Academy for Sports Dentistry	Canadian Dental Association
Academy of Dentistry International	Canadian Dental Hygienists Association
Academy of General Dentistry	Canadian Medical Association
Alzheimer's Association	Canadian Nurses Association
America's Health Insurance Plans	Canadian Pediatric Society
American Academy of Family Physicians	Canadian Public Health Association
American Academy of Nurse Practitioners	Child Welfare League of America
American Academy of Oral and Maxillofacial Pathology	Children's Dental Health Project
American Academy of Orthopaedic Surgeons	Children's Health Fund, The
American Academy of Pediatric Dentistry	Chocolate Manufacturers Association
American Academy of Pediatrics	Consumer Federation of America
American Academy of Periodontology	Council of State and Territorial Epidemiologists
American Academy of Physician Assistants	Delta Dental Plans Association
American Association for Community Dental Programs	Dental Health Foundation (of California), The
American Association for Dental Research	FDI World Dental Federation
American Association for Health Education	Federation of American Hospitals
American Association for the Advancement of Science	Hispanic Dental Association
American Association of Endodontists	Indian Dental Association (U.S.A.)
American Association of Oral and Maxillofacial Surgeons	Institute of Medicine
American Association of Orthodontists	International Association for Dental Research
American Association of Public Health Dentistry	International Association for Orthodontics
American Association of Women Dentists	International College of Dentists
American Cancer Society	March of Dimes Birth Defects Foundation
American College of Dentists	National Association of Community Health Centers
American College of Physicians	National Association of County and City Health Officials
—American Society of Internal Medicine	National Association of Dental Assistants
American College of Preventive Medicine	National Association of Local Boards of Health
American College of Prosthodontists	National Association of Social Workers
American Council on Science and Health	National Confectioners Association
American Dental Assistants Association	National Council Against Health Fraud
American Dental Association	National Dental Assistants Association
American Dental Education Association	National Dental Association
American Dental Hygienists' Association	National Dental Hygienists' Association
American Dietetic Association	National Down Syndrome Congress
American Federation of Labor and Congress of Industrial Organizations	National Down Syndrome Society
American Hospital Association	National Eating Disorders Association
American Legislative Exchange Council	National Foundation of Dentistry for the Handicapped
American Medical Association	National Head Start Association
American Nurses Association	National Health Law Program
American Osteopathic Association	National Healthy Mothers, Healthy Babies Coalition
American Pharmacists Association	National Kidney Foundation
American Public Health Association	Oral Health America
American School Health Association	Robert Wood Johnson Foundation
American Society for Clinical Nutrition	Society for Public Health Education
American Society for Nutritional Sciences	Society of American Indian Dentists
American Student Dental Association	Special Care Dentistry
American Veterinary Medical Association	—Academy of Dentistry for Persons with Disabilities
American Water Works Association	—American Association of Hospital Dentists
Association for Academic Health Centers	—American Society for Geriatric Dentistry
Association of American Medical Colleges	U.S. Department of Defense
Association of Clinicians for the Underserved	U.S. Department of Veterans Affairs
Association of Maternal and Child Health Programs	U.S. Public Health Service
Association of State and Territorial Dental Directors	—Centers for Disease Control and Prevention (CDC)
Association of State and Territorial Health Officials	—Health Resources and Services Administration (HRSA)
Association of State and Territorial Public Health Nutrition Directors	—National Institute of Dental and Craniofacial Research (NIDCR)
British Fluoridation Society	World Federation of Orthodontists
	World Health Organization



In 1957, the Massachusetts state legislature passed a law requiring a public vote—a binding mandatory fluoride referendum—before a local board of health could order fluoridation. From 1957 to 1967, while this law was in effect, only five communities, with a combined population now of 94,815, implemented fluoridation. The City of Cambridge voted for fluoridation and implemented it in 1960—and then voted it out in 1963. This was due to an intense anti-fluoridation campaign that included a postcard with a picture of a dead rat that was mailed to every household right before the vote.

In 1967, Massachusetts was ranked 48th in the country for fluoridation, with only 8.2 percent of the population on public water supplies living in fluoridated communities.<sup>20</sup> That same year, a Special Legislative Commission on Dental Health recommended and filed a bill calling for the mandatory fluoridation referendum to be repealed and stating that upon the recommendation of the State Commissioner of Public Health, a local board of health may order fluoridation.<sup>21</sup> After an intense and successful educational effort by the dental, public health, and health communities, the bill passed the state legislature in 1968.<sup>22</sup> The new fluoridation law also allowed a public vote if 10 percent of the registered voters filed a petition within 90 days of the public notice of the fluoridation order. The vote would then have to be on the ballot at the next town or city election. This fluoridation law has essentially been the same since 1968.

From 1968 to 1997, 78 communities implemented fluoridation as a result of 135 fluoridation orders by 112 communities.<sup>23</sup> Another 18 communities also became fluoridated due to a shared water supply or fluoridation orders that were not documented. Thus, during this time frame, another 3.1 million people were living in fluoridated communities.<sup>23</sup> Studies of anti-fluoridation activity were done during that time.<sup>24,25</sup> The largest increase in the number of people with fluoridation occurred in 1978, when the 33 cities and towns of Greater Boston, now affecting 2.5 million people, became fluoridated after a well-planned and well-organized community effort. During that eight-year period, about 70 bills were filed in the state legislature to stop or weaken fluoridation efforts; all were defeated.<sup>4</sup>

Only three communities became fluoridated in the period from 1998 to 2005: North Attleborough, Northborough, and Wayland, a total of 54,256 people. In November 2000, the voters in North Attleborough approved fluoridation in a public referendum, 59 percent to 41 percent. In 2005, the North Attleborough Board of Health invited three known anti-fluoridationists from out of state to speak in their community. In 2006, this board of health plans to file a suit in Superior Court to discontinue fluoridation.<sup>26</sup> Although one would expect that there is no merit to this lawsuit, it will be up to the courts to decide. Also, in January 2006 the Yarmouth Board of Health decided against fluoridating its community's water supply at this time.<sup>27</sup> New Bedford and Acushnet are expected to implement fluoridation by mid-2006, adding another 103,929 people living in fluoridated communities.

## Major Cities and Towns

All of the largest cities and towns in Massachusetts are fluoridated, except for five: Barnstable, Brockton, Chicopee, Springfield, and Worcester, with a total population of about 526,852 (see Table 3). (New Bedford is expected to be fluoridated in 2006.) Fluoridation has been defeated four times by referenda in Worcester, was ordered in Brockton in 1972 but never implemented, and was defeated 2-1 by referendum in Springfield in 1983. It has never been ordered in Chicopee or Barnstable; Cape Cod and western Massachusetts have very few fluoridated communities. Fluoridation activity in Massachusetts in recent years had been quite limited, until 2005.

## Mandatory Fluoridation Bill

In December 2004, Health Care for All, a consumer advocacy organization that has an Oral Health Advocacy Task Force made up of both dental and nondental

**Table 3: 2006 Fluoridation Status of the 25 Most Highly Populated Cities/Towns in Massachusetts**

City/Town	Population* 4-1-2000	Fluoridated	Year Implemented
Boston	589,141	Yes	1978**
Worcester	172,648	No	—
Springfield	152,082	No	—
Lowell	105,167	Yes	1982
Cambridge	101,355	Yes	1974
Brockton	94,304	No	—
New Bedford	93,768	No	—***
Fall River	91,938	Yes	1973
Lynn	89,050	Yes	1983
Quincy	88,025	Yes	1978**
Newton	83,829	Yes	1963
Somerville	77,478	Yes	1978**
Lawrence	72,043	Yes	1983
Framingham	66,910	Yes	1970
Waltham	59,226	Yes	1978**
Haverhill	58,969	Yes	1971
Brookline	57,107	Yes	1978**
Malden	56,340	Yes	1978**
Taunton	55,976	Yes	1981
Medford	55,765	Yes	1978**
Chicopee	54,653	No	—
Weymouth	53,988	Yes	1972
Peabody	48,129	Yes	1983
Barnstable	47,821	No	—
Revere	47,283	Yes	1978**

\*Source: <http://www.citypopulation.de/USA-Massachusetts.html>; accessed January 31, 2006.

\*\*Members of Massachusetts Water Resource Authority

\*\*\*Expected to fluoridate in mid-2006

individuals, was instrumental in the submission of a statewide mandatory fluoridation bill, HB-2633 and SB-122. This bill—titled “An Act to Improve the Oral Health of Children and Other Residents of the Commonwealth”—would require all municipal water supplies in Massachusetts serving more than 5,000 people to become fluoridated. Subject to appropriation, the Massachusetts Department of Public Health would pay reasonable expenses for compliance with this law. The public hearing was held in October 2005.

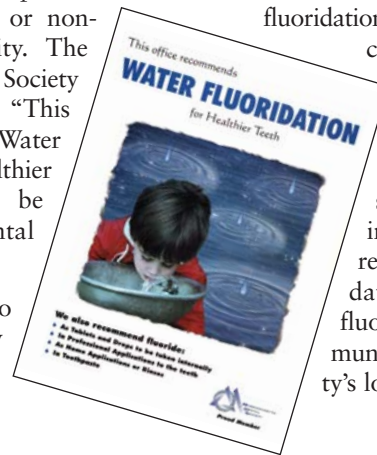
This bill was developed and submitted without a long-term, low-key education effort of constituencies and decision-makers. As a result, it stimulated and organized the antifluoridationists in Massachusetts, instilling doubts about fluoridation among state legislators. The proponents of the bill requested it be put into “study” rather than be voted on. For such a mandatory fluoridation law to be approved, a well-thought-out strategy and education plan needs to be developed.

### What Dental Professionals Can Do

The following are recommendations for what dental professionals—dentists and hygienists—can do to improve a commu-

nity’s knowledge and attitudes toward fluoride and fluoridation:

- Be well versed on the facts of fluoridation. There are many different resources for this information, including reputable sources on the Internet (see Table 4). One of the best is the ADA’s Fluoridation Facts, which was just updated in 2005.<sup>12</sup> It includes well-documented information on such topics as benefits, safety, public policy, and cost-effectiveness.
- Continue to educate patients on the safety, health, and economic benefits of fluoride and fluoridation. This should be done whether the dentist practices in a fluoridated or nonfluoridated community and irrespective of whether his or her patients live in a fluoridated or nonfluoridated community. The Massachusetts Dental Society has produced a sign “This Office Recommends Water Fluoridation for Healthier Teeth” that should be posted in every dental office.
- Make a special effort to educate community leaders and decision-makers on the bene-



fits of fluoridation. A previous study of Massachusetts legislators showed that although most of them saw a dentist on a regular basis and were prevention oriented, they received most of their information on fluoridation from people against this preventive measure, not their own dentists.<sup>25</sup> If dentists cannot answer questions about fluoridation asked by decision-makers, they may obtain information from the resources listed in Table 4 or Fluoridation Facts.<sup>12</sup>

- Prescribe systemic fluoride drops and tablets for patients 6 months to 16 years of age who live in nonfluoridated communities (see Table 5). This should be done routinely, and the parents of these children should be educated on the benefits of fluoride and fluoridation. A copy of the Massachusetts Department of Public Health’s “Listing of Fluoridated Communities in Massachusetts” (see Table 1) should also be available in every dental office as a reference. For more up-to-date information on the fluoridation status of a community, contact the community’s local board of health.

**Table 4: Fluoridation Information Resources**

Agency/Organization	Web Address	Phone Number
Local Board of Health	Check your local listings	Check your local listings
Massachusetts Dental Society	<a href="http://www.massdental.org">www.massdental.org</a>	(800) 342-8747
Massachusetts Department of Public Health—Office of Oral Health	<a href="http://www.mass.gov/dph/fch/ooh.htm">www.mass.gov/dph/fch/ooh.htm</a>	(617) 624-6074
American Dental Association (ADA)	<a href="http://www.ada.org/goto/fluoride">www.ada.org/goto/fluoride</a>	(800) 621-8099, ext. 2860 CAPIR*
U.S. Centers for Disease Control and Prevention (CDC)	<a href="http://www.cdc.gov/oralhealth">www.cdc.gov/oralhealth</a>	Email <a href="mailto:oralhealth@cdc.gov">oralhealth@cdc.gov</a>

\*CAPIR is the Council on Access, Prevention, and Interprofessional Relations.

**Table 5: Recommended Dietary Fluoride Supplement Schedule**

Age of Child	Concentration of Fluoride in Drinking Water (ppm)*			Preparation
	<0.3	0.3–0.6	>0.6	
6 months–3 years	0.25 mg**	0	0	Drops
3–6 years	0.50 mg	0.25 mg	0	Tablets
6–16 years	1.0 mg	0.50 mg	0	Tablets

Amounts recommended by the American Dental Association, American Academy of Pediatrics, and American Academy of Pediatric Dentistry, 1994

\*1.0 part per million (ppm) = 1 milligram per liter (mg/l)

\*\*2.2 mg sodium fluoride contains 1 mg fluoride ion



- If you live or practice in a nonfluoridated community, find out what can be done to move your community toward fluoridation. For assistance, contact any of the Massachusetts resources listed in Table 4. The ADA also has an excellent planning manual, titled “Community Organization for Water Fluoridation,” and it also has a Community Water Fluoridation Resource Kit that is very helpful and quite comprehensive.
- Become involved in the leadership of your local community. Massachusetts has more than 300 local boards of health, but less than a handful have a dentist or hygienist as a board member. The majority of board members are interested laypersons. Dental professionals need to become more involved in the leadership of their local communities, whether as members of the board of health, school board, library board, or town meeting.

## Summary

Massachusetts has a long history of activity with community water fluoridation. Although the state has 3.8 million people living in 137 fluoridated communities, there are more than 2 million people who do not have these benefits. The Bay State is ranked 35th in the country regarding the percent of people on public water supplies with fluoridation. We can do better than that.

We have more than 60 years of experience receiving the health and economic benefits of fluoridation in our country; however, there is still a lot of misinformation about fluoridation, and the unreliable nature of information posted on the Internet exacerbates much of this misinformation.

Dental professionals, their patients, and decision-makers must be continuously educated about the safety, health, and economic benefits of community water fluoridation. Patients from 6 months to 16 years of age living in nonfluoridated communities should be prescribed supplemental fluoride. Dental professionals in nonfluoridated communities should assist them to become fluoridated. All dental professionals need to become more involved in the leadership of their communities. ■

## Author's Addendum National Research Council Report Doesn't Affect Community Water Fluoridation

As this issue of the JOURNAL was going to press on March 22, 2006, the National Research Council, National Academy of Sciences released its report, “Fluoride in Drinking Water: A Scientific Review of EPA Standards.” The purpose of this review was to determine if the Environmental Protection Agency’s (EPA) current maximum contaminant level goal (MCLG) at 4 parts per million (ppm) fluoride should be changed for naturally fluoridated communities.

The committee recommended that the goal be lowered to protect against severe dental fluorosis. Severe dental fluorosis doesn’t occur in communities where the fluoride level is lower than 2 ppm. The EPA will now have to determine what the maximum contaminant level (MCL) should be based on benefit, risk, cost, and practicality. (The MCLG is a goal and nonenforceable, whereas the MCL is a limit that *is* enforceable by the EPA.) The committee had no new data for this recommendation but reinterpreted previous data. This report does not affect community water fluoridation at the recommended level of 0.7 to 1.2 ppm, but antifluoridationists may use excerpts of this report to confuse the public.

For more information about fluoridation and this study, please visit [www.ada.org](http://www.ada.org). ■

## References

1. Office of Oral Health. Available from: <http://www.mass.gov/dph/fch/ooh.htm>. Accessed 2006 Feb 2.
2. Centers for Disease Control. Water Supply Statistics; 2002 National Oral Health Surveillance System, Atlanta; 2002 Dec 31.
3. US Department of Health and Human Services. Healthy People 2010, Chapter 21. Oral health. Washington: US Government Printing Office.
4. Allukian M, Dunning JM, Steinhurst J. Community organization and a regional approach to fluoridation of the Greater Boston area. JADA 1981;102:491-3.
5. www.google.com. Accessed 2006 Jan 15.
6. Begley S. Fluoridation, cancer: did researchers ask the right question? Wall St J, Sci J;2005 Jul 22.
7. Cohen BR. The environmental working group—peddler of fear. Washington: Capital Research Center; 2004 Jan.
8. American Dental Association. ADA statement on fluoridation and bone cancer; 2005 Jul 22. Available from: [http://www.ada.org/prof/resources/positions/statements/fluoride\\_bonecancer.asp](http://www.ada.org/prof/resources/positions/statements/fluoride_bonecancer.asp).
9. Welch DA, Hirzy JW, et al. Bone cancer-fluoride link. Letter to Honorable Stephen L. Johnson, Administrator, US Environmental Protection Agency, Coalition of US EPA Unions; 2005 Aug 5.
10. Ohanian EV. Letter to Mr. Dwight A. Welch and Mr. J. William Hirzy, US Environmental Protection Agency, Washington; 2005 Aug 29.
11. Roosevelt M. Not in my water supply. Time 2005 Oct 24:62-3.
12. American Dental Association. Fluoridation facts. Chicago: ADA; 2005. p 69.
13. Allukian M, Horowitz AM. Effective community prevention programs for oral diseases. In: Gluck G, Morgenstein W., editors. Jong’s community dental health. 5th ed. St. Louis: Mosby Press; 2002. p 237-76.
14. Centers for Disease Control. Ten great public health achievements—United States, 1900-1999. MMWR 1999 Apr;48:12.
15. Elwell KR, Easlick KA. Classification and appraisal of objections to fluoridation. Ann Arbor (MI): University of Michigan; 1960. p 8.
16. Consumer Reports. Two-part report on fluoridation, part I: the cancer scare; part II: the misleading claims. Consumer Rep 1978 Jul-Aug:8.
17. Wulf C, Hughes KF, Smith KG, Easley MW. Abuse of the scientific literature in an antifluoridation pamphlet. 2nd ed. American Oral Health Literature 1988:184.
18. Report of the Ad Hoc Subcommittee on Fluoride of the Committee to Coordinate Environmental Health and Related Programs, Public Health Service. Review of fluoride, benefits and risks. USHHS 1991;2:134.
19. National Research Council. Health effects of ingested fluoride. Washington: National Academy Press; 1993. p 181
20. US Department of Health, Education, and Welfare. Fluoridation census 1967. USPHS, Division of Dental Health; 1968.
21. Commonwealth of Massachusetts. Report of the special commission on the condition of dental health. State House, Boston; 1967.
22. Allukian M. Fluoridation; a continual struggle in Massachusetts. Harvard Dent Alumni Bul 1968;28:77-80, 84.
23. Hendricks JR, Allukian M. Water fluoridation in Massachusetts: a 30-year review. J Mass Dent Soc 1998;47(2):8-10, 12-4, 16-7.
24. Allukian M Jr., Frankel JM. Sixteen referenda on fluoridation in Massachusetts: an analysis. Pub Health Dent 1973;33(2).
25. Allukian M, Ackerman J, Steinhurst, J. Factors that influence the attitudes of first-term legislators in Massachusetts toward fluoridation. JADA1981;104(4):494-6.
26. DeMelia A. NA Board reviewing fluoride suit. Sun Chronic 2006 Jan 11.
27. Salters C. Yarmouth says no to fluoridation. Yarmouthport Register 2006 Jan 26.

## Take Advantage of the MDS Discount!

Based on the combined buying power of its membership, the MDS has secured a variety of business discounts for you to take advantage of. Be sure to ask for your “MDS discount.”

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# Ten under 10

*F*or the second year and as part of what is now an annual feature, the Massachusetts Dental Society Standing Committee on the New Dentist and the *JOURNAL OF THE MASSACHUSETTS DENTAL SOCIETY* are highlighting 10 dentists who have been in the profession for 10 years or less—"The Ten Under 10." These profiles highlight the issues facing new dentists as well as the changing demographics in dentistry. The Ten Under 10 dentists were surveyed about the many different and sometimes challenging aspects of the profession that the new dentist faces on a daily basis. These dentists have generously shared their experiences on everything from how to balance work and family, to the importance of gaining patients'—and colleagues'—trust, to the benefits of providing care to those less fortunate.

*To qualify for selection, dentists must have graduated from dental school in the past 10 years and have made a significant contribution to the profession, their community, or organized dentistry. A call for nominations was sent to MDS member dentists in September (nominees are required to be current MDS members), and nominations were reviewed and final selections chosen by the MDS Standing Committee on the New Dentist in November.*

*Congratulations to these young dentists, the profession's future.*





## Anjum A. Ansari, DMD

**RESIDENCE:** Waltham  
**OFFICE LOCATION:** Milford  
**SPECIALTY:** General dentistry  
**EDUCATION:** Temple University  
School of Dentistry; general  
practice residency at  
Northwestern University

### What was the biggest challenge/obstacle you experienced when you began your professional career?

The biggest challenge for me was finding an existing office that really complemented my practice philosophy, as well as finding people who believed in my abilities. It is very easy to question your abilities when everyone else is. It took me a long time to find a practice where I was comfortable with the other clinician and was able to flex my dental muscle.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

The biggest reward I have experienced is the respect I get from people when I tell them I am a dentist and that I am actively involved in the MDS. As an American female whose parents emigrated from India, I am truly grateful for all the opportunities I have been afforded. As early as two generations ago in India, it was highly uncommon for a woman to be a professional and in a position to care for herself and her family if the need arose.

The fact that I am a professional and am able to contribute to the greater good as well as being empowered financially is quite an accomplishment.

### What advice would you give to a student graduating from dental school this year?

Do the best dentistry you know, have compassion for your patients, and never stop learning. Don't think you know everything—always look for more ways to improve your knowledge of the profession. Enjoy your practice and protect your ability to practice dentistry at all costs.

### How do you balance your professional and personal lives?

I always take some time just for me—this helps me to better prioritize work and family obligations. I want everything that I do to be the best I can. If I find that I am not giving my all to something, I have to regroup and approach the task differently or just lighten my load.

### Where do you see yourself in 10 years?

Owning my own practice and staying active with the MDS. I would like to continue encouraging new dentists to get involved with organized dentistry. Our profession and those who came before us have worked so tirelessly to ensure we have such prestige. We owe it to future generations to keep the face of dentistry current, relevant, and engaged with the general population. ■



## Nicole Balthazar, DMD

**RESIDENCE:** North Falmouth  
**OFFICE LOCATION:** Forestdale  
**SPECIALTY:** General dentistry  
**EDUCATION:** Tufts University  
School of Dental Medicine

### What was the biggest challenge/obstacle you experienced when you began your professional career?

One of the biggest challenges for me was opening my private practice. Choosing the right dental supply company and computer software for your practice can be stressful. Planning and organization will get you to the opening day. Also, the business end of your practice, understanding the thousands of different insurance companies, and the variations of each patient's benefits takes time. This is not something you learn in school. Marketing my practice and examining the geographical area and patient needs helped me build my practice quickly.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

One of the biggest rewards of being a dentist is being able to educate my patients. Building relationships with my patient base has put my practice where it is today. Teaching at our local college in the dental hygiene program has been rewarding, as I get

to see the students graduating and moving into the dental field. On a personal level, my husband and I have had great opportunities to meet fellow professionals who share our same interests.

### What advice would you give to a student graduating from dental school this year?

If there is a student searching to open his or her own dental practice shortly after graduating, the best advice I can give is as follows: Take a practice management course; understanding what your software will do for you will make your office grow and keep it organized. Take a course with Delta Dental. Spend some time with a local dentist and see how his or her office runs on a daily basis. Join the local dental society in your area. And become a member of the MDS.

### How do you balance your professional and personal lives?

Time management. If you haven't taken a course in time management, do so! "The One Minute Manager" series by Kenneth Blanchard is great.

### Where do you see yourself in 10 years?

In 10 years, I see myself enjoying life with my family and friends. My practice will be even more established with active patients. I will remain a teacher at the college, as I really enjoy teaching. ■



## Ryan M. Clancy, DMD

**RESIDENCE:** Lynnfield  
**OFFICE LOCATION:** Medford  
**SPECIALTY:** General dentistry  
**EDUCATION:** Tufts University School of Dental Medicine; AEGD, Tripler Army Medical Center, Hawaii, U.S. Army

### What was the biggest challenge/obstacle you experienced when you began your professional career?

Committing to eight years in the Army before starting dental school was a daunting thought. But when I look back on that decision and those years, I wouldn't change anything. The education and training that I received while at Tufts and in the military are priceless.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

My greatest reward has to be returning home to my wife and family in early 2004 after a one-year deployment to Iraq. Knowing that my family was worried, without hearing from me for long periods of time or knowing where I was located, was tough. Over the course of one year we were able to provide

frontline dental care to U.S. soldiers, coalition soldiers, contracted civilians, and Iraqis. Looking back on those days, I take great pride in knowing that through great sacrifice we contributed a small part to our country's overall mission and goals.

### What advice would you give to a student graduating from dental school this year?

You have entered a great profession at a great time. Stay involved in organized dentistry as you transition from student to professional. Complete a residency, if at all possible. Maximize continuing education for lifelong learning.

### How do you balance your professional and personal lives?

I balance them with great care. I truly believe that one can negatively affect the other if you are not careful. Setting goals, working hard, and rewarding myself are some of the ways that I maintain balance.

### Where do you see yourself in 10 years?

I see myself continuing to grow both professionally and personally. I plan to stay active in organized dentistry. In my future, I do see trying some aspect of teaching to have an additional positive impact on others. ■



## William J. "BJ" Coakley III, DMD

**RESIDENCE:** Leominster  
**OFFICE LOCATION:** Fitchburg  
**SPECIALTY:** General dentistry  
**EDUCATION:** University of Medicine and Dentistry of New Jersey

### What was the biggest challenge/obstacle you experienced when you began your professional career?

I was very fortunate when I began my professional career because I immediately went into practice with my father. The biggest challenge for me was remaining patient. Like most new graduates, I was eager to use all that I had learned in school in the "real world" setting, but it took patience and time for those opportunities to present themselves.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

My personal relationships have been my biggest reward. My work environment has provided me with many new relationships over the past four years. Being able to work closely with my father and mother every day has allowed our relationship to evolve to another level. My father has been practicing general dentistry in our community for more than 30 years, and my mother is a dental hygienist who has been right there with him building their practice for all that time. The confidence that they and the rest of our staff have shown in me from the beginning has allowed me to grow into a better doctor and a better person.

### What advice would you give to a student graduating from dental school this year?

I would advise dental students to be honest with themselves and confident in their abilities, to take advantage of any and all opportunities to expose themselves to new techniques and experiences in dentistry. I didn't realize how much I would draw on those experiences every day in practice. Most of all, I would tell them to enjoy it. Looking back, dental school was such a great experience and I made such solid friendships. You start to miss those long days in clinic with your classmates a couple years after you're out!

### How do you balance your professional and personal lives?

I believe that if you are not happy personally, this will affect you negatively professionally. The satisfaction I get out of my personal life carries over into my work. I feel as though I have a positive attitude about life, and in turn, that outlook extends to my work. I love going to work every day; I enjoy the challenges that dentistry brings and the people I get to work with.

### Where do you see yourself in 10 years?

Professionally, I see our practice continuing to grow. I hope to become more involved with the groups I am currently involved with, such as the MDS Standing Committee on the New Dentist.

Personally, I've learned that you never quite know what life has in store for you, and not to ignore any opportunities for new experiences . . . so I'm happy to say that I don't know where I'll be in 10 years personally, but I can promise you it'll be fun getting there! I do hope to get my golf handicap into the single digits, though! ■





## John J. Giordano, RDH, DMD

**RESIDENCE:** Holden  
**OFFICE LOCATION:** Worcester  
**SPECIALTY:** General dentistry  
**EDUCATION:** Tufts University School of Dental Medicine; University of Texas Health Science Center, Center for

Research and Education in Forensics

### What was the biggest challenge/obstacle you experienced when you began your professional career?

The financial strain of balancing student loans with daily living expenses, the inability to obtain disability insurance essential to professional security due to prior illness, and a youthful appearance were all obstacles. My very first patient, a 68-year-old woman, said to me when I walked in and introduced myself, "Are you old enough to be doing this?" I use humor often and so without skipping a beat I responded: "No, I'm not even a dentist." She gave me a puzzled look and then we both laughed.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

Professionally, it was a huge milestone when I bought into my practice and built my new office in 2004. The day the new office

was finished, I sat alone in my new operatory and just took it all in, realizing how lucky I have been. Personally, the genuine appreciation of my patients in the practice and their trust in my abilities reward me daily. In the forensic realm, the first identification I did on human remains made me realize I was here for a purpose. All the hard work to get to this point was well worth it.

### What advice would you give to a student graduating from dental school this year?

Stay true to your professional ethics and treat every patient with dignity and compassion. Success comes easily after this.

### How do you balance your professional and personal lives?

Balance is hard to achieve. I believe if you have the ability to recognize when one part of your life is imposing on another, you're ahead of the game. I try not to discuss business outside the office, and I try to make time for my wife and myself daily. Without the daily support and understanding of my wife, I'm not sure I would know what balance is.

### Where do you see yourself in 10 years?

I would like to have the ability to spend additional time on the academic side of forensics and dentistry. Overall, I would prefer to take one day at a time and report back in 10 years! ■



## Dorothy (Deedee) Gurin, DMD

**RESIDENCE:** Boston  
**OFFICE LOCATION:** Milton  
**TEACHING:** Boston University School of Dental Medicine  
**SPECIALTY:** General dentistry  
**EDUCATION:** Boston University School of Dental Medicine; Forsyth School for Dental Hygienists

### What was the biggest challenge/obstacle you experienced when you began your professional career?

When I began my career, the biggest obstacle for me was putting it all together. In four years of dental school, you are stuffed with all of this knowledge that you need to figure out on your own. You leave the security of a big institution to practice in a small dental office that seems so much larger. All of the knowledge that I acquired in four years was coming out all at once! It was a challenge to sort through it all and practice to the best of my abilities. As dentists, I think we are very hard on ourselves.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

Gaining the respect and trust of patients, peers, coworkers, and family has been my biggest reward, personally and professionally, since leaving dental school. Furthermore, I am fortunate in that I enjoy my profession. Every morning, I awake knowing that my days will be filled with enriching experiences.

### What advice would you give to a student graduating from dental school this year?

If I were to give any advice, it would be to always ask for advice! I would advocate that they work with colleagues whom they respect. Throughout their careers, mentors will help guide them as they gain experience and face new challenges. I am fortunate to still have my mentors, who are an immense part of my life.

Additionally, I would encourage them to give back to their profession by volunteering, in the community where they practice, with the MDS and their local dental society, through non-profit organizations, and in underserved areas.

### How do you balance your professional and personal lives?

As dentists, we do spend more time in our offices than we do at home. This makes it arduous to maintain equilibrium between our professional and personal lives. The balance for me comes from overlapping my career with my personal life. Since we love to travel together, my husband always joins me at the educational meetings I attend. Last year, we went to both the ADA meeting and the AGD meeting. He even took a CE course at YDC 31.

### Where do you see yourself in 10 years?

In 10 years, I foresee that I will be in a practice that continues to flourish, that I will continue to volunteer in organized dentistry, that I will go on to help those who are in need, and that I will remain involved in academics. These different aspects of dentistry reward me with a sense of balance in my profession. ■



## Minaj Naimi-Riahi, DDS

RESIDENCE: Brighton  
OFFICE LOCATION: Boston  
SPECIALTY: General dentistry  
EDUCATION: University of the Pacific School of Dentistry

### What was the biggest challenge/obstacle you experienced when you began your professional career?

Within a year of graduating from dental school, I purchased an existing practice. The most challenging part was transitioning from only concentrating on the dental needs of my patients to addressing and learning how to run the business end of a dental office. I had to really learn how to interact with the staff, not so much as a coworker anymore but as an employer. Some of the key staff members had more than 15–20 years of dental office experience and were much older than I am. Being only 27 and coming from a culture where respect for the elderly is so highly regarded, it was very difficult for me to implement and enforce change. I had to quickly gain the confidence needed to lead.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

One of the greatest aspects of dentistry is that most of the procedures give patients immediate results. Over the past few years, I

have really enjoyed focusing on the cosmetic/esthetic area of dentistry. To be able to restore teeth for patients who had been embarrassed to smile and reestablish their self-esteem is very rewarding.

### What advice would you give to a student graduating from dental school this year?

There is a world of dental procedures and concepts that is not taught in dental school. When you graduate, you are a safe beginner. It is so important to be open to learning what has worked for other dentists. Be a sponge and absorb as much information as you can from your colleagues.

### How do you balance your professional and personal lives?

I try very hard not to bring home the stresses of work. It helps that my husband is also a dentist, and he understands the daily challenges of practicing dentistry. We both have a great passion for our profession but have also learned to keep active in our personal hobbies.

### Where do you see yourself in 10 years?

Working in a multidisciplinary office has really given me the tools to provide comprehensive treatments for my patients in one setting. I would like to start a mentorship program where dental students can observe how important this service is to patients' overall care. ■



## Kevin Leonard Peterson, DMD

RESIDENCE: Boston  
OFFICE LOCATION: Brookline  
SPECIALTY: Endodontics  
EDUCATION: Boston University School of Dental Medicine

### What was the biggest challenge/obstacle you experienced when you began your professional career?

The biggest challenge I faced when I began my professional career was applying to clinical practice all the theory and knowledge I had learned in my studies. During our studies we are presented with the many principles of all the disciplines of dentistry, and upon graduation we are asked to apply all that we have learned to those who seek our services. Specializing in endodontics has afforded me the opportunity to focus on one discipline, while keeping in mind the theories the other specialties have to offer.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

Our lives as dentists are intertwined with both professional and personal aspects. My greatest reward professionally has been my involvement with organized dentistry. My involvement with both the state dental and endodontic societies has helped me to greater appreciate my responsibilities as a dentist and an endodontist.

Personally, the greatest reward that I have experienced since leaving dental school has been the help and care I provide for patients. Being an endodontist, I am able to help patients suffering from debilitating discomfort. The service we provide proves invaluable when you see the patients leaving the office happier than when they arrived or when you call them later on the phone and they thank you for taking such good care of them.

### What advice would you give to a student graduating from dental school this year?

My advice for any graduating student from the dental school would be not to forget ethics. It is what is best for patients.

### How do you balance your professional and personal lives?

The perfect balance for my professional and personal lives begins with happiness. It is important to enjoy and appreciate the office and the family that support your endeavors. Furthermore, the values from my personal life are the same that I apply in my professional life, and vice versa. Achieving this balance will ultimately lead to great happiness.

### Where do you see yourself in 10 years?

In 10 years, I see myself being an even better endodontist. The clinical knowledge that we gain with years of practice will only make us better clinicians. I also see myself enjoying the advancements that dentistry and endodontics will develop with time and research. ■





## Sara Runnels, DMD, MD

**RESIDENCE:** Milton  
**OFFICE LOCATIONS:** Walpole, Dedham, and Wellesley  
**SPECIALTY:** Oral and Maxillofacial surgery  
**EDUCATION:** Tufts University School of Dental Medicine; MD from Columbia University

### What was the biggest challenge/obstacle you experienced when you began your professional career?

As a petite woman, I am constantly asked by many of my patients (and by some referring doctors) whether I have enough experience and physical strength to perform my job. It challenges me to be my best to ensure that these patients have a great experience so that any doubts they have in me are erased completely. I also take care of some of the players for the New England Patriots, and these big athletes, conversely, never seem to question my size or gender!

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

Since my residency, I have been involved with a group called Healing the Children. This national organization provides free surgical care to children in developing countries with cleft lip,

cleft palate, and other facial deformities, people who would otherwise not have access to medical services.

### What advice would you give to a student graduating from dental school this year?

Make the most of any educational opportunities you can before you start in practice. The confidence you gain with extra education will make you more successful both professionally and personally. Try to keep up with the latest literature and techniques. And if you can, become board certified in your specialty.

### How do you balance your professional and personal lives?

For me, the key is good communication with loved ones. Fortunately, I married a wonderful man (an emergency physician in Boston) who allows me to “talk shop” at home. In addition, I find that stress relievers like regular exercise or other hobbies help make me more sane and relaxed.

### Where do you see yourself in 10 years?

I hope to continue to help our private practice grow, to keep up with the latest techniques, and to continue to learn about oral and maxillofacial surgery and medicine. I hope to become a well-experienced, skilled cleft surgeon. I am also hoping to volunteer with one of the local teaching institutions, and hopefully inspire more young women to become oral surgeons. ■



## David Mitchell Singer, DMD

**RESIDENCE:** Reading  
**OFFICE LOCATIONS:** Boston and Lynnfield  
**SPECIALTY:** Endodontics  
**EDUCATION:** Tufts University School of Dental Medicine

### What was the biggest challenge/obstacle you experienced when you began your professional career?

Probably one of the biggest challenges, at first, was learning how to gain the patient’s confidence quickly. I joined a well-established practice where patients had high expectations for their care, and they were sometimes leery of a specialist who looked young. In endodontics, we often meet the patient and finish treatment in one visit, so there isn’t much time for establishing rapport. Additionally, the patients are often pretty nervous anyway, or in pain. But I found, over time, that most of them were receptive if I could make them understand that I cared about their perception of the procedure.

### What has been the biggest reward, professionally, personally, or both, that you have experienced since you left dental school?

One of the best rewards is when patients tell me they’ve had their best dental experience ever in my chair. Or when they laugh or sing with me through the appointment, or fall asleep during the procedure after telling me how afraid they were at first. It’s a nice

thing to show people that a root canal doesn’t have to be an ordeal. It’s also a good feeling to give back to Tufts by teaching there and to be so involved in the North Shore District Dental Society and the American Academy of Dental Sciences.

### What advice would you give to a student graduating from dental school this year?

Even though it’s a high-pressure, high-stress environment sometimes, it’s so important to remember to treat people the way you would want to be treated. I think when you see so many people a day it can be easy to forget that, but remembering it is key.

### How do you balance your professional and personal lives?

I have three kids under the age of 9, so they keep me focused on what’s really important. Also, when I’m home, I always have a project going. I benefit from remembering that I have strengths outside of the office. I’ve really enjoyed my appointment to the Board of Health in my town, which gives me a broader perspective on public health.

### Where do you see yourself in 10 years?

I’m always looking for ways to be innovative and to improve things, so I hope that before 10 years have passed I will have found myriad novel approaches to what I do each day. My work with the microscope and other advances in my field has shown me that technology is something I can embrace, so I will keep my eyes open for ways to keep my office on the cutting edge. ■

# Casino Night 2006

## Close to 200 guests Kept on Rollin' after YDC 31's Opening Ceremony for the MDS Foundation's Casino Night on January 26.

Guests gambled with play money on blackjack, craps, and roulette tables for a chance to win fantastic prizes, such as a Sony DVD camcorder, a Tiffany & Co. bracelet, an Apple video iPod player donated by Keating Dental Arts, a Lancôme gift bag donated by Saks Fifth Avenue, a \$200 Lord & Taylor gift card, hotel stays at the Four Seasons and Westin, and more! Top prizewinners were:

First Place: **Dr. David Samuels**  
Second Place: **Mr. Derek Brady**  
Third Place: **Dr. Stuart Liss**  
Fourth Place: **Ms. Mahrya Hart**  
Fifth Place: **Mr. Michael Matonis**  
Sixth Place: **Mr. Scott Margalit**

Other attendees enjoyed the cocktails and the dessert offerings while dancing to music by the likes of Frank Sinatra and Dean Martin. Master Magician John Graffeo amazed guests with his sleight-of-hand magic tricks. **Dr. Rishi Khanna** of Cambridge proved to be quite the card shark as he won the Texas Hold 'Em Poker Tournament. **Chris Gibbs** came in second place at the Texas Hold 'Em.

The MDS Foundation wishes to thank its sponsors for helping to make this event a great success: MDS Insurances Services, Inc., and Gentle Dental Associates, LLC. All proceeds benefited the MDS Foundation, which is dedicated to improving access to quality dental care for the underprivileged and enhancing educational opportunities for those who wish to pursue a dental career.

## Save the Date!

**June 19**      **5th Annual Golf Tournament and Dinner Fundraiser**  
Walpole Country Club  
Shotgun Start: 12 noon

**October 27**    **3rd Annual Wine Tasting and Celebrity Chef Event**  
The State Room, Boston

For more information, contact Tara Brady, manager of Foundation development for access-to-care programs, at (800) 342-8747, extension 269, or email [tbrady@massdental.org](mailto:tbrady@massdental.org).







# Financial Pitfalls of Expansion Projects (and How to Avoid Them)

## DAVID CATALANO

*Mr. Catalano is managing member of FinanceGeeks.com, financial consultants for the healthcare profession, based in Indianapolis, IN.*

**W**ouldn't it be nice to have perfect hindsight before making a big financial move? When we get excited about something, we tend to downplay the potential risks and focus on the benefits. In my experience, acting prior to planning creates \$100,000 mistakes almost all of the time and is the largest reason for many of the common problems in expansion projects. But what if you could actually isolate the risks and then mitigate them before you began your project?

One of my favorite sayings is "Intelligence is no substitute for experience." If you have always been successful at everything you have done, you may be at risk for thinking your success in one area will be applicable in another.

Expansion projects involve the highly specialized areas of banking, real estate, design, and construction. All of the people you will negotiate with during your project do what they do for a living. They spend 2,000 hours per year plying their craft. The probability of your getting the better end of the deal is pretty low.

However, a professional, working on your behalf, is far more likely to negotiate a more favorable deal for you. Consider the following case examples of common mistakes created by unwitting dentists as they move through their expansion projects. Then consider the probability of your running into the same traps. Hiring a professional to take you through the process may be the edge you need to come out on top.

### **Economic Concept: The Ego Bias**

This common bias is that most people are not willing to assume that the "true probability rate" information applies to them. The typical person assumes "I'm special and those probabilities don't apply to me." The ego has an amazing ability to distort information. Suppose, for example, you were told that, based on your lifestyle and age, you had a 32 percent chance of living another six years. Would you accept those odds? Probably not, because you are not willing to assume that this data applies to you.

## ***What is included in the price of your lease or purchase?***

### ***Are you getting an HVAC system? How about a floor?***

*We had a client who leased space  
and did not receive either of these items.*

All of the following examples are real; the names and subtle details have been removed to protect the identity of the person.

#### **CASE EXAMPLE #1 Signing a Lease Before You Create a Plan**

We have had several clients sign new office leases prior to having a complete financial and project plan in place. The amount of damage this error can cause is incredible. The errors tend to build on themselves.

If you are spending a significant amount of money for leasehold improvements, you are likely going to want a long-term lease (10 years with options for 10 more). The property owner is likely to require your personal guarantee for the lease payments. This means that, barring bankruptcy, you are not going to get out of making those payments.

Before you sign the lease, make sure you understand the total cost of completing the project and have the capital lined up to fund those costs. The more detailed your plan, the better. Asking the property owner or the condo developer how much it will cost to convert the existing space into your dental office is not going to get you close to the true cost of the project.

If you are leasing space, the closer you get to making two lease payments, the higher your anxiety around financing grows. The longer it takes to obtain financing, the less discerning you get. This is how people end up with the wrong type of financing. You eventually get the money, but the terms are onerous or your cash flow is compromised.

We have seen people sign leases that increased their monthly payment 200 to 300 percent prior to knowing the cost of the project or how they were going to finance it. If your rent is going from \$2,500 to \$8,000, you should understand the costs of your project with a high degree of certainty.

#### **CASE EXAMPLE #2 Having False Confidence in Your Local Bank**

The appraised value of a dental building is usually less than the cost of constructing the building. Most local or community banks lend the lower of the appraised value or the cost of the project. If you build a new dental office, you will have a gap between what the bank will lend you and the cost of construction. Add in the cost of technology, equipment, and furnishings, and you have a fairly large amount of money to borrow over a short period.

It is common for a dentist to know a local banker who promises him “all of the money he needs for his project.” With that statement, the dentist is full of confidence and begins the process of building the Taj Mahal. Banks are highly regulated and have strict lending policies. The days of character-based lending are over. If your banker has not issued a commitment letter that you understand, then you should assume that you do not have any money. The bank must understand the project completely. How will you cover the gap and the additional costs of the project? If you rely on your bank to construct your plan, you have a high probability of incurring problems.

#### **CASE EXAMPLE #3 Not Leasing Enough Space to Achieve Your Practice Goals**

It is common to meet with a dentist who has signed a lease for space that will not accommodate the number of operatories he or she wants to build; the ratio of square footage to operatories is too small. There are certain regulatory bodies that dictate square footage allotted to the facility and there is no way around it. It is common for someone to lease space intending to build five operatories but, after considering the national and local building codes, being able to complete only three.

You should never sign a lease for a space without having the space reviewed by an architect who understands dental office design. The cost of this mistake can be huge, easily adding up to \$100,000. It will affect your productivity for the length of your lease.

Architects must comply with Americans with Disabilities Act (ADA) codes and restrictions. Many dentists perceive that non-public areas do not need to be ADA compliant, but that is not the case. Architects must also comply with fire marshal codes that have certain restrictions dictating the square footage required to achieve your ideal space. You should know all of the local and national code requirements before you sign a lease.

#### **CASE EXAMPLE #4 Leasing Too Much Square Footage and Overextending Yourself**

If your current office space is too small, you may fall into the overcompensation trap and make your new office too big. But big offices are hard to finance, and hard to sell.

You may fall prey to this bias if your waiting room is always full and your business office is too small. Maybe your hygienist is always booked up too. People tend to move by extremes. Be careful that you do not make an extreme change to the size of your office.

Another related blunder is building a facility based on attracting an associate. In my experience, the associate either never comes or does not stay. In general, if you can attract an associate, it may be better to stagger your schedule to accommodate him or her rather than creating a larger facility. You have a higher probability of paying for more operatories than you need than profiting from the associate during his or her employment.



**CASE EXAMPLE #5  
Knowing What You Are Getting  
Before You Sign**

What is included in the price of your lease or condo purchase? Are you getting an HVAC system? How about a floor? We had a client who leased space and did not receive either of these items.

You are paying for 2,500 square feet, but how many are usable? Column locations are a big issue and must be considered in relation to how the space is laid out. If the column falls in the middle of the tray prep area, it renders the area useless. Architects who don't understand how you utilize the space can easily make this mistake. It will require you to lease or buy more space than you would ordinarily need.

Understand the difference between usable and gross square feet. If you are considering an oddly shaped space, you must understand how your office will be

laid out to fit into the space while considering all of the local and national building codes.

**CASE EXAMPLE #6  
Knowing the Land Before You  
Buy It**

An architectural consultation and investigation will help you uncover what your easements and setbacks are. It will also help you understand the access consideration. What are the existing conditions of the site? How will the building be situated on the land? Is the property properly zoned for a medical facility? If not, how long will it take and how much money will it cost? Can you achieve your ideal building on this ground?

It is not unusual to see a dentist buy a piece of land without the appropriate investigation. Land is a liability because it does not produce cash, carries an insurance and tax burden, and cannot be easily sold. These are not the qualities of

an asset. Being stuck with land that you thought was a good deal and had to close on quickly but that will not work for your project may not be the best move on your part.

**Conclusion**

You have just read about six common problems associated with expansion projects; there are many more. A bigger challenge comes when you combine multiple problems. This occurs when one issue creates the next. It can be overwhelming and wear on your confidence. Seriously consider seeking out a professional consultant in each area of your project, someone who will work on your behalf so you can avoid these mistakes. ■

**Acknowledgments**

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# Massachusetts Dental Society House of Delegates

## 142nd Annual Session



**Friday, May 12, 2006, at the Burlington Marriott**



# American Heart Association Changes CPR Guidelines

## **MORT ROSENBERG, DMD**

*Dr. Rosenberg is professor of oral and maxillofacial surgery and head of the Division of Anesthesia and Pain Control at Tufts University School of Dental Medicine, as well as associate professor of anesthesia at Tufts University School of Dental Medicine.*

**T**he 2005 American Heart Association Guidelines for cardiopulmonary resuscitation (CPR) and emergency cardiovascular care (ECC) are the most recent in a series of science-based recommendations first published in 1974 and updated in 1980, 1986, 1992, and 2000. They cover a variety of topics such as CPR, automated external defibrillators (AEDs), and recommendations for advanced care—advanced cardiac life support (ACLS) and pediatric advanced life support (PALS)—by medical personnel, and are considered the standard of care for both the lay public and all healthcare professionals. The guidelines were developed by an international panel of experts following a process of scientific evidence evaluation and consensus development.

The changes in CPR guidelines will mean that dentists who were previously trained in CPR will have to be retrained to understand and adapt to these changes. With more than 334,000 Americans dying each year due to sudden cardiac arrest, effective, high-quality CPR education is a national imperative.

A staggering 95 percent of cardiac arrest victims die before they get to the hospital. Bystander CPR has been shown to double and even triple survival rates in cardiac arrest cases. Right now, about 9 million Americans take American Heart Association CPR courses, and the organization's goal is to double the number of rescuers by the year 2010 through an enhanced recruitment and educational program.

The revised guidelines apply to the lay public and certified healthcare providers. This review provides an overview of the major changes affecting all rescuers, but it is not a substitute for successfully completing a course adapted to the new versions of basic life support (BLS) or ACLS.

### **Chest Compressions**

The new guidelines regarding chest compressions are based on studies indicating that effective chest compressions are vital in restoring adequate coronary and cerebral blood flow, which in turn results in successful resuscitation of cardiac arrest.

Probably the greatest detriment to achieving adequate forward blood flow is not performing chest compressions. CPR buys time until a defibrillator can be used or the heart can resume pumping blood on its own.



***The most common reason people die from cardiac arrest is that there is no one nearby who knows CPR and who has access to an AED.***

The guidelines recommend that rescuers minimize interruptions to chest compressions whether they are administered by lay people or healthcare professionals. Lay people are advised not to delay or suspend chest compressions to attempt to locate a pulse because 35 percent of lay rescuers are wrong in determining whether or not a victim has a pulse. Healthcare professionals should continue chest compressions if possible, even during other resuscitative maneuvers such as inserting airway devices, performing heart rhythm checks, or administering drugs.

To give adequate chest compressions, the mantra for all rescuers is to “push hard and push fast” at a rate of about 100 compressions per minute. The chest should be allowed to recoil completely after each compression and rescuers should strive for approximately equal compression and relaxation times.

New guidelines indicate for rescuers to look for normal breathing, movement, response to stimulation, and other signs of circulation when deciding whether to begin chest compressions. Excessive ventilation rates increase pressure within the chest and that pressure inhibits venous return back into the chest, decreasing forward blood flow, decreasing hemodynamic parameters, and decreasing survival from cardiac arrest. The bottom-line advice for all rescuers is to focus on chest compressions.

The most significant change to the basic CPR algorithm is the change in the ratio of chest compressions to ventilations—from 15 compressions for every two breaths in the old 2000 Guidelines to 30 compressions for every two breaths in the revised 2005 Guidelines. The 30:2 ratio is exactly the same for a single rescuer or two rescuers providing CPR for adults or for a single rescuer providing CPR for a child or infant. The only exception to the new rule is when two healthcare providers administer CPR to a

child or infant when the compression to ventilation ratio is 15:2. These changes resulted from studies showing that blood circulation increases with each chest compression in a series and must be built up again after interruptions. Each rescue breath taken by the rescuer should be a normal one before applying the rescue breath. All rescuers should avoid too many breaths or breaths that are too large or too forceful.

### **Early Defibrillation**

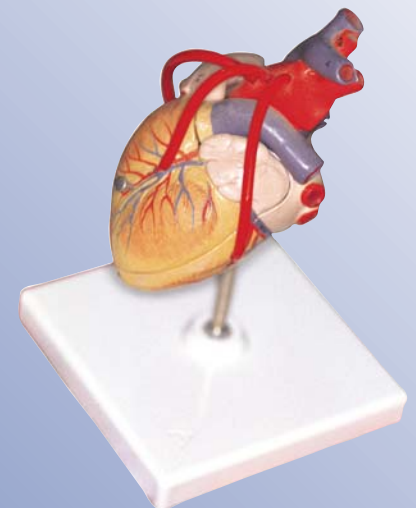
The updated guidelines place major emphasis on early defibrillation for ventricular fibrillation and the use of and immediate accessibility of AEDs as a tool to increase sudden cardiac arrest survival. The most common abnormal heart rhythm that causes sudden cardiac arrest is ventricular fibrillation. Early defibrillation is extremely effective in restoring normal cardiac rhythm. With every minute lost in delaying defibrillation for a victim who needs to be shocked, the survival rate decreases by 7 to 10 percent.

AEDs have continued to evolve and are extremely easy to use. They make all the difference in successful resuscitation after sudden cardiac arrest. The 2005 Guidelines, however, stress that after the first shock, CPR should be instituted immediately, beginning with chest compressions. All rescuers should then check the rhythm after giving about five cycles of CPR (approximately two minutes). AEDs are being reprogrammed by manufacturers to include these new instructions into their algorithms. AEDs are now also recommended for children age 1 and older. Many AEDs are now available to deliver smaller energy doses via smaller pads, but do not hesitate to use a regular adult AED with adult pads for pediatric victims of cardiac arrest. The lone rescuer should perform five cycles of CPR (approximately two minutes) on unresponsive children before contacting 911 or retrieving an AED.

## Some CPR Facts and Statistics

- Coronary heart disease accounts for about 550,000 of the 927,000 adults who die as a result of cardiovascular disease.
- Approximately 335,000 of all annual adult coronary heart disease deaths in the United States are due to sudden cardiac arrest.
- Some 75 percent to 80 percent of all out-of-hospital cardiac arrests happen at home.
- Approximately 95 percent of sudden cardiac arrest victims die before reaching the hospital.
- Sudden cardiac arrest is most often caused by an abnormal heart rhythm (ventricular fibrillation).
- Brain death starts to occur four to six minutes after someone experiences cardiac arrest if no CPR and defibrillation occurs during that time.
- Effective bystander CPR, provided immediately after cardiac arrest, can double a victim's chances of survival.

*Adapted from the American Heart Association.*



# 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care

## Key Changes to Basic Life Support Guidelines

- After giving two rescue breaths, lay rescuers no longer check for signs of circulation before beginning chest compressions.
- Each rescue breath is to be given over 1 second and should produce visible chest rise.
- There is an increased emphasis on delivery of effective chest compressions.
- CPR compression-to-ventilation ratio is now 30:2 for all single rescuers responding alone to victims of any age (except newborns).
- AED programs should be implemented in public locations where there's a relatively high likelihood of witnessed cardiac arrest.
- A single shock from a defibrillator, followed by immediate CPR for 2 minutes beginning with chest compressions, should be used to treat cardiac arrest caused by ventricular fibrillation, the abnormal heart rhythm responsible for most cardiac arrests. Rhythm checks should be performed every 2 minutes.
- Guidelines now endorse the use of AEDs for children 1 to 8 years of age (and older); use a child dose-reduction system if available.
- Dispatchers should be trained to recognize the symptoms of acute coronary syndrome (ACS) and advise patients with symptoms of ACS without history of aspirin allergy or gastrointestinal bleeding to chew 160–325 mg of aspirin while awaiting the arrival of EMS providers.

## Conclusion

The American Heart Association recommends a refresher course every two years regardless of changes in the AHA guidelines. Don't wait to renew your credentials until they are about to expire at the completion of this cycle. With the major changes in both basic CPR and ACLS, dentists would be well advised to take a refresher course as soon as it is convenient.

The old guidelines can still save a life, so don't let the new guidelines stop you from helping others. The most common reason people die from cardiac arrest is that there is no one nearby who knows CPR and who has access to an AED.

As healthcare professionals treating compromised patients and administering drugs in a stressful environment, it is our responsibility to have ourselves and our offices prepared for the potential of a cardiac arrest occurring during the perioperative dental appointment.

In the final analysis, the most important determinant of survival

from sudden cardiac arrest is the presence of a rescuer who is not only trained, but also willing and abled and equipped. In the dental office, emergency equipment should include a source of oxygen, airway equipment to ensure the ability to provide positive pressure ventilation (bag-valve-mask system), and an AED.

The greatest challenge and highest priority of the dental profession is the completion of training and retraining by all clinical personnel in basic high-quality CPR skills that can easily be taught, remembered, and implemented by the dental team to save lives. ■

## References

- Hamish MF, Adjani Vehicle R, O'Connor R, Becker L, Sacristy A. Editorial: Major changes in the 2005 AHA Guidelines for CPR and ECC: reaching the tipping point for change. *Circulation* 2005;112:IV-206-11.
- Currents in emergency cardiovascular care. American Heart Association and Citizen CPR Foundation. Winter 2005–2006;16(4).
- International Liaison Committee on Resuscitation. 2005 international consensus on cardiopulmonary resuscitation and emergency cardiovascular critical care science with treatment recommendations. *Circulation* 2005;112:III-III, 136.

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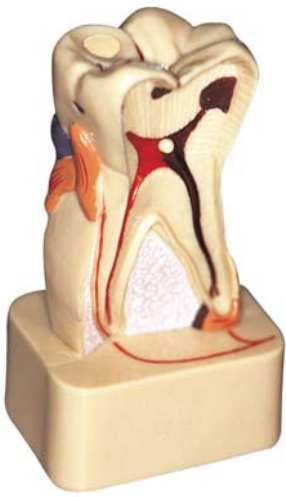
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# Bisphosphonate-Associated Osteonecrosis of the Jaws and Endodontic Treatment: Two Case Reports

**GARY GOODELL, DDS, MS, MA**

*Dr. Goodell is chairman of the endodontics department and program director of advanced specialty education in endodontics at Naval Postgraduate Dental School, National Naval Medical Center in Bethesda, MD.*

## Editors' Note

The following article discusses serious side effects seen with administration of intravenous bisphosphonates. These drugs are primarily associated with cancer therapy, although some off-label uses have also been reported.

Readers should, in addition, be aware that there are rare anecdotal reports of similar bone destruction occurring in patients receiving oral bisphosphonates, e.g. Fosamax<sup>®</sup> (alendronate) and Actonel<sup>®</sup> (risendronate). These drugs are most commonly administered for treatment of osteoporosis. Clinical data for the oral agents is not as well documented as it is for the intravenous drugs.

Clinicians are advised to continuously verify and update patients' medical histories and be cognizant of the possible deleterious effects of these and other "bone-sparing" medications.

*This article was reprinted by permission from the Journal of Endodontics of the American Association of Endodontists.*

## Abstract

Bisphosphonates are commonly used in the management of bone diseases, such as osteoporosis and Paget's disease, and to prevent bone complications and treat malignant hypercalcemia in certain types of cancer. Although this class of drugs has clear evidence of medical efficacy, there are an increasing number of reports of bisphosphonate-associated osteonecrosis of the jaws that have substantial implications for the patient and for the treating dentist. This article reviews proposed possible mechanisms of bisphosphonate-associated osteonecrosis of the jaws and describes two case reports where non-surgical and surgical root canal treatment were precipitating factors. Recommendations for prevention and treatment of the disease follow. Thorough history-taking and timely consultation with the patient's oral surgeon and oncologist are emphasized.

## Introduction

**B**isphosphonates are commonly used in the management of bone diseases, such as osteoporosis and Paget's disease, and for the prevention of bone complications and the treatment of malignant hypercalcemia in patients with multiple myeloma or bone metastases from breast and prostate cancers.<sup>1-3</sup> Bisphosphonates are carbon-substituted analogs of pyrophosphate that are potent inhibitors of osteoclast-mediated bone resorption. These compounds have specificity for bone because of their high binding affinity for calcium phosphates. These drugs are not metabolized well and are slowly released over long, extended periods of time. The latest generations of these drugs include alendronate (Fosamax<sup>®</sup>), pamidronate (Aredia<sup>®</sup>), and zoledronate (Zometa<sup>®</sup>). All three represent a third generation of bisphosphonates that contain a nitrogen group and have greater potency and better selectivity at lower concentrations. Their mode of action is still unclear, but they are known to inhibit osteoclastic function, induce apoptosis of osteoclasts, and inhibit osteoclast differentiation from precursors.<sup>4</sup> Their mechanism of action for altering angiogenesis is also unclear and may be variable. However, studies by Wood et al. found that zoledronate was a potent inhibitor of angiogenesis by reducing vessel sprouting.<sup>5</sup> Pamidronate therapy was found to cause a significant and lasting decrease in vascular endothelial growth factor (VEGF) levels in patients, and thus may negatively affect angiogenesis.<sup>6</sup> This may lead to prolonged interference with the normal homeostatic mechanisms of bone.<sup>1</sup>

Recently, several clinicians have reported the potentially serious side effect of osteonecrosis of the jaws (ONJ) after chronic administration of these drugs. Most reports have been with patients taking zoledronate and pamidronate, with fewer published reports on alendronate. Patients usually present with a complaint of pain accompanied by soft-tissue ulceration and/or more commonly exposed bone of the mandible or maxilla. The exposed bone may proceed to frank sequestration. This osteonecrosis has generally followed a dental extraction or other dental event; however, there are a significant number of cases that appear to have occurred spontaneously. Importantly, the successful treatment of these lesions has thus far been elusive.<sup>3,7,8</sup>

To date, there have been no reports in the literature of bisphosphonate-associated ONJ precipitated by endodontic procedures. The purpose of this paper is to present two case reports in which endodontic treatment was a precipitating factor and to discuss prevention and treatment of ONJ in the dental practice.

### Case Report 1

A 72-year-old male presented to the oral and maxillofacial surgery department at the National Naval Medical Center for evaluation of “ulcerated areas” on the lingual mucosa of teeth #18 and 19. The patient complained of discomfort upon discontinuance of antibiotics. He also reported intermittent tingling and burning sensations in the distribution of the left inferior alveolar nerve. The lesions had been present for approximately 10 months. The patient’s past medical history included prostate cancer, diabetes mellitus (DM), and gastroesophageal reflux disease (GERD). The patient underwent a radical prostatectomy to treat his prostate cancer. The patient was also treated with intravenous zoledronate once per month for 15 months to reduce skeletal complications associated with prostate cancer, receiving his last dose five months before presenting to the dental clinic.

The patient’s current medications include omeprazole, dutasteride, celecoxib, glimepiride, aspirin, lycopene, silibin, calcitriol, co-enzyme Q-10, and melatonin. The patient also had a history of nonsurgical endodontic therapy on



**Figure 1. (A) Lingual area of tooth #18 showing bone exposure. (B) Close-up of panoramic film demonstrating left mandibular quadrant. (C) Periapical radiograph showing bone loss and furcation involvement for tooth #19. (D) Nine-month postoperative close-up of panoramic film demonstrating increased bone loss and furcation involvement around tooth #19.**

teeth #18 and 19. Endodontic treatment on tooth #18 was undertaken following initiation of zoledronate infusions. The patient had also been treated with multiple courses of antibiotics. The patient could not remember which antibiotics he had been prescribed.

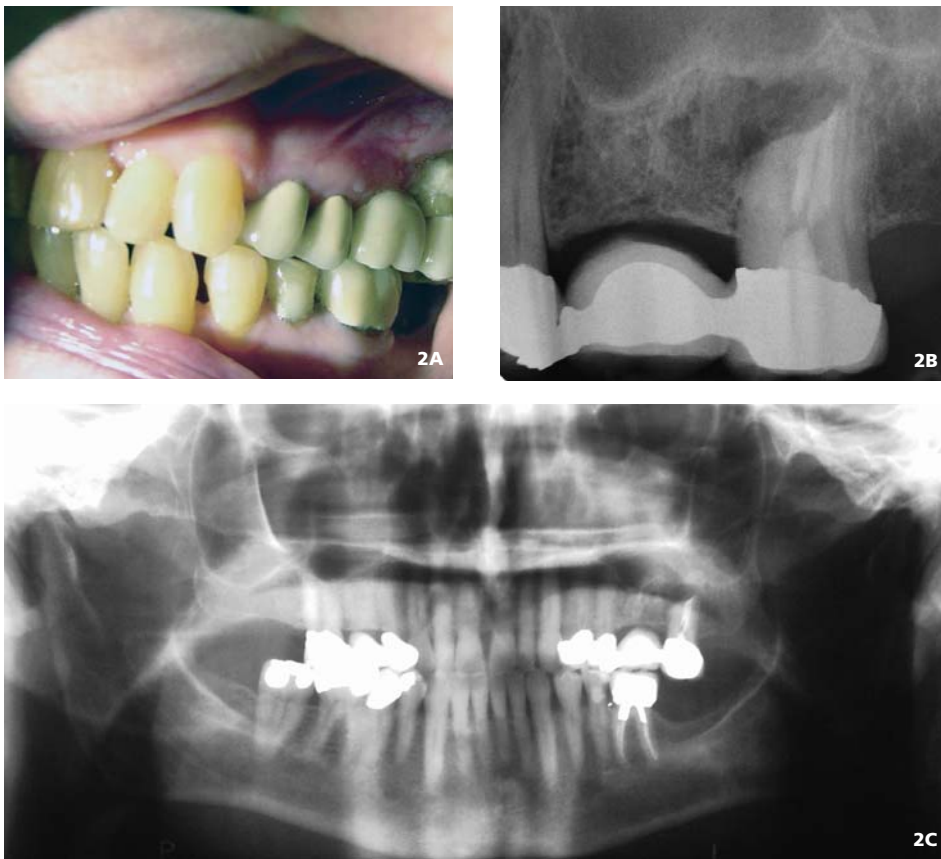
Clinical examination showed a 1 cm x 0.3 cm dehiscence of mucosa lingual to tooth #18. There were two smaller areas of bone exposure lingual to tooth #19. Tooth #18 also had a porcelain-fused-to-metal restoration with a temporary restoration in the occlusal surface (see Figure 1A). Neither tooth #18 nor 19 had any evidence of mobility. Probing depths in the area were less than 3 mm except for an area of 3 mm gingival recession in the area lingual to tooth #18. Cranial nerve examination revealed no detectable sensory changes in either the left inferior alveolar or the left infra-orbital nerve distribution. Radiographic examination showed the patient had a full bony impacted tooth #17, nonsurgical endodontic treatment on teeth #18 and 19, and furcation involvement on tooth #19 (see Figures 1B and 1C). The patient was placed on a one-month course of penicillin VK 500 mg 1 tablet po q6h

and metronidazole 500 mg 1 tablet po q6h. On follow-up, the patient reported subjective improvement in symptoms, although clinically there was only minimal improvement in the areas of bone exposure. Radiographic examination nine months later showed progression of the furcation involvement and periodontal bone loss around tooth #19 (see Figure 1D). The patient ultimately declined continued therapy on the prescribed antibiotic regimen secondary to interference with his quality of life.

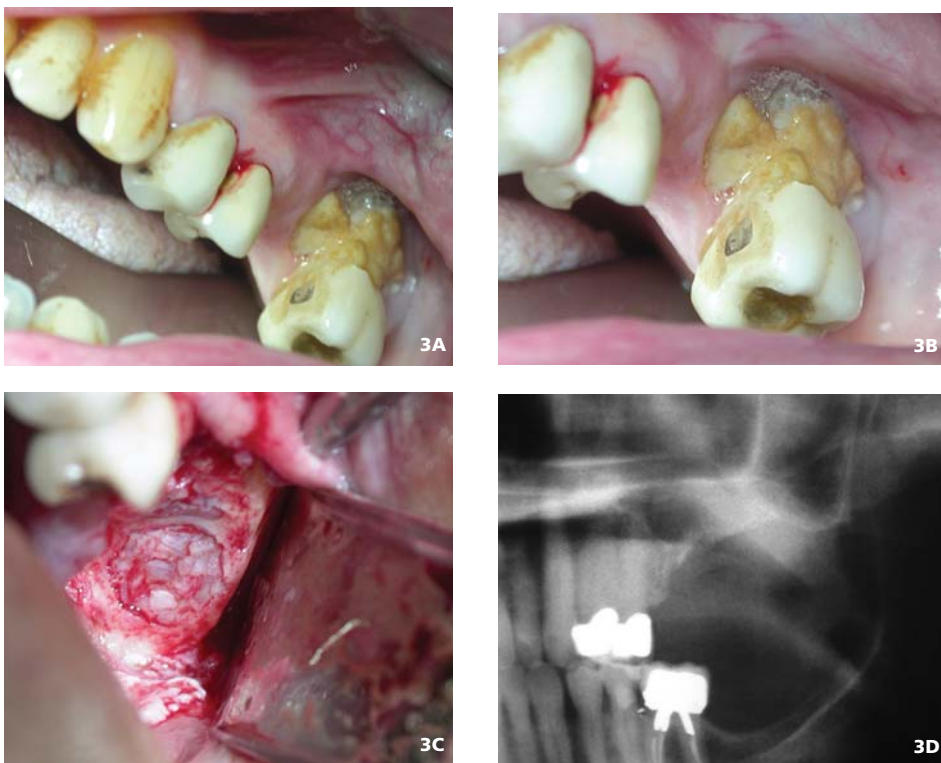
### Case Report 2

A 74-year-old male presented to the oral and maxillofacial surgery department at the National Naval Medical Center for evaluation of a “painful area” in the left maxilla. The patient was initially evaluated three months prior by his general dentist, who referred him to an endodontist from whom the patient received nonsurgical endodontic treatment on tooth #15. The patient’s complaint of pain in the area went unresolved. The patient subsequently underwent an apicoectomy six weeks prior to his appointment with the dental clinic without resolution of his chief complaint. The patient’s past med-





**Figure 2. (A) Clinical presentation of posterior left quadrant and exposed bone #15. (B) Periapical radiograph of tooth #15 at presentation. (C) Panoramic radiograph at presentation.**



**Figure 3. (A) View of upper left quadrant after sectioning of pontic. (B) Close-up view of tooth #15 and bone exposure. (C) Intraoperative view demonstrating intact sinus membrane. (D) Immediate postoperative close-up of panoramic film of operative site showing intact sinus wall.**

ical history was significant for hormone refractory prostate cancer diagnosed 15 years ago, DM, and GERD. His prostate cancer was initially treated with radiation therapy. The patient had initially taken oral alendronate for 52 months. During this period he was also treated with a 14-month course of intravenous pamidronate followed by a 27-month course of intravenous zoledronate ending one month prior to his examination at the dental clinic. His treatment with bisphosphonates was to reduce skeletal complications associated with prostate cancer. Additionally, his medications included sargramostim, transdermal estradiol, rosiglitazone maleate, celecoxib, isotretinoin, dutasteride, leuprolide acetate, doxycycline hyclate, atorvastatin, erythropoietin, esomeprazole magnesium, Peg-Interferon Alfa 2B, aspirin, calcium, co-enzyme Q-10, folic acid, green tea extract, vitamin E, lycopene, magnesium, maitake mushroom extract, and Mega Soy extract. The patient reported no history of sinus problems.

Clinical examination showed a fixed partial denture (FPD) spanning teeth #13, 14, and 15 with complete exposure of the mesial and facial bone adjacent to tooth #15, which showed class-2 mobility and was only marginally erythematous (see Figure 2A). Radiographic exam showed the FPD in place and evidence of nonsurgical and surgical endodontic treatment on tooth #15. There was no radiographic evidence of sinus disease (see Figures 2B and 2C).

The patient was placed on routine follow-up. One month later, the patient returned to the clinic with increasing mobility and pain in the area of tooth #15. The FPD was now mobile secondary to a loss of cementation of the abutment retainer on tooth #15. The pontic was removed in hopes that conservative treatment would render the patient asymptomatic. The patient returned two weeks later for follow-up with continued complaints of pain and foul odor. The soft-tissue margins were severely erythematous, but without swelling (see Figures 3A and 3B).

A plan was formulated to take the patient to the main operating room for a partial maxillectomy. The patient underwent debridement of the left maxilla with extraction of tooth #15. The debridement was undertaken in such a



**Figure 4. (A) Six-month postoperative occlusal view of surgical site. (B) Six-month postoperative facial view of surgical site.**

manner as to leave the sinus mucosa intact (see Figures 3C and 3D). Primary closure of the wound was achieved. The patient was placed on a long-term course of penicillin VK 500 mg 1 tablet po q6h and metronidazole 500 mg 1 tablet po q6h. The patient showed excellent immediate postoperative results without exposure of bone. Biopsy results from the specimen showed osteonecrosis and osteomyelitis. Culture results from the specimen noted only “normal oral flora.” At a six-month follow-up, the patient continued without exposure of bone and reported subjective improvement in symptoms (see Figures 4A and 4B).

## Discussion

In 2003, Marx first described a series of 36 cases of exposed necrotic bone detected in patients who were receiving intravenous pamidronate or zoledronate bisphosphonate therapy as part of their treatment. Of these, 78 percent of the painful exposures occurred after dental extractions and 22 percent were spontaneous.<sup>9</sup>

In a 2004 retrospective review of patients with refractory osteomyelitis and a history of chronic bisphosphonate therapy, Ruggiero et al. reported 63 cases over four months meeting the criteria.<sup>8</sup> Fifty-six patients had received the intravenous bisphosphonate pamidronate or zoledronate for at least one year and seven patients were on chronic oral bisphosphonate therapy for osteoporosis, including alendronate and risedronate. The typical presenting lesion was a non-healing socket after extraction, but nine of the cases involved spontaneous exposure of the jawbone with no history of a recent dentoalveolar procedure. Both types were refractory to conservative debridement and antibiotic therapy. Biopsies showed no metastatic disease.

In 2005, Migliorati et al. reported bisphosphonate-associated osteonecrosis in 17 cancer patients taking intravenous pamidronate or zoledronate.<sup>7</sup> Two of the cases developed ONJ spontaneously. There was one case of an osteoporosis patient taking oral alendronate for three years, then developing osteonecrosis after extractions, but prior to implant placement. Most lesions did not respond well to therapy.

Many more case series and letters to the editor have been published relating development of disphosphonate-associated osteonecrosis in the jaws, mainly associated with long-term intravenous administration of pamidronate or zoledronate.<sup>10-13</sup> In a letter to the editor, Durie, Katz, and Crowley reported the findings of a Web-based study by the International Myeloma Foundation in 2004 that found that after 36 months of administration, the estimated incidence of osteonecrosis was 10 percent in patients taking zoledronate and 4 percent for those taking pamidronate.<sup>14</sup>

Interestingly, although most of the attention lies on zoledronate and pamidronate, Migliorati writes that it should be kept in mind that in the case series of both Marx and Ruggiero et al., there were a total of eight cases of non-cancer patients taking a less potent type of bisphosphonate for the treatment of osteoporosis that developed osteonecrosis of the jaws. Similar cases may soon be reported. Considering the large number of patients around the world using bisphosphonates for prevention or treatment of osteoporosis, dentists may be dealing with a significant potential complication.<sup>15</sup>

It is interesting to speculate why the mandible and maxilla are the only bones affected by this condition. As the housing

for the teeth, these are the only bones connected to the exterior, potentially exposing them to periodontal disease or microtrauma. It seems reasonable that the antiangiogenic effect attributed to bisphosphonates might play a role, together with microtrauma and inflammation, in causing ischemic changes in this area.<sup>16</sup>

The Federal Drug and Food Administration issued Patient Safety News Bulletin #4 in December 2004, stating that Novartis has notified health-care professionals, including through a change in labeling, about the risks of developing osteonecrosis from the company’s two bisphosphonate drugs, zoledronate and pamidronate.<sup>17</sup> Novartis has issued a drug precaution for dental health professionals with patients being treated for cancer. It states that preventive dentistry should be considered prior to treatment with bisphosphonates with concomitant risk factors (e.g., cancer, chemotherapy, corticosteroids, poor oral hygiene). Novartis also warns that while in treatment, these patients should avoid invasive dental procedures if possible.

For patients who develop ONJ while on bisphosphonate therapy, dental surgery may exacerbate the condition. For patients requiring dental procedures, there are no data available to suggest whether discontinuation of bisphosphonate treatment reduces the risk of ONJ. Clinical judgment of the treating physician should guide the management plan of each patient based on individual benefit/risk assessment.<sup>18</sup> Oncologists and dentists should be widely alerted about this possible complication so patients taking bisphosphonates and considering elective dental procedures can be properly counseled.<sup>19</sup> A thorough dental examination and necessary tooth extractions with time for healing are recommended before commencing bisphosphonate therapy.<sup>1</sup>

For patients already receiving bisphosphonate therapy, close collaboration with the oral surgeon and oncologist are essential. It would seem prudent to take measures to prevent osteonecrosis in those at risk. This might include appropriate preventive dentistry with caries control, avoiding invasive periodontal procedures or dental implant placement, and using soft liners on dentures.<sup>19</sup> Since it appears extractions precipitate the majority of this condition, it seems prudent to recommend



***Once manifested, bisphosphonate-associated osteonecrosis is difficult to treat, and referral to an oral and maxillofacial surgeon is recommended.***

alternatives to tooth extraction or other dental surgical procedures, including surgical endodontic procedures in patients with a history of receiving bisphosphonates.<sup>1</sup> Suitable alternatives might include nonsurgical root canal treatment if pulpal disease is identified. Extreme care should be taken in the placement of rubber dam clamps to avoid mucosal injury that may precipitate inflammation and the disease. Surgical endodontic treatment is not recommended and should be considered contraindicated in patients taking pamidronate or zoledronate.


Patients may present with ongoing dental problems during or after the course of treatment with bisphosphonates. They frequently present with complaints of burning, tingling, and possibly pain localized to a fairly defined location. Once manifested, bisphosphonate-associated osteonecrosis is difficult to treat, and referral to an oral and maxillofacial surgeon is recommended. However, there is no known definitive treatment for this phenomenon. A number of treatment options have been utilized, including long-term or intermittent antibiotic therapy (usually of the penicillin family), irrigation with antimicrobial rinses such as 0.12% chlorhexidine, limited debridement of sequestering bone, up to full resection to vital bone. Hyperbaric oxygen treatment has generally not shown any benefit.<sup>2</sup> Radical resection appears to be of limited use and may be contraindicated;

the disease may progress despite surgery and cessation of bisphosphonate therapy.<sup>7,12</sup> Despite the best treatment, few of the cases go on to complete resolution.

Until more is known about the disease, prevention will be the key in limiting its development. Careful and thoughtful history-taking, thorough examinations, and timely consultation with the patient's oral surgeon and oncologist will go a long way in preventing this complication. ■

### References

1. Melo MD, Obeid G. Osteonecrosis of the maxilla in a patient with a history of bisphosphonate therapy. *J Can Dent Assoc* 2005;71:111-3.
2. Robinson NA, Yeo JF. Commentary. Bisphosphonates—a word of caution. *Ann Acad Med Singapore* 2004;3(Suppl):48S-49S.
3. Lipton A, Coleman RE, Diel IJ, Mundy G. Update on the role of bisphosphonates in metastatic breast cancer. *Semin Oncol* 2001;28(Suppl 11):2-91.
4. Lindsay R, Cosman F. Osteoporosis. In: Braunwald E, Fauci AS, Kasper DL, Hauser SL, Longo DL, Jameson JL, editors. *Harrison's principles of internal medicine*. New York: McGraw-Hill; 2001. p 2226-37.
5. Wood J, Bonjean K, Ruetz S, Bellecene A, Devy L, Foidart JM, Castronovo V, Green JR. Novel antiangiogenic effects of the bisphosphonate compound zoledronic acid. *J Pharmacol Exp Ther* 2002;302:1055-61.
6. Santini D, Vincenzi B, Avvisati G, Dicuonzo G, Battistoni F, Gavasci M, Salerno A, Denaro V, Tonini G. Pamidronate induces modifications of circulating angiogenic factors in cancer patients. *Clin Cancer Res* 2002;8:1080-4.
7. Migliorati CA, Schibert MM, Peterson DE, Seneda LM. Bisphosphonate-associated osteonecrosis of mandibular and maxillary bone. *Cancer* 2005;104:83-93.
8. Ruggiero SL, Mebrotra B, Rosenberg TJ, Engroff SL. Osteonecrosis of the jaws associated with the use of bisphosphonates: a review of 63 cases. *J Oral Maxillofac Surg* 2004;62:527-34.
9. Marx RE. Letters to the editor. Pamidronate (Aredia) and zoledronate (Zometa) induced vascular necrosis of the jaws: a growing epidemic. *J Oral Maxillofac Surg* 2003;61:1115-7.
10. Bagan JV, Murillo J, Jimenez J, Poveda R, Milian MA, Sanchi JM, Silvestre FJ, Scully C. Avascular jaw osteonecrosis in association with cancer chemotherapy; series of 10 cases. *J Oral Pathol Med* 2005; 34:120-3.
11. Estilo CL, Williams T, Evtimovska E, Tkach L, Halpern JL, Tunick SJ, Hury JM. Osteonecrosis of the maxilla and mandible: possible drug-induced complication of bisphosphonate therapy (abst). *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005;97:449.
12. Woo SB, Handle K, Richardson PG. Letter to the editor. Osteonecrosis of the jaw and bisphosphonates. *New Eng J Med* 2005;353:99-102.
13. Maerevoet M, Martin C, Duck L. Letter to the editor. Osteonecrosis of the jaw and bisphosphonates. *New Eng J Med* 2005;353:99-102.
14. Durie BGM, Katz M, Crowley J. Letter to the editor. Osteonecrosis of the jaw and bisphosphonates. *New Eng J Med* 2005;353:99-102.
15. Migliorati CA. Letter to the editor. Bisphosphonate-associated oral osteonecrosis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005;99:135.
16. Sana G, Zampino MG, Pelosi G, Nole F, Goldhirsch A. Letter to the editor. *Ann Oncology* 2005;16:1207-13.
17. FDA Patient Safety News: Show #34, December 2004. Available from: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/psn/prnter.cfm?id=276>. Accessed: 2005 Jul 24.
18. Novartis Pharmaceuticals Co. Important drug precaution for dental health professionals with patients being treated for cancer [letter to dentists]. Rockville (MD): US Food and Drug Administration; 2005 May 5. Available from: <http://www.fda.gov/medwatch/safety/2005/safety05.htm - zometa.2>. Accessed: 2005 Jul 24.
19. Greenberg MS. Editorial. Intravenous bisphosphonates and osteonecrosis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2004;98:259-60.



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## PATHOLOGY SNAPSHOT

**VIKKI NOONAN, DMD, DMSC**

**GEORGE GALLAGHER, DMD, DMSC**

**SADRU KABANI, DMD, MS**

*Dr. Noonan is assistant professor, Dr. Gallagher is professor, and Dr. Kabani is professor and director of oral and maxillofacial pathology at Boston University School of Dental Medicine.*

## MANAGEMENT OF REACTIVE GINGIVAL NODULES

**R**EACTIVE GINGIVAL NODULES generally occur in the interdental/marginal gingiva and represent an exuberant granulation tissue response to local irritants (pyogenic granuloma). Some of these lesions eventually undergo maturation and consist of dense fibrous connective tissue (gingival fibroma) while others may develop foci of calcification (peripheral ossifying fibroma). Other gingival nodules are remarkable for a proliferation of multinucleated giant cells (peripheral giant cell granuloma); however, the pathogenesis of the peripheral giant cell granuloma is uncertain.

Pyogenic granulomas have been reported to occur in greater frequency in pregnant women. This increased incidence is likely related to increased levels of estrogen and progesterone that have been shown to enhance angiogenesis in traumatized tissues.

Treatment of reactive gingival nodules includes both a thorough excision of lesional tissue and removal of local irri-



**Pyogenic granuloma: erythematous mass arising from the maxillary anterior gingiva.**

tants such as calculus or overextended restorations. Despite a diligent effort at complete excision, the recurrence rate for these lesions approaches 20 percent.<sup>1,3</sup> To reduce the likelihood of recurrence, some authorities suggest that reactive gingival lesions be excised to bone. In lesions recalcitrant to treatment, a wider excision including periosteum and curettage of the periodontal ligament may be indicated to prevent recurrence. ■

### References

1. Walters JD, Will JK, Hatfield RD, Cacchillo DA, Raabe DA. Excision and repair of the peripheral ossifying fibroma: a report of three cases. *J Periodontol* 2001;72(7):939-44.
2. Buduneli E, Buduneli N, Unal T. Long-term follow-up of peripheral ossifying fibroma: report of three cases. *Periodontol Clin Investig* 2001;23(1):11-14.
3. Carrera Grano I, Berini Aytas L, Escoda CG. Peripheral ossifying fibroma. Report of a case and review of the literature. *Med Oral* 2001;6(2):135-41.



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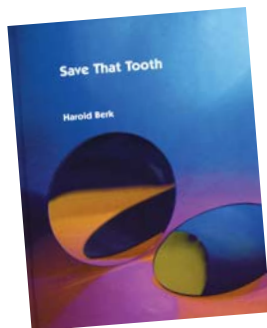
## BOOK REVIEWS

**NORMAN BECKER, DDS, EDITOR EMERITUS**

### Save That Tooth

**HAROLD BERK**

*Pulpdent Corporation*



Reading and reviewing this book was a great deal of fun. Although the story of Dr. Harold Berk is presented as a memoir, there is much clinical data and history that can benefit the reader.

As the introduction states, "In 1993, we began work on this book. There was little progress the first few years, but, after several starts and stops, we started to gain perspective on the material and

on our purpose, and our vision for this book became clear. By the late 1990s, we were well on our way to writing my clinical memoirs, presented as evidence-based dentistry from a chairside perspective, and supported by extensive research."

This paragraph could serve as a complete review of the book except that it would not describe the efforts and love that the Berk family clearly shows in the production of the memoir. Lest the reader think that those of us who know the Berk family are willing to settle for a history of Harold Berk, let me hasten to add that the clinical teachings and research accomplishments are of value to all clinicians.

After the biographical story is told, each section begins with an introduction to the content, with case histories to teach the purpose and value. The artwork and design contribute to a pleasant read. I was impressed by the extent and clarity of the case histories, as well as the reproductions of clinical data, and I am grateful that the Berk family and their Pulpdent Corporation have made this effort to present a historic era in the timeline of dentistry. It is a fitting tribute to the late Harold Berk, who passed away in January.

### Spanish for Dental Professionals

**DEBORAH E. BENDER, MARGARET MAIER, AND IRWIN STERN**

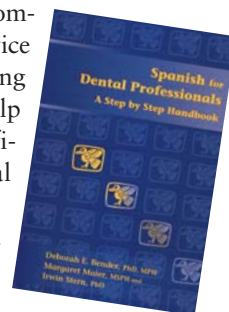
*University of New Mexico Press*

The materials in this handbook and accompanying CD are intended for the novice learner, as well as those who have a working knowledge of some Spanish phrases, to help make visits to the dental office more beneficial to Spanish-speaking patients and dental professionals alike.

The handbook is organized in a series of steps that not only introduce key dental phrases but also present an aspect of Latino culture that will help practitioners better understand their patients. Phrases are presented in both standard and colloquial Spanish as patients may be using both.

Each section, also called a Paso, consists of eight exercises or activities designed to engage the student in learning, practicing, and speaking Spanish. The accompanying CD presents dialogues that can occur in dental settings, but in a variety of accents and levels of fluency, mimicking what practitioners would encounter in the office setting. The text is designed so that it can be studied in a group environment as well as by individuals. Additionally, the authors present the basics of Spanish pronunciation.

Reviewing this textbook made learning Spanish more fun than typical classroom exposure, which teaches general phrases such as "Where is the bathroom?" "How do I find the post office?" and "Where is the train station?" instead of key dental phrases we would encounter in our daily practice. ■





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## ART OF DENTISTRY

**ROBERT E. HORSEMAN, DDS**

*Dr. Horseman is a California dentist whose column appears regularly in the Journal of the California Dental Association.*

### DENTISTRY: THE EARLY YEARS

**R**IFLING THROUGH THE YELLOW PAGES today, it is hard to believe that many years ago there were no dentists. There were also no lawyers, which makes us wonder why we didn't leave well enough alone. The reason, of course, was because the earth was a molten sphere of lava and hot gases. Dental equipment wouldn't have lasted a week.

In some early accounts, this gaseous globe was thought to be the original site of Hell. Later on when things cooled off, Monday morning was accorded that designation.

When the first people appeared several million years later, if you believe Darwin, Leakey, et al., there were still no dentists. Mainly, this was because there was no demand for dental services. Early Man complained, "Teeth, schmeeth, I'm hungry, cold, and naked." He had a point. Fortunately, he had a nice complexion marred only by a Gillette-deprived beard and excellent teeth because two of the latter-day food groups—sugar and grease—hadn't been invented yet.

When the first man discovered that sugar cane tasted better than bamboo, civilization started its long, downhill slide that made the advent of dentists inevitable. Sugar cane became very popular. Kids would go around all day with a length of sugar cane sticking out of their faces. Mothers would yell at them not to run with a stick in their mouths, but they kept bonking into things that resulted in palatal and uvular discomfort. It was a habit that persisted even among adults until the discovery of tobacco.

Tobacco was slow in finding favor with primitive man until the discovery of fire. This was another one of those accidents that turn out to be so beneficial, like being run down by a Mercedes whose owner has a pile of liability insurance. A man sucking on a rolled leaf of tobacco was standing in an open field contemplating his navel when he was struck by lightning. Although stunned, he was quick to discover that the ignited tobacco gave him a definite lift, even though it tasted like broiled camel dung.

The prime elements that made the entrance of a professional tooth person a foregone conclusion were now in place—sugar to rot the teeth, tobacco to stain them, and enough ignorance to ensure neglect would continue. The final elements to establish dentistry as a viable business, anesthesia and credit cards, would appear later.

The very first toothache treatment occurred sometime around 2000 BC when a chap who had been whining and complaining for weeks took a roundhouse right from another cave person who got tired of listening to his caviling. Luckily, the blow displaced the offending tooth and the ache promptly subsided. "Well, hey," concluded the victim, "I think we got something here."



After that, whenever a toothache manifested itself, the sufferer got a friend to knock it out for him. Certain individuals with genetic personality defects actually enjoyed knocking out peoples' teeth and became quite adept at it. When a toothache took its toll on a member of the group, someone would offer, "Go get Oog, he'll take care of it for you." Oog, whose last name has been forgotten, was probably the first dentist.

Eventually, Man began to see a pattern here, one that finally rendered him nearly toothless and prompted him to find alternative treatment modalities. Despite the fact that some early civilizations, such as the Mayans, Incas, Egyptians, the Forty-Niners, and the Elks had made primitive inlays and bridges, dentistry was going nowhere fast as a profession.

A breakthrough came on a Thursday in Weehawken, New Jersey, when a customer, asked by his barber, "Do you want a haircut?" riposted just once too often, "No, I want 'em all cut!"

When it was all over and the shop's other customers were admiring the expertise with which the barber had rendered the customer edentulous, it was decided that barbers would henceforth be the officially designated town dentist.

Besides being clever with the clippers, barbers were very good with extractions and would even do a bit of gum surgery if they had imbibed enough bay rum, but the problem of edentulous patrons was a limiting factor in their dual careers. Finally, deciding that hair grew back better than teeth and thus afforded a self-perpetuating customer base, barbers concluded that offering an eight-year course leading to a DDS or DMD degree was probably a better way to go.

If the truth be known, their decision to eschew dentistry was predicated more on these considerations: a little Brylcreem was the worst thing they could get on their hands; dandruff was less yucky than saliva; insurance companies didn't interfere in the sacred barber/customer relationship; iatrogenic errors grew back in two weeks; and they could give away all-day suckers to little kids without feeling guilty.

In retrospect, we're inclined to consider this a wise move. I can still go to the barber of my choice, unhampered by any Hair Management Organizations. Even though he spends less time with me than he did 20 years ago, that's not his fault. Although he deals with sharps on a daily basis, his hands are unsheathed, his face unmasked, and the place still looks like it did when we were kids. On the downside, I don't get offered a sucker anymore and he still doesn't think "No, cut 'em all" is funny. ■

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