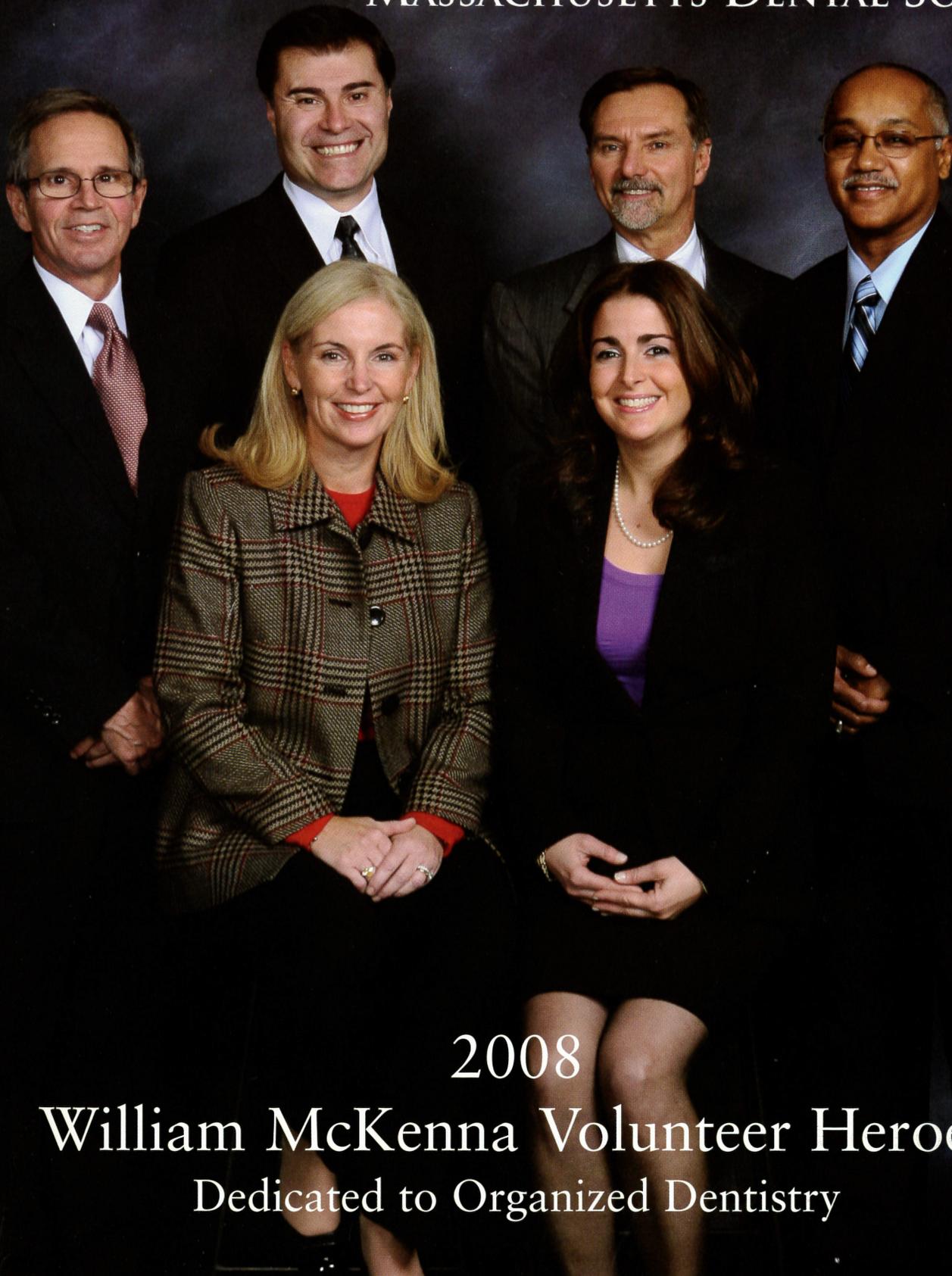


JOURNAL *of the*

MASSACHUSETTS DENTAL SOCIETY

Winter 2009



2008

William McKenna Volunteer Heroes
Dedicated to Organized Dentistry

WANT A WONDERFUL LIFE?

AN AURA OF GLOOM HANGS OVER THE COUNTRY, EVEN AS WE LOOK HOPEFULLY TO A NEW administration—elected largely through the efforts of individual volunteers. The recent holiday season was replete with stories about families not celebrating the spirit of the season due to the economy. We are continually bombarded with tales of economic and financial doom. Most painful, perhaps, is the story of how billions of dollars, a large portion of which was dedicated to philanthropy, were simply vaporized by a dishonest money manager. Pessimism runs rampant, and many of us are resigned to the fact that we will have to postpone retirement, put off vacations or purchases, and struggle to educate our children. And in the most severe cases, productive workers—our patients and likely our employees—are concerned about the most basic of needs: feeding and clothing their families.

Hard times have hit us before. We go through recessionary times periodically. This is the worst one in our lifetime, but history teaches us that it will correct itself eventually.

Economists believe there is a huge psychological component to this downturn. People are holding back and are being cautious in their spending choices, as we are witnessing in both our practices and our own personal decisions. The question is: What can be done to get back the feeling of control and well-being?

One answer is on the cover and inside this issue.

It may sound trite and simplistic, but volunteering to work for the benefit of others builds a sense of community and self-fulfilling accomplishment. It fosters a feeling of fellowship and caring about others.

When you read the biographies of our William McKenna Volunteer Heroes, past and present, it is gratifying to see the broad scope of activities in which they are involved, such as participating in church groups, providing community service, and donating professional skills and time to provide care in underdeveloped countries.

The Massachusetts Dental Society is an extremely effective advocate for our members, but our primary mission is to promote and improve the oral health of the citizens of the Commonwealth. Our effectiveness is due in large part to the hours given by the many volunteers who donate their time and expertise in myriad settings.

On the whole, dentistry is a recession-resistant profession. Our services are always needed, even if patients delay elective choices. For this reason, we as a profession should find the time to give back to society in as many ways as possible. Volunteer for your local district; volunteer at Yankee Dental Congress; volunteer your services to the MDS Foundation Mobile Access to Care (MAC) Van or community health care programs; volunteer for your municipality or place of worship.

As we write this, it is the heart of the holiday season. Every year at this time, it is hard to avoid Frank Capra's *It's A Wonderful Life*, a 1946 film whose plot line seems very appropriate right now. From the protagonist's deepest feeling of despair, George Bailey is brought back to his senses when he realizes that the good deeds he has done and the personal sacrifices he has made have helped save other peoples' homes and lives.

Helping others and contributing what you can to society is infinitely rewarding and has long-reaching effects. Making others happy is an easily attainable goal. We salute our heroes. ■



Richard D. Becker
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WHY WORK WITH A FINANCIAL PROFESSIONAL?

IF YOU'RE LIKE MOST PEOPLE, YOU PROBABLY BRING YOUR CAR to a professional mechanic for routine maintenance. You see a doctor when you have concerns about your health and for regular exams. You call a plumber when your pipes freeze. When the need for legal counsel arises, you consult an attorney. We all rely on the expertise of others. It's no different when it comes to personal finances—most people could benefit from working with a financial professional. Here are some good reasons to do so:

You don't know what you don't know. No one can be an expert on every subject. Managing your finances on a day-to-day basis is one thing; implementing a comprehensive investment plan to fund your retirement while setting aside funds for your child's education is something else. That doesn't mean that you're incapable of doing it, only that you shouldn't underestimate the expertise needed to put together an effective plan. If you're going to go it alone, you'll need to educate yourself, which brings us to the next point . . .

You have good intentions but never set aside the time. There's an entire industry built around providing individuals with the tools they need to do their own financial planning. Books, magazines, Web sites, calculators, worksheets, and videos all empower individuals to take a more active role in their financial future, whether they are working alone or with a financial professional. Not one of these tools, however, will help unless you set aside both the time to learn to use the tool and the time to apply the tool to your situation. Working with a financial professional forces you to stop procrastinating and shifts the time commitment from you to the professional.

Doing it all yourself isn't efficient. There's a long list of things that we could do ourselves but choose to pay someone else to do for us instead. For example, you could paint your house, but you may be happier paying someone else to do it. Why? It's

more efficient and you can spend that time working on other things, and if you choose the right professional, it will probably be done faster and better than if you did it yourself. The same goes for working with a financial professional.



You're not objective. It's hard to look at your own situation objectively. Having someone else with experience analyze your financial condition can be extremely helpful. And in cases where you and your spouse aren't on the same financial page, a financial professional can listen to all concerns, identify underlying issues, and help you find common ground.

Keeping up with change is a full-time job. In the last two years, there have been at least five major pieces of tax legislation signed into law. Even seasoned financial professionals have had a difficult time keeping up with the changes. Not understanding how these changes might affect your financial plan could be dangerous, but understanding the changes takes time and effort.

You see the trees, but not the forest. A good financial professional can help you see the big picture. He or she can show you how your financial goals are related—for example, how you might save for your child's college education as well as your own retirement. He or she can work with you to prioritize your goals, implement specific strategies, and choose suitable products or services. A financial professional can also stay on top of your plan to make sure it remains on track, recommending changes when conditions, or your circumstances, dictate.

A financial professional can be a great resource to help you manage your personal finances and help you invest in your future. ■

Neither NEXT Financial Group, Inc., nor its representatives are qualified to give tax or legal advice. Please consult your tax or legal professional regarding your particular situation.



GEORGE GONSER, MBA

Mr. Gonser is the chief executive officer of MDSIS.

TO PROVIDE “FREE” DENTAL CARE TO STAFF, FAMILY, AND FRIENDS . . . OR NOT?

“FREE” DENTAL CARE FOR STAFF, FAMILY, AND FRIENDS has long been a part of the dental practice. It is not unusual for dental practices to allocate tens of thousands of dollars’ worth or more of dental care to cover the oral health needs of their staff, families, and friends. But at what cost to the practice’s overall financial health?

With the tough economic times we are facing in the United States today, practices may be seeing a few extra open or unfilled slots in their schedules. While many dentists today are still doing fine businesswise, are they optimizing their production? Are they accounting for the free care they provide? What are the risks of providing this unequal benefit in terms of discrimination? With many dental offices utilizing production-based compensation models, does this create an income void for the partners and associates?

Let’s start at the top. It is a great thing for dentists to provide free care for their staff, but is this care limited to just the office staff? What about their dependents, and friends of friends, and so on? Where does it stop? If, as part of your dental practice, you are providing this free care, do you provide the same amount of free care to everyone? Well, no. Each person has varying dental needs; therefore, providing dental care for one staff member may involve a costly procedure of placing a crown, while all that another staff member requires is a basic exam and cleaning. Does the “slighted” employee feel that he or she is not getting as much or maybe that there is inequity? If so, a discriminatory situation may be brewing. Also, do you track the amount of free care you are providing? When you provide this free care, you still must account for fixed costs, such as materials, operational overhead, and salaries. Thus, it is really not “free” care at all, because in actuality, the time you are using to provide this free care could be used to treat a paying patient, which helps to offset the fixed costs of the operation.

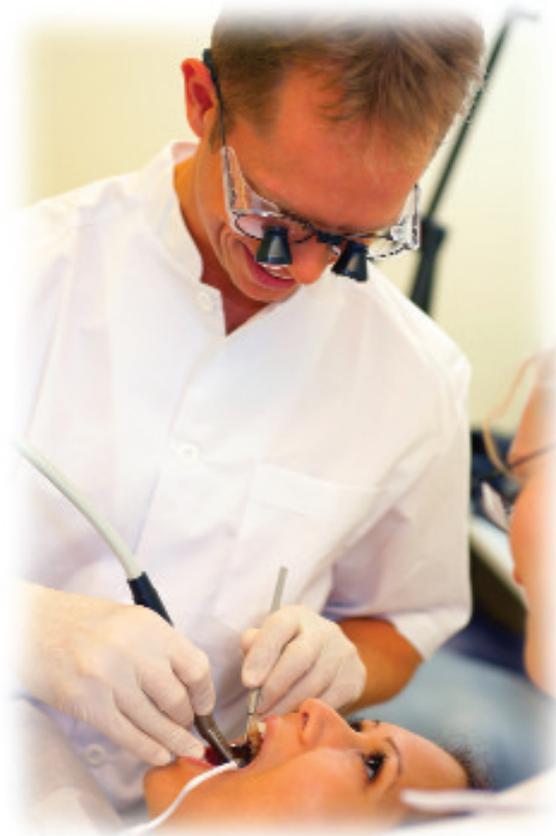
You may be reading this and saying that this is much ado about nothing. And maybe you’re right. However, if you have been concerned with the amount of free care you provide to your staff, you have a few options. You can include a dental reimbursement plan in your office policy manual. As part of the manual, the dental benefits for all staff (part-time and full-time) and family members would be spelled out in writing. If the employees are enrolled in a dental plan, the dental office could bill for the dental services they provide to the employees. However, there is a cost—the premium and administration of the plan—and that creates a potential dilemma for you. Do you charge the staff for the premium, require the staff to pay a portion of the premium, or have the office cover the entire premium?

What if your staff doesn’t use the dental benefits? You can look to an old favorite of the dental community: direct reimbursement (DR) dental plans. A DR plan would give you the creative avenue to design a plan to fit the specific needs of your office. Having a DR plan or an off-the-shelf dental plan would eliminate

any inequalities because you would offer the same plan to all eligible employees. You would get enrollment forms for those participating in the plan and waiver forms for those declining the coverage. It would, in essence, eliminate the free care dilemma from the practice, since a strict dental policy would be in place for all employees.

So is it worth implementing a dental plan instead of having a free care structure? That is something you will have to gauge and decide for yourself. Either way, it is in your best interest to take a good look at your free care model and, at the least, begin tracking it more closely. What you find may surprise you.

For information on direct reimbursement dental plans, contact MDSIS at (800) 821-6023 or visit www.mdsis.org. ■



William McKenna Volunteer Heroes

If it can be said that a society is only as strong as its members, then the Massachusetts Dental Society (MDS) is only as strong as its volunteer members. Based on the contributions of the men and women selected as the 2008 William McKenna Volunteer Heroes, the MDS is indeed formidable.

Since 1996, the Massachusetts Dental Society and the Journal of the Massachusetts Dental Society have been joining forces to honor those member dentists who have dedicated their energy, skills, and time to the profession of organized dentistry as the William McKenna Volunteer Heroes. This annual recognition is the Society's way of saying thank-you to those deserving members who give so much of themselves to organized dentistry and their communities. These are members who have gone above and beyond to help the MDS achieve its goals, inspire colleagues, and advance the profession of dentistry.



On the following pages, you will meet the 2008 William McKenna Volunteer Heroes and learn about their thoughts on the importance of volunteering, what they have gained both professionally and personally from their volunteer experiences, and why they think getting involved is so important to the future of dentistry. These members tirelessly donate their time and expertise for the betterment of the Society.

The 2008 William McKenna Volunteer Heroes are (pictured left to right): Philip M. Robitaille, DDS; Joy E. Kasparian-Federico, DMD; Daniel C. Varallo, DMD; Armond M. Enos Jr., DDS, MSD; Mary Jane Hanlon-Rogers, DMD; and John W. Torchia, DMD.

2008



Armond M. Enos Jr., DDS, MSD

Residence: Ashland
Office Location: Ashland
Specialty: General Dentistry
Education: Meharry Medical College and Boston University Graduate School of Dentistry
Number of Years in Practice: 28 years
Number of Years of MDS Membership: 27 years

Why did you choose to join the MDS?

I joined the Massachusetts Dental Society to become an active participant in the things that the Society was involved with on the district and state levels. I also was curious as to how the MDS and Eastern Dentists Insurance Company (EDIC) worked together to insure the dentists of the Commonwealth. Finally, I wanted to meet and work with other dentists in my district whose goals were to make this Society better for all dentists in this state.

Please describe the extent of your volunteer experience in dentistry.

I am a member of the Standing Committee on Allied Dental Health Professionals, which is chaired by Dr. Stephen Stone. I have been involved with this committee for the last four years. This year, I hold the position of chair-elect for the Metropolitan District; I was vice chair for the district last year. Prior to these positions, I was chair of the Credentialing Committee for the Metropolitan District from 2004 to 2008.

For the last two years, I have served as a volunteer for the Yankee Dental Congress. I was a room coordinator and offered information at one of the booths. I will also be a volunteer for YDC 34 in January 2009.

Lastly, from 2006 to 2007, I was a Guest Board Member for the Massachusetts Dental Society Board of Trustees.

How has your volunteer experience impacted you professionally and personally?

My volunteer experience has impacted me professionally by helping me learn how a professional group functions from an organization's perspective, and how this group functions politically on the state and national levels. I have learned from some very distinguished colleagues how one works in this setting and also how one contributes to the organization's growth and development.

Personally, volunteering has allowed me to meet and get to know other dentists throughout the state that I would have never come into contact with otherwise. I have also met and worked with individuals from the MDS staff, like Dr. Robert Boose [MDS executive director], whom I would not have worked with if not for volunteering for the different positions that I have held over the last five years.

In addition to your volunteer commitment to dentistry, what is your level of participation in community and philanthropic activities?

As far as participation in the community, I have been a member of the Greater Framingham Community Church for more than 10 years and I contribute to various programs that the church runs, especially the Vacation Bible Study Program, which is an annual summer program for children.

What do you feel are the most important issues facing organized dentistry today?

The most important issue facing organized dentistry in Massachusetts today is providing dental services to those individuals who have MassHealth dental benefits and those individuals who do not have dental insurance at all. The percentage of dentists who provide services for MassHealth patients is extremely low in this state. If the number of MassHealth dental providers were increased profoundly, we could provide dental treatment to the thousands of individuals who lack care. It would also illustrate to the public and legislators that dentists are showing leadership in this state by providing care to the most needy.

What would you say to a recent dental school graduate to convince him/her to get more involved in organized dentistry?

I would tell a recent dental school graduate that organized dentistry is doing many good things to benefit the profession. However, I would

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Journal of the Massachusetts Dental Society



Mary Jane Hanlon-Rogers, DMD

Residence: Lexington
Office Location: Lexington
Specialty: General Dentistry
Education: Tufts University School of Dental Medicine and Forsyth School of Dental Hygiene
Number of Years in Practice: 11
Number of Years of MDS Membership: 11

Why did you choose to join the MDS?

I joined the Massachusetts Dental Society to meet other dentists, especially other women dentists. I wanted to build a network not only for referrals, but also for support. I find it especially helpful to have colleagues to brainstorm with when I have difficult cases. I also think that, from a professional perspective, it's important to know your peers as you develop your career, since they can be helpful in moving you forward or you can motivate them to do something outside of their realm to help them move forward.

Why is involvement in organized dentistry important to you?

Involvement in organized dentistry is important for two reasons: One is the professional aspect, where you interact with one another and can brainstorm about the profession, clinical cases, or anything related to dentistry, such as upcoming legislation that may impact our future. It's important to know what is going on from a political perspective. I find it better to be proactive than reactive, as I like to know what's going on beforehand so I can plan better. The other reason is the social aspect, which is also very important. We all work hard on different projects, such as councils, committees and task forces, for the Society, but when we're done, we can relax and get to know one another better. I've developed some great friendships over the last 11 years.

Please describe the extent of your volunteer experience in dentistry.

In the last few years, I have become increasingly involved in the MDS. On the district level, I currently serve on the Middlesex District Executive Committee, and I am chair-elect for the Middlesex District Dental Society. At the state level for the MDS, I am currently a member of the Women's Leadership Task Force. I also served on the Bioterrorism Task Force, which helped create protocols for practices to follow in the event of a natural or man-made disaster. I was a participant in the 2007 Leadership Institute Program, and I served as a Guest Board Member on the MDS Board of Trustees for the 2007-2008 governing year. I also served as a member and am currently chair of the Council on Dental Education. In 2007, I was an alternate delegate for the MDS at the American Dental Association (ADA) Annual Session in San Francisco, and I was an MDS delegate at the 2008 ADA Annual Session in San Antonio.

I've also volunteered my time at Yankee Dental Congress 33, and I am on the YDC 34 Core Committee, serving as co-chair of the Women's Conference. In addition, I am on the YDC 35 Program Committee and will chair the YDC 36 Program Committee.

Finally, I have been an active volunteer on the MDS Foundation Mobile Access to Care (MAC) Van, donating my skills to provide care to the children in my district who need care.

How has your volunteer experience impacted you professionally and personally?

Professionally, I would say that I have learned a lot about people and how to interact with everyone. I learned so much about leadership from the Leadership Institute, which led me directly to the Guest Board Member position, where I gained a great deal of knowledge about our association and how it differs from others in New England and across the country. We should be very proud of our Society. It has great leadership and a staff that is, by my estimation, the best in the country, bar none. What goes on behind the scenes to make the organization run for the benefit of the members is extraordinary. I have also benefited professionally in the sense that I have so many dentists who I can call on in all areas of the state in case I have a patient relocate or I need help with a case.

Personally, the feeling of pride in helping a team accomplish its goal is extremely rewarding. Teamwork is a very important aspect of all of our lives, and we gain insight into one another on every "team" we play on, which adds to our personal sense of pride and well-being.

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Joy E. Kasparian-Federico, DMD

Residence: Weston
Office Location: Medford
Specialty: Orthodontics
Education: Tufts University School of Dental Medicine
Number of Years in Practice: 11
Number of Years of MDS Membership: 11

Why did you choose to join the MDS?

I was proud to join the MDS because it is the state component of the American Dental Association, which is undoubtedly the premier dental organization in the United States. The MDS is a powerful organization that endows its members with access to a vast array of resources and information related to the dental profession. Members are provided with a direct pathway to continuing education, business services, and professional support and guidance. The MDS staff is amazing and generously provides MDS members with assistance concerning the myriad dental practice issues we all face. All of these factors make an MDS membership invaluable.

Why is involvement in organized dentistry important to you?

I believe that it is important to be involved in organized dentistry in order to contribute to the advancement of my field. I am fortunate to be a dentist, and I find it gratifying to be able to give back to my profession. This past year, I participated in the largest-attended MDS Beacon Hill Day, during which MDS members go to the Massachusetts State House and discuss pending dental legislation in person with their own local state legislators. I also have served as a delegate representing my district at the MDS House of Delegates. On both of these occasions, it was great to feel like I had a voice that was being heard and was making a positive difference in my profession.

Please describe the extent of your volunteer experience in dentistry.

With the encouragement of Marc Kaplan, MDS membership director, I initially became actively involved in the MDS as a member of the Standing Committee on the New Professional. I very much enjoyed working with my peers, and I subsequently volunteered on the Local Arrangements Committee of the ADA New Dentist Conference that was held in Boston a couple of years ago. Last year, I was invited to participate in the second MDS Leadership Institute, and I am now serving on the Leadership Institute Ad Hoc Committee, which has a mission to establish various avenues to increase MDS member volunteerism.

In addition, I am secretary of the East Middlesex District, and I represent the East Middlesex District as a board member on the MDS-PAC/MDS People's Committee. For the past two years, I have been a delegate from the East Middlesex District at the MDS House of Delegates. I have also volunteered at the Yankee Dental Congress as presiding chair, room coordinator, and member of the General Arrangements Committee. Lastly, I have volunteered for the MDS at various local Child Identification Program (CHIP) events over the years.

How has your volunteer experience impacted you professionally and personally?

Professionally and personally, my volunteer experiences have had a very positive impact. I enjoy being part of a large group of dentists who have similar professional and life experiences. Dentistry has the potential to be an isolating field because most of us practice in either solo or small group settings. Volunteering has allowed me to build strong professional and personal relationships with a broad range of colleagues and to have established camaraderie with other dentists.

In addition to your volunteer commitment to dentistry, what is your level of participation in community and philanthropic activities?

I am involved in several community and philanthropic activities. I am secretary of the Tufts Association of Orthodontists (TAO), which is the alumni group of the Tufts University School of Dental Medicine Orthodontics Department. The TAO supports the orthodontics department and sponsors continuing education for its members. I also recently joined the Tufts University School of Dental Medicine Dental M Club Executive Committee, which helps raise funds for the school.

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Philip M. Robitaille, DDS

Residence: Somerset
Office Location: Somerset
Specialty: General Dentistry
Education: Northwestern University Dental School
Number of Years in Practice: 30
Number of Years of MDS Membership: 25

Why did you choose to join the MDS?

No one but the clinical dentist can best advocate for the care of his or her patients. Organized dentistry gives the profession leverage to do this.

Why is involvement in organized dentistry important to you?

Only organized dentistry provides a vehicle to deliver care to segments of our needy population. It petitions society to recognize the need for dental care and best advocates for the clinician in his or her efforts to run a successful and viable private practice. Optimum patient care suffers if government interference, insurance company meddling, or consumer-based—not evidence-based—trends are allowed to drive the dental marketplace. A strong state dental society is necessary to pursue the goals of our profession.

Please describe the extent of your volunteer experience in dentistry.

On a local level, I visit Somerset public elementary schools to perform oral exams for children who don't visit a dentist regularly. I work on the MDS Foundation Mobile Access to Care (MAC) Van when it comes to the Southeastern District. The MAC Van will come to the district for screenings at schools, Boys & Girls Clubs, carnivals, and health fairs, among other sites. I also take part in the American Dental Association's annual Give Kids a Smile Day. In recent years, we have opened several offices for a day and scheduled children for screening exams and treatment.

On a global level, I am very active in Missions for Humanity, a nascent Fall River-based nonprofit that is dedicated to providing medical, dental, and humanitarian aid to those in the world's neediest communities. I also serve on its Board of Directors. Currently, Missions for Humanity sends mission teams to Honduras in Central America and to Tanzania in Africa. Since 2004, Missions for Humanity volunteers have provided care to more than 3,000 people.

Every summer for the past six years, I have traveled to a mission in the town of Guiamaca, Honduras, to offer dental care to people in need. The Honduras mission is run by the Fall River Catholic Diocese, and it has been a challenge, logistically, to establish a foothold there. Dr. Debra Almeida of Westport is also involved with this effort, and we are slowly developing the mission site. Dental hygienists and dental assistants also volunteer at the mission. My daughter, Julie, and Priscilla Sousa, a dental assistant from my office, have assisted chairside in rather primitive conditions, and Jessica Burke, a dental hygienist from my office, has also volunteered her time and skills.

In June 2008, I traveled to Dar es Salaam, Tanzania, to provide care to people in rural villages. The Caritas organization provides support for our trips to Africa, and 2009 will mark the third year of our mission trips there.

How has your volunteer experience impacted you professionally and personally?

On both a personal and a professional level, my volunteer work has made me more aware of the fact that although I have earned the bulk of my success through hard work, I am still very fortunate to be in the position I am in today. To be a licensed dentist is a privilege allocated to few people, and there is an implied duty to serve the less fortunate that accompanies that privilege.

In addition to your volunteer commitment to dentistry, what is your level of participation in community and philanthropic activities?

I participate in several community initiatives that benefit the youth in my community. This involves sponsorship of local sports leagues, including the Somerset Little League, the Somerset Senior Girls Softball League, the Somerset Independent Softball League, and the Somerset Basketball League. Additionally, I make donations to the athletic booster clubs of Somerset High School, Case High School, Diman Regional Vocational Technical High School, and Bishop Connolly High School.

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John W. Torchia, DMD

Residence: Whately
Office Location: West Springfield
Specialty: Oral and Maxillofacial Surgery
Education: Fairleigh Dickinson University and University of Connecticut
Number of Years in Practice: 24
Number of Years of MDS Membership: 24

Why did you choose to join the MDS?

I have always believed that participation in organized dentistry is important for the continued strength of our profession, as well as optimal personal development. Membership in the MDS is the best way to participate.

Why is involvement in organized dentistry important to you?

Especially in dentistry, where many of us practice in solo settings, participation in a professional society is the best means to maintain interaction with colleagues. It also allows dentists to guide the future of oral health care in our state. We are the most knowledgeable stewards of our patients' oral health, and organized dentistry is the best means by which we can exert that stewardship.

Please describe the extent of your volunteer experience in dentistry.

My volunteer experience began as a member of the executive committee of the Valley District Dental Society (VDDS). I found the ability to offer my opinions about the leadership of our district to be both personally and professionally rewarding. This led to my election as chair of the VDDS. I have volunteered at the Yankee Dental Congress for many years and served as a delegate to the MDS Annual Session, where I have participated on Reference Committees and been a member and chair of the Nominating Committee. I have proudly served as a member of the MDS-PAC Board of Directors for the last several years during our aggressive transformation of the MDS-PAC. This year, I was elected secretary/treasurer of the MDS-PAC.

I have served on the Executive Committee of the Massachusetts Society of Oral and Maxillofacial Surgeons, being elected secretary/treasurer, vice president, and president during the course of my participation. I am also active in the Massachusetts Society of Dental Anesthesiology and was elected vice president last year. I also devote one half day a week providing oral surgery care to patients at Holyoke Health Center, a local community health center.

In 2001, I visited Nepal with another American dentist who had a contact at the National Dental Hospital of Nepal. We visited four poor communities in different areas of the country and provided care to hundreds of needy patients. These people rarely have access to dental care. Two Nepalese dentists worked with us. These villages had no electricity, so we sterilized instruments with boiling water. Also, we had no radiographs, so we were limited to clinical diagnoses. The people were very appreciative of the care they received, and the intrinsic reward for providing this care was excellent.

How has your volunteer experience impacted you professionally and personally?

The professional development that participation provides is immeasurable. The ability to interact both professionally and personally with other dentists throughout the state provides a more expansive perspective on our profession. One quickly realizes that the problems faced by the patients in our area are the same ones faced throughout the state. The knowledge that I am helping to find solutions to the various problems in administering adequate oral care provides a personal reward that cannot be overstated.

In addition to your volunteer commitment to dentistry, what is your level of participation in community and philanthropic activities?

I have been a member of the Planning Board in my hometown of Whately for more than a decade. Whately is a small farming community of 1,600 residents, and it is facing significant development pressure. My board participation helps guide the future development in a way so that quality of life is not lessened. I have worked to pass the Community Preservation Act in my town. I am active in national conservation organizations that raise funds to preserve open space. I also

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Daniel C. Varallo, DMD

Residence: Lexington
Office Locations: Arlington and Burlington
Specialty: Orthodontics
Education: Tufts University School of Dental Medicine and Indiana University School of Dentistry
Number of Years in Practice: 13
Number of Years of MDS Membership: 9

Why did you choose to join the MDS?

After returning to Massachusetts from my orthodontic residency program at the Indiana University School of Dentistry, I did not join the Massachusetts Dental Society immediately. It was not until a colleague and friend asked me to get involved in the Middlesex District Dental Society and in the Yankee Dental Congress that I joined the MDS.

Why is involvement in organized dentistry important to you?

Many dentists have contributed to making dentistry a great profession because of their involvement in organized dentistry. I feel that it is my responsibility to give back to the profession and hopefully make it better for the next generation of dentists.

Please describe the extent of your volunteer experience in dentistry.

I currently serve on the Council on Membership. I am also assistant treasurer of the Middlesex District Dental Society and have held the position of editor for the district. I have been actively involved in the Yankee Dental Congress for many years. I have served as co-chair of the Allied Scientific Committee and as chair of the Sign Committee twice.

How has your volunteer experience impacted you professionally and personally?

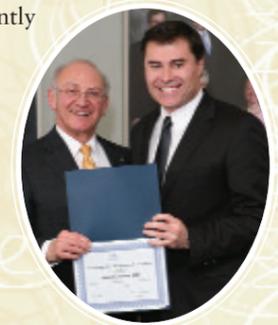
Throughout my volunteer experience, I have met many great people who have enriched me both personally and professionally. I learned things from them that I could not have learned in a classroom. I have also come to realize how much effort it takes to keep organized dentistry strong.

What do you feel are the most important issues facing organized dentistry today?

The most important issue facing organized dentistry is ensuring that the organization remains strong. The demographics of dental school graduating classes have certainly changed. With this change of demographics has come the changing needs of new dentists. Identifying these needs and helping the new members with them will increase their commitment and involvement in the MDS. With membership and involvement strong, the other issues (such as insurance, access to care, etc.) can be addressed more effectively.

What would you say to a recent dental school graduate to convince him/her to get more involved in organized dentistry?

Your involvement is crucial to keeping organized dentistry strong. The theme for the last Yankee Dental Congress [YDC 33] was "Just Imagine . . ." With that in mind, "just imagine" dentistry with no organization. I can't imagine not being able to call the MDS for advice. MDS Insurance Services (MDSIS) recently helped me save hundreds of dollars a month on health insurance benefits for my staff. I can't imagine not having the Yankee Dental Congress on my schedule. It is a great venue for learning, product education, product pricing, and networking. Without organized dentistry, I imagine running my practice would be more difficult. ■



Armond M. Enos Jr., DDS, MSD
continued from page 12



emphasize that there are new challenges facing our profession every day. Young, energetic dentists are needed to come in with new ideas and the dedication to make our profession even better and to maintain the MDS's reputation as a Society that is caring to the public and respected by our colleagues throughout the country. ■

Mary Jane Hanlon-Rogers, DMD
continued from page 13



In addition to your volunteer commitment to dentistry, what is your level of participation in community and philanthropic activities?

I love being able to give back a bit of what I have been blessed with. So early on in my career, I decided that I would make custom-made mouthguards for athletes at my expense, and this might help decrease the amount of trauma we see in sports. From those early beginnings, this community service has just blossomed into a thriving program in which we see entire teams to outfit them for the season. I really love doing it, and my staff has done a great job of helping to support me in this endeavor.

In addition to dentistry, I have committed the last 10-plus years to various volunteer activities with the Hayden Synchronized Skating Teams (HSST). HSST is a group of synchronized skaters from Lexington who are devoted to the development of the most successful synchronized skating teams in the United States. For the past four years, I have been general manager of the HSST. We currently have five synchronized teams across age divisions, including the Haydenettes, the 17-time and current U.S. Synchronized Champions and 2008 World Championship free-skate Bronze Medalists. In addition, I have been fortunate enough, at the invitation of U.S. Figure Skating, to photograph the last five years of the World Synchronized Skating Championships.

What do you feel are the most important issues facing organized dentistry today?

Truly, my biggest worry is how the insurance industry is going to impact us over the

next 10 years. It is amazing to me that Delta Dental can still charge us a 5 percent write-off after all these years. In addition, I was really horrified when I recently read that the national Delta organization is planning to mandate a maximum allowable fee even on services that they do not cover. How can they mandate such a thing? We, as dentists, have to stand strong for our profession lest someone else direct it.

I am truly impressed by the amount of work our Council on Dental Care and Benefits and the MDS-PAC/MDS People's Committee have done on our behalf. We owe it to them if we can't be involved in person to support them financially, if at all possible.

What would you say to a recent dental school graduate to convince him/her to get more involved in organized dentistry?

Don't hesitate . . . Just jump right in and get involved. It will be the best thing you ever did. Not only from a networking perspective, especially if you are a recent graduate in an associate position looking for a permanent position or a practice to buy, but from the social engagement it provides. I would especially encourage young women dentists, even if you are only working part-time or have a new family, to get involved as much as possible. There is always something that needs to be done. Whether you only have a little bit of time or you want to be involved in a lot of things, the MDS can accommodate you. With my involvement with the MDS, I find, as in all things, that the more you give, the more you get back in return. ■

Joy E. Kasparian-Federico, DMD
continued from page 14



In the past, I have been a board member for the Association of Tufts Alumnae, which promotes educational events for Tufts alumnae and provides scholarships to women students of Tufts University.

Furthermore, in my community, I promote dental health by providing dental education to local schools. I am also a member of the Weston Community Children's Association, which supports activities for children in my hometown.

What do you feel are the most important issues facing organized dentistry today?

The most important issues facing organized dentistry revolve around dentists maintaining their professional stature and their current clinical areas of responsibility. In Massachusetts, certain proposed legislation would cede too much responsibility to dental hygienists that is appropriately in the hands of dentists. The dental profession must proactively ensure that the public and

the state legislators understand that the dentist is the leader of the dental team and is the only member of the team with the advanced educational background and clinical training to diagnose dental disease. Accordingly, dentists—not other members of the dental team—must make decisions as to which clinical responsibilities can safely be delegated to dental hygienists and dental auxiliaries.

The MDS does a wonderful job of promoting dentists as the leaders of dentistry to the public. However, MDS dues cannot support political action. Accordingly, it is critical that MDS members support and join the MDS-PAC/MDS People's Committee, which provides dentists with the voice they need to shape their own future, not only by supporting lawmakers who support dentists and legislation that is favorable to dentists, but also by providing education to dentists so they can effectively communicate with legislators and advance issues that are important to the profession.

What would you say to a recent dental school graduate to convince him/her to get more involved in organized dentistry?

I would encourage recent graduates to get involved with the MDS because there are a wide range of volunteer opportunities available to them with varying time commitments. Volunteering will allow them to meet other dentists and feel really good about themselves for making a positive impact because they will be giving back to a profession that has given so much to them. ■

Philip M. Robitaille, DDS
continued from page 15



I also contribute to various scholarship funds within my community. One of these is the Citizens Scholarship Fund, which is an annual disbursement to a qualified Somerset High School senior that is given from my contribution made in my late father's memory. I also donate to the Bishop Stang High School Annual Fund and to the Donald J. McNamara Scholarship Fund, which was created in memory of a science teacher at Somerset High School who died from cancer. The fund provides scholarships for graduating students from Somerset High School and awards for special projects to science teachers throughout the town's school system. Additionally, I offer sponsorship to the Somerset High School Drama Department and the Somerset MusicTown Festival.

I donate to the American Cancer Society, the Breast Cancer 3-Day Walk, and the United Way of Fall River as well. Every May, I participate in Project Bread's Walk for Hunger in Boston. Lastly, I donate Christmas gifts to two area group homes for teens.

What do you feel are the most important issues facing organized dentistry today?

The most important issues facing the profession are fluoridation; rising health care/dental costs that are driving away patients needing care; government obtrusiveness into dentistry; the litigious nature of our culture; and restricted access to care for children.

What would you say to a recent dental school graduate to convince him/her to get more involved in organized dentistry?

To a younger dentist, I would say this: Listen to an "old man" when he speaks to you. Get involved in organized dentistry or perish! ■

John W. Torchia, DMD
continued from page 16



participate in the Franklin County Land Trust, which has a similar mission.

What do you feel are the most important issues facing organized dentistry today?

The two most important issues are access to care and the high cost of dental education, and I believe the two are interconnected. It is morally and professionally necessary for each of us to work to expand access to underserved populations. If we do not, political forces will offer solutions that are not likely to be in the best interests of our patients. As an organization, we are in the best position to craft a positive solution to this important problem that will preserve the high quality of care that we have historically been able to offer our patients. However, the high cost of dental education exacerbates this problem. Young dentists usually complete their education in significant debt. Ultimately, this debt becomes an obstacle to providing care to underserved populations because of inadequate reimbursement rates for this care.

What would you say to a recent dental school graduate to convince him/her to get more involved in organized dentistry?

The future of your profession is only in your hands if you are active in organized dentistry. It is through organized dentistry that we can have an effective voice in the social and political events that will shape the oral health of our patients. We are the most knowledgeable members of society about oral health, and we should be the guiding force for oral health improvement. We cannot be that force solely by practicing high-quality care in our offices. We must also be active in our local and state dental societies, offer our time for volunteer efforts, and support our political action committees. ■



Orthodontic Camouflaging of Skeletal Malocclusions: A Clinical Perspective

VINCENT DEANGELIS, DMD

Dr. DeAngelis has served as president of the Massachusetts Association of Orthodontists, editor of the Northeastern Society of Orthodontists, president of the Edward H. Angle Society of Orthodontists (Eastern Component), and associate clinical professor of orthodontics at the Harvard School of Dental Medicine. He is a fellow of the International College of Dentists and the American Academy of Dental Science.

The most common malocclusions are dentoalveolar in nature and are generally classified as Angle Class I, II, or III. These malocclusions can involve a combination of the sagittal, transversal, and vertical planes of the dentition. Sagittally, an overjet can exist (i.e., maxillary incisor protrusion with or without crowding or spacing); conversely, an anterior crossbite can exist due to retroclination of maxillary anterior teeth, proclination of mandibular anterior teeth, or a combination of both, resulting in maxillary incisor positions lingual to the mandibular incisors.

Vertically, orthodontic aberrations may include a deep overbite owing to excessively extruded incisors, abnormally intruded posterior teeth, or a combination of the two. An anterior open bite may be associated with undererupted anterior teeth, overerupted posterior teeth, or a combination of both.

Transversely, the clinician can encounter a constricted maxillary dental arch, a less common expanded mandibular dental arch, or a combination of both problems. This condition usually results in a posterior crossbite (unilateral or bilateral), with or without a mandibular functional shift from centric relation to centric occlusion.

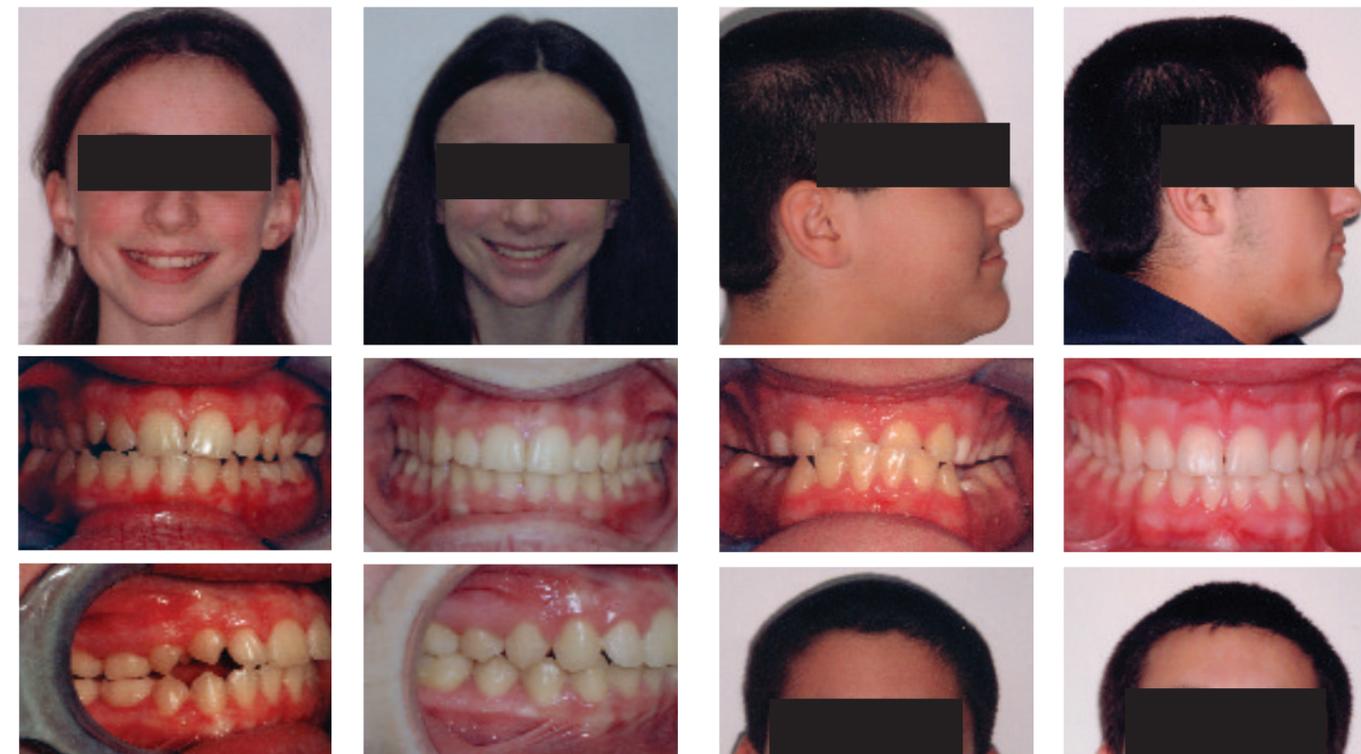
All of the above dentoalveolar malocclusions are generally amenable to orthodontic correction in the growing patient. In the presence of a dysplasia between the corpuses (apical bases)

of the maxilla and the mandible, the malocclusion is frequently more severe and is defined as a skeletal anomaly. Skeletal Class II malocclusions can also often be treated successfully in the growing patient with orthopedic headgear forces. An example of the correction of a skeletal mandibular asymmetry with Class III tendency with orthopedic chin cup force at bedtime is depicted in Figures 1a–1f.

Resolution of severe skeletal base abnormalities in the adult requires either an orthodontic/orthognathic surgical remedy or camouflaging of the skeletal base discrepancy with orthodontic dentoalveolar compensations. Although correction of severe apical base aberrations in the adult generally requires orthognathic surgery, milder dentoalveolar/skeletal apical base dysplasias can often be treated satisfactorily without surgical intervention.

Several instances of dentoalveolar camouflaging of mild skeletally based malocclusions that enabled the avoidance of orthognathic surgical intervention in the adult are demonstrated here.

A common sagittal malocclusion with dentoalveolar/apical base discrepancies is found in the Class III malocclusion. Here, the maxilla is retrognathic, the mandible is prognathic, or a combination of both aberrations exists. When this condition is present, the dentoalveolar relationship of the dental arches may be modified to mask the jaw apical base dysplasia by proclining the maxillary anterior teeth and retroclining the mandibular anterior teeth within supporting structural limits. Retracting the mandibular incisors and canines may require extraction of mandibular first or second premolars, thus accepting a Class III molar relationship. The labial plate's osteophytic response to maxillary incisor proclination to aid in the correction of the anterior crossbite in these patients is limited as dehiscences may



Figures 1a–1c.

Figures 1d–1f.

A 12-year-old female presented with a mandibular asymmetry and a Class III skeletal pattern. Asymmetrical nighttime orthopedic chin cup force was applied for nine months. Additionally, she was treated with fixed appliances concomitantly for 18 months. Figures depict pretreatment records (Figures 1a–1c) and posttreatment records (Figures 1d–1f). Note the balanced symmetry following treatment. The mandibular asymmetry, if left untreated, would have become more severe in time, likely requiring surgical correction.

occur when this procedure is overdone. This alternative to orthognathic surgery accepts the skeletal dysplasia and, in turn, a possible compromised facial profile. However, when advised of this option, many patients are willing to accept this dentoalveolar camouflaging. (See Figures 2a–2h.)

A transverse skeletal dysplasia may exist in the adult after the mid-palatine suture has closed (synostosed). This situation may result in a bilateral crossbite due to a constricted maxillary base, often requiring a surgical widening of the palate (corticotomy) with fixed maxillary expansion. However, dentoalveolar expansion can successfully mask the constricted palate and resolve the bilateral crossbite, particularly in cases of a mild skeletal transversal abnormality. Again, in these cases, the clinician must be aware of the limitations presented by the paradental tissues on the amount of expansion possible without irreversible damage to the buccal plate. (See Figures 3a–3f and Figures 4a–4h.)

In the vertical plane, when a severe hyperdivergence—the maxillary corpus is tilted upward and/or the mandibular corpus (lower border of the mandible) is steep—a skeletal open bite often results. Correction of these severe problems commonly requires orthognathic surgery. However, once again, in the milder forms, dentoalveolar camouflaging compensations are possible with a combination of molar intrusion and incisor extrusion. In these corrections, posttreatment stability must be addressed with appropriate long-term retentive measures. (See Figures 5a–f and Figures 6a–f.)



Figures 2a–2d.

Figures 2e–2h.

A 15-year-old male with a Class III skeletal malocclusion was treated for 20 months with fixed appliances and nighttime orthopedic chin cup force to achieve dentoalveolar compensation for the skeletal apical base dysplasia. Figures show both pretreatment diagnostic records (Figures 2a–2d) and posttreatment records (Figures 2e–2h). Included are the pre- and posttreatment cephalograms that were taken in centric relation, which was coincident with centric occlusion pathognomonic of a true Class III skeletal malocclusion. Although a Class III skeletal tendency and facial profile remains, the anterior dental relationship has improved, obviating surgical correction.

Conclusion

Incontrovertibly, if the malocclusion includes a severe skeletal apical base component, orthognathic surgical correction may be necessary to attain an ideal result. However, such a procedure is not without risk, and possible complications must be considered. For some patients, the camouflage method is a viable alternative. Therefore, patients should be informed of the existence of an orthodontic solution and be made fully aware of the indications and contraindications of each treatment modality. ■

Article photos continued on page 22

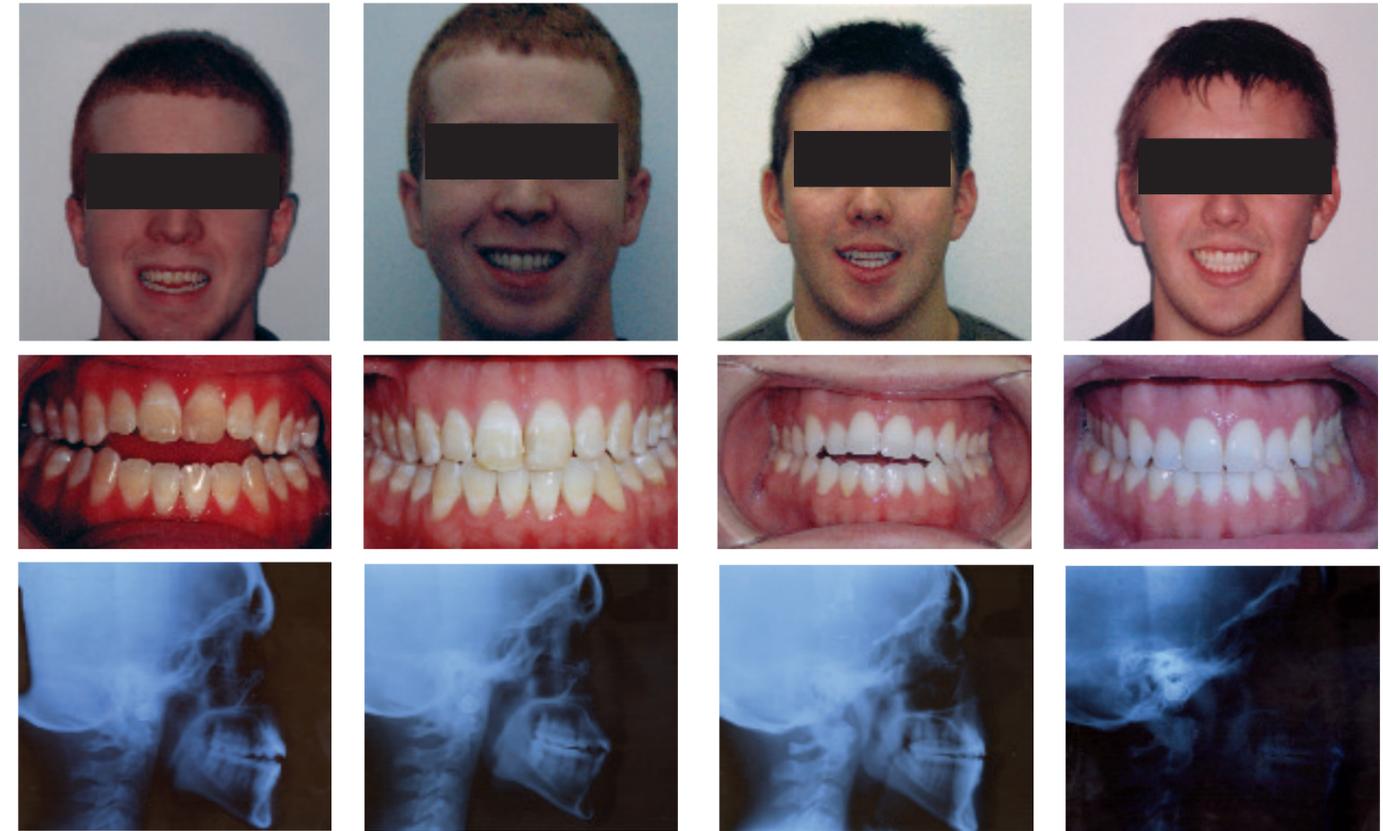


Figures 3a-3c. Figures 3d-3f.

A 40-year-old male presented with a severe maxillary constriction resulting in a bilateral crossbite. The patient had received unsuccessful orthodontic treatment as a child. He was retreated with judicious maxillary dentoalveolar expansion and fixed appliances for 18 months. Figures show pretreatment photographs (Figures 3a-3c) and posttreatment photographs (Figures 3d-3f).

Figures 4a-4d. Figures 4e-4h.

Patient is a 38-year-old female who also had earlier orthodontic treatment as a child. She was retreated for 14 months. Dentoalveolar expansion and simultaneous fixed-appliance treatment resulted in an ideal result without the corticotomy treatment that had been recommended earlier. Figures show pretreatment photographs (Figures 4a-4d) and posttreatment photographs (Figures 4e-4h).



Figures 5a-5c. Figures 5d-5f.

A 25-year-old male was treated for a skeletal open bite correction by dentoalveolar modification in 17 months. Pretreatment photographs and cephalogram (Figures 5a-5c) depict a severe skeletal hyperdivergence between the maxillary and mandibular bases. Posttreatment photographs and cephalogram (Figures 5d-5f) show successful correction.

Figures 6a-6c. Figures 6d-6f.

A 30-year-old male presented with similar skeletal and dental characteristics as the patient in Figures 5a-5f. Treatment lasted 14 months. Figures show pretreatment records (Figure 6a-6c) and posttreatment records (Figure 6d-6f). The cephalograms illustrate a severe skeletal hyperdivergence as well as markedly long lower face height. Dentoalveolar adjustments (posterior tooth intrusion/anterior tooth extrusion) obviated the need for orthognathic surgical correction.

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Revisiting the Importance of the Neck Exam

**WM. STUART MCKENZIE
JUSTIN HENDI, DMD**

KALPAKAM SHASTRI, DDS, FFDRCSI

Mr. McKenzie is a third-year dental student, Dr. Hendi is chief resident in the department of oral and maxillofacial surgery, and Dr. Shastri is assistant professor of oral and maxillofacial surgery at Tufts University School of Dental Medicine.

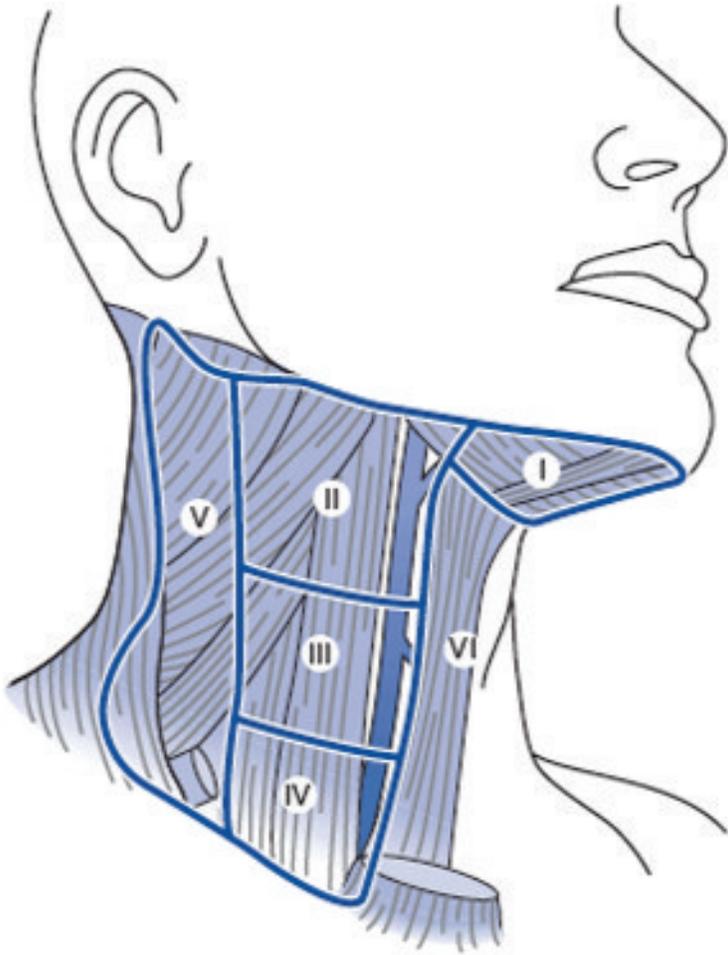


Figure 1. Lymph node levels of the neck. (Image used with permission from BC Decker Inc., publisher of *Peterson's Principles of Oral and Maxillofacial Surgery*, 2nd ed.)

The importance of a neck exam is often underestimated. While it is easy to focus on the dental needs of each patient, the evaluation of underlying medical conditions and diseases is just as important. One 1994 study found that only 14 percent of dentists surveyed performed all aspects of the head, neck, and intraoral exams.¹ With 34,000–40,000 cases of oral or oropharyngeal cancer in the United States, and a less than 60 percent five-year survival rate, the importance of thorough head, neck, and intraoral exams should be self-evident.^{2,3} With proper examination of the neck, early detection of pathology can be achieved and critical treatment implemented. Oral cancer can present as lesions visible in the oropharyngeal area but can also present as enlarged nodes without clear evidence of an oral lesion. Cancer that is not detected can result in distant metastasis, with resulting poor staging and poorer prognosis.

The palpation of the neck is initiated after thorough intraoral soft-tissue and head exams have been performed. The palpation of the preauricular, posterior auricular, parotid, and occipital nodes may be included in either the head exam or the neck exam. With the doctor behind the patient, the lymph nodes are assessed by manual palpation. The dentist begins by examining the lymph nodes of the posterior triangle of the neck. These include the posterior cervical chain along the anterior border of the trapezius muscle and the nodes along the posterior border of the sternocleidomastoid muscle (SCM). The superficial cervical nodes are then palpated, anterior and superficial to the SCM.

Next, the deep cervical nodes are palpated by having the patient turn his or her head to the opposite side, while the thumb and forefinger grasp around the SCM. The deep cervical nodes are evaluated along the entire length of the SCM, and the supraclavicular nodes are palpated deeply at the angle formed by the SCM and the clavicle. The tonsillar nodes are palpated at the angle of the mandible, then moving anterior to the submandibular and submental nodes.⁴ Nodes should be movable in all directions. It should be noted that the Oral Cancer Foundation has suggested that a painless neck mass in a patient over 40 years of age should be considered oral cancer until proven otherwise.² It is important to communicate with patients as to why the neck exam is being performed and how they can check themselves for suspicious nodes.

The midline of the neck is then assessed for any unusual findings. The trachea should be in the midline and evaluated for swellings. Common neck swellings are thyroglossal cysts, branchial cysts, lymphangiomas, and hemangiomas. The thyroglossal duct cyst can be diagnosed by having the patient take a sip of water. Upon swallowing, a thyroglossal duct cyst will rise along with the thyroid and cricoid cartilage. The branchial cleft

cyst occurs in the lateral neck. Hemangiomas, lymphangiomas, and vascular malformations can occur frequently in the neck and should be included in the differential diagnosis for soft-tissue swellings in the neck.^{4,5} A more comprehensive list of neck swellings not associated with infection can be found in Table 1.

Seven Anatomic Locations in the Oral Cavity

Detection of cancer in the head and neck is the key impetus for performing a thorough neck evaluation. In order to assist clinicians, the American Joint Committee on Cancer has defined seven anatomic locations from which primary lesions may arise in the oral cavity: mucosal lips, buccal mucosa, alveolar ridge, retromolar gingiva (trigone), floor of the mouth, hard palate, and anterior two-thirds of the tongue.⁶

Each of the primary sites drains to distinct and predictable lymph nodes in the neck. The more than 300 cervical lymph nodes are divided into six surgical levels. (See Table 2 for description of cervical node levels.) Understanding lymph drainage patterns allows the clinician to

Table 1. Common Neck Swellings Not Associated with Infection.^{8,9}

| Neck Swelling | Location/Characterization |
|-------------------------|--|
| Dermoid cyst | Usually in midline above hyoid bone. Soft and fluctuant. |
| Branchial cyst | Posteroinferior to angle of mandible. Aspiration of cyst produces puslike material high in cholesterol crystals. |
| Thyroglossal cyst | Midline from base of tongue to isthmus of thyroid. Moves upward during swallowing and tongue protrusion. |
| Thyroid swelling | Midline, moves upward during swallowing, but not during tongue protrusion. |
| Carotid paraganglioma | Bifurcation of the carotid artery. Movable in lateral direction, but not vertically. Often can see pulsation or hear bruits on auscultation. |
| Malignant lymph node | Location varies. Fixed, hard, painless. |
| Laryngocele | Lateral neck. Diverticulum filled with air formed from ventricles of larynx. |
| Hemangioma/Lymphangioma | Location varies. Rare swelling consisting of lymphatic or vascular tissue. |

palpate for nodal metastasis after a primary lesion has been discovered, or to determine where the primary lesion may be if a suspicious node is detected. The drainage patterns are also useful in localization of infection. (See Table 3 for lym-

phatic drainage of intraoral sites.)

The mucosal lip represents 2 to 42 percent of oral cancers. Approximately 10 percent of lower lip lesions and 20 percent of upper lip lesions display metastasis. Metastasis from the lower lip occurs in

Table 2. Description of the Surgical Nodal Levels of the Neck, and Their Anatomic Boundaries

| Lymph Node Level | Description | Boundaries |
|------------------|--|---|
| Level I | Submental nodes | Superior—Mandibular symphysis Inferior—Hyoid bone Lateral—Anterior bellies of digastric muscles |
| | Submandibular nodes | Superior—Mandibular body Inferior—Posterior belly of digastric Anterior—Anterior belly of digastric Posterior—Stylohyoid muscle |
| Level II | Upper jugular nodes surrounding internal jugular vein | Superior—Base of skull Inferior—Horizontal plane from inferior border of hyoid Anterior—Stylohyoid muscle Posterior—Lateral border of sternocleidomastoid muscle (SCM) |
| Level III | Middle jugular lymph nodes surrounding internal jugular vein | Superior—Horizontal plane from inferior border of hyoid Inferior—Horizontal plane from inferior border of cricoid cartilage Anterior—Lateral border of sternohyoid Posterior—Lateral border of SCM |
| Level IV | Lower jugular nodes surrounding internal jugular vein | Superior—Horizontal plane from inferior border of cricoid cartilage Inferior—Clavicle Anterior—Same as Level III Posterior—Same as Level III |
| Level V | Nodes of posterior triangle, spinal accessory nodes, transverse cervical nodes, and all nodes on posterior aspect of the SCM | Superior—Apex formed by SCM and trapezius Inferior—Clavicle Anterior—Posterior belly of SCM Posterior—Anterior belly of trapezius |
| Level VI | Pretracheal, paratracheal, and prelaryngeal (also known as Delphian) nodes | Superior—Hyoid bone Inferior—Suprasternal notch Lateral—Common carotid arteries |

Table 3. Lymphatic Drainage of Intraoral Sites

| Oral Cavity Site | Lymphatic Drainage |
|-------------------------------|---|
| Mucosal lips | Level I for lower lip, Level II for upper lip and commissures |
| Buccal mucosa | Level I primarily, followed by Level II |
| Alveolar ridge | Levels I and II |
| Retromolar gingiva (trigone) | Level I (submandibular nodes) and Level II |
| Floor of mouth | Superficial drainage bilateral to Level I (submandibular nodes). Deep drainage to ipsilateral Levels I, II, and III |
| Hard palate | Levels I and II |
| Anterior two-thirds of tongue | Primarily Level II, followed by Levels III and I |

the submental, submandibular, and periauricular nodes (Level I). A lower lip lesion may present with metastasis to the opposite side if the lesion is near or has crossed the midline. The upper lip and commissure drains to the preauricular, periparotid, and submandibular nodes (Level II). Metastasis from the upper lip rarely occurs to the opposite side.⁶

Lesions of the buccal mucosa display metastasis in 10 to 27 percent of cases, and are a frequent site of cancer in patients in Central and Southeast Asia.

Drainage from the buccal mucosa is to Level I primarily, and Level II to a lesser degree.⁶

Cancer of the alveolar ridge occurs more frequently on the mandible, with metastasis occurring in 24 to 28 percent of maxillary and mandibular alveolar lesions. Drainage is to Levels I and II.

Primary lesions of the retromolar gingiva represent only 2 to 6 percent of all oral cancer cases, but they are extremely aggressive. Approximately 27 to 56 percent of individuals will present with nodal involvement. The submandibular nodes (Level I) and the upper jugulodigastric nodes (Level II) are the sites of metastasis.⁶

Carcinoma of the floor of the mouth presents with two distinct drainage patterns: a superficial bilateral drainage to the submandibular nodes (Level I), and a deep drainage to the ipsilateral submandibular, upper, and middle jugulodigastric nodes (Levels I, II, and III). Approximately 50 percent of cases will have nodal involvement, often with multiple nodal levels involved.⁶

The hard palate is an uncommon site for oral carcinoma (3 to 6 percent), and metastasis to Levels I and II can occur in 10 to 25 percent of patients. It should be noted, however, that metastasis from the hard palate can occur to nodes not palpable on exam (retropharyngeal nodes).⁶

The anterior two-thirds of the tongue is one of the most common sites for primary oral cancer lesions, representing 22 to 49 percent of all cases, and approximately 40 percent of patients will present with metastasis at the time of diagnosis. Drainage from the anterior

tongue is to Level II primarily, followed by Levels III and I. Lesions of the lateral border often metastasize ipsilaterally, while lesions of the tip or body of the tongue spread bilaterally.⁶

Based on the previous discussion, it is clear that cervical Levels I, II, and III are of key importance in assessing spread of carcinoma from the oral cavity. However, all levels of the neck should be palpated in order to rule out other common malignancies, such as Hodgkin's lymphoma, non-Hodgkin's lymphoma, or metastasis, all of which also present as a painless, enlarged, fixed node or group of nodes. Patients with suspicious lymph nodes should be referred to a specialist for biopsy or advanced imaging, such as computed tomography (CT) scan, positron emission tomography (PET) scan, or magnetic resonance imaging (MRI).

In a 2003 study, it was shown that the dental office is the most likely place for detection of oral or oropharyngeal carcinoma of nonsymptomatic nature, resulting in a lower stage at diagnosis.⁷ This study reinforces the importance of thorough head-and-neck exams, and the key role the dental professional plays in the overall health of his or her patients. ■

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Complex Interdisciplinary Treatment: Two Case Reports

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Introduction

There is no doubt that the evolution of implant and regenerative therapies and the continued introduction of newer armamentaria in this field have significantly impacted patient care. However, such therapeutic approaches should not be viewed as an end in themselves. Rather, these newer technologies must be seamlessly integrated into everyday treatment protocols to help better address individual patient needs.

Regardless of which therapeutic approaches are utilized, maximization of treatment outcomes is dependent on identification of etiologic factors, a thorough and insightful diagnosis, and formulation of a multidisciplinary, comprehensive treatment plan. The importance of these considerations is highlighted in the two cases presented here.



Figure 1a. A clinical view of Patient X at initial presentation. Note the severe wear of the maxillary and mandibular anterior teeth.



Figure 1b. Severe wear of the mandibular left cuspid by the opposing full-coverage restoration is evident.



Figure 2a. An occlusal view of the maxillary teeth. Note the lack of occlusal wear.



Figure 2b. An occlusal view of the mandibular teeth. Note the lack of occlusal wear.

Clinical Case I

Patient X, a 57-year-old male, presented with severe wear of his maxillary and mandibular anterior teeth, caries on many older restorations, and a general esthetic dissatisfaction (see Figures 1a and 1b). A determination needed to be made as to whether this was an example of tooth wear and loss of vertical dimension, or if vertical dimension had been maintained as the anterior teeth had worn. Examination of the occlusal surfaces of the maxillary and mandibular posterior teeth (see Figures 2a and 2b) demon-



Figure 3. The mounted models have been carved to attain the desired gingival margin positions, and a wax-up of the models has been carried out.

strated retention of the anatomy initially developed in the restorations and a lack of occlusal wear. Loss of vertical dimension had not occurred.

The severe anterior wear was a result of the patient bringing his lower jaw into a protrusive position and demonstrating a parafunctional habit solely on his anterior teeth. As these teeth had become worn down, the maxillary anterior teeth supererupted. As a result, crown-lengthening osseous surgery and restoration of the teeth in question were determined to be required to address the patient's esthetic concerns

Accurate full-arch impressions were taken and diagnostic casts poured. A facebow transfer was taken, as well. The diagnostic casts were duplicated in the dental laboratory and all of the casts were cross-mounted on an articulator. Diagnostic wax-ups were performed on the duplicate casts. The casts were modified to reposition the gingival margins to ideal esthetic levels. These levels were determined by measuring full-coverage restoration of the maxillary lateral incisor. As no wear had occurred to the occlusal surface of this restoration, the ideal lengths of the original teeth could be assessed utilizing well-established proportional measurements. Taking the existing maxillary anterior incisal positions as ideal, the casts were modified accordingly to provide the determined ideal tooth lengths (see Figure 3).

A vacuform shell was fabricated in the laboratory on the modified diagnostic cast that demarcated the desired gingival margin positions. Following full-thickness flap reflection, the guide was placed over the maxillary teeth. Osseous resective therapy was performed to ensure a 2 mm dimension between the osseous crests and the demarcated gingival margin positions on the guide (see Figures 4a and 4b). It is crucial that this dimension

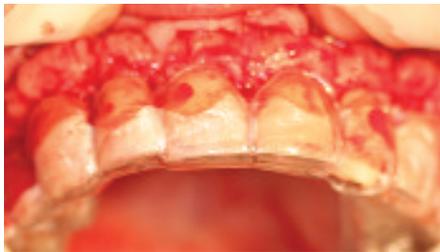


Figure 4a. The fabricated guide is placed on the maxillary teeth following flap reflection.

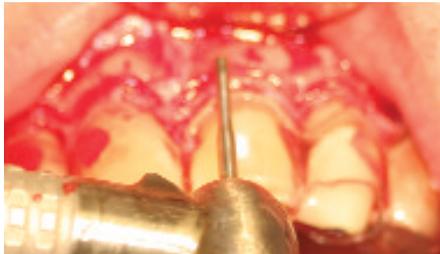


Figure 4b. Osseous resection has been carried out to ensure a 2 mm dimension between the osseous crest and the desired final gingival margin.



Figure 5. A clinical view of the final restorations in place.

be attained to ensure development of the soft tissues to the appropriate levels following healing. It is also necessary to reduce any buccal osseous ledging appropriately. Failure to do so will result in the soft-tissue margins healing too far coronally, due to the soft tissues having had to traverse the buccal ledging and make their way to the tooth surfaces. The need for such buccolingual osseous reduction has been previously described.¹

Following appropriate periodontal crown-lengthening surgery, with buccal and palatal/lingual reduction as necessary, final full-coverage restorations were placed to restore teeth following caries excavation and to address the patient's esthetic desires (see Figure 5). Two bite appliances were fabricated. The patient wears the maxillary appliance at night and the mandibular appliance during the day.

Clinical Case II

Patient Y, a 62-year-old male, presented with severe wear and chipping of his max-



Figure 6a. Patient Y presents with worn and chipped maxillary and mandibular anterior teeth.



Figure 6b. The compromised condition of the maxillary and mandibular anterior teeth is evident.

illary and mandibular anterior teeth (see Figures 6a and 6b). Extensive caries were noted around all abutments of the existing fixed prostheses. Teeth #3, #7, and all remaining mandibular molars demonstrated poor long-term prognoses due to a combination of caries and periodontal disease. A 15 mm-long, 4.1 mm-wide implant had been in place for more than 10 years, and demonstrated no peri-implant bone loss in the position of tooth #18.

During the course of diagnosis, a determination had to be made whether Patient Y demonstrated loss of vertical dimension or was experiencing a situation similar to that of Patient X (no loss of vertical dimension but wear of anterior teeth due to a parafunctional habit). Severe occlusal wear was noted upon examination of the occlusal surfaces of the maxillary and mandibular posterior teeth (see Figures 7a and 7b). As a result, it was determined that Patient Y had lost vertical dimension. Therefore, crown-lengthening osseous surgery was not required. Rather, an appropriate vertical dimension needed to be reestablished and the teeth restored to this dimension.

The mounted diagnostic casts were next examined (see Figure 8a). Because the mesiodistal dimensions of the maxillary anterior teeth had not changed as a result of tooth wear, a determination could be made as to the pretraumatic lengths of these teeth, utilizing well-established proportions. Following such calculations, it was determined that the

Maximization of implant and regenerative treatment outcomes is dependent on identification of etiologic factors, a thorough and insightful diagnosis, and *formulation of a multidisciplinary, comprehensive treatment plan.*

patient would have to have his vertical dimension increased by 5 mm in the anterior region (see Figure 8b).

However, a patient's vertical dimension cannot be increased by such an extent without first ensuring that these changes will not induce discomfort or other untoward symptoms. This determination must be made before fixed temporization is carried out. To accomplish this, a mandibular occlusal repositioning appliance (MORA) was fabricated and inserted. This appliance overlays the mandibular teeth, is worn at all times except during mastication, and is wholly reversible (see Figure 9). Such an appliance may also be used to help assess planned jaw repositioning. After six weeks of appliance use, Patient Y exhibited no untoward symptoms. It was therefore

determined that he could be restored to the desired vertical dimension.

Because of the extensive regenerative and implant therapies required, it was determined that treatment for Patient Y would last approximately 18 months. This fact, combined with the need to establish a new vertical dimension, mandated the use of cast-metal-frame provisional restorations. Wire-reinforced provisional restorations were not utilized, due to their relative frailty. All too often the wire serves no purpose other than to hold together broken portions of provisional restorations. Rather, the provisional restorations are reinforced with the cast framework.

Because implants were placed following regeneration and retrofitted to the existing prosthesis following osseo-

integration, specific framework designs were employed (see Figures 10a and 10b). The shape of this framework afforded the desired reinforcement of the provisional restoration, while still allowing the pontic areas to be hollowed out so that the provisional restoration could be retrofitted to the osseointegrated implants utilizing abutments and acrylic. Once the osseointegrated implants were incorporated into the provisional restorations, hopeless teeth that had been utilized to support the provisional restorations were extracted and replaced with implants at the time of tooth extraction with concomitant regenerative therapy or following regenerative therapy in the extraction socket areas. The maxillary and mandibular full-arch temporary restorations were fabricated in the above-described manner (see Figures 11a and 11b). Therapy proceeded as follows:

- a. The patient's maxillary and mandibular arches were provisionalized in one day (see Figure 12). The temporary fixed prostheses were then removed, and clear duplicate shell temporaries were fabricated to be utilized as surgical guides during implant placement (see Figure 13). To properly locate the guides during implant placement, the clear shells of the provisional restorations were relined with acrylic to the prepared teeth. The pontic areas of planned implant placement had tubes placed in them. The pontics were filled with acrylic, providing rigid guides for ideal implant placement. The metal-frame temporary prostheses were then cemented.
- b. The necessary mandibular posterior ridge augmentation therapy was carried out. During this visit, the hopeless teeth #3 and #7 were also extracted, and regenerative therapy was performed in these areas.
- c. Following maturation of the regenerating hard tissues, implants were



Figure 7a. An occlusal view of the maxillary arch demonstrates significant occlusal wear.

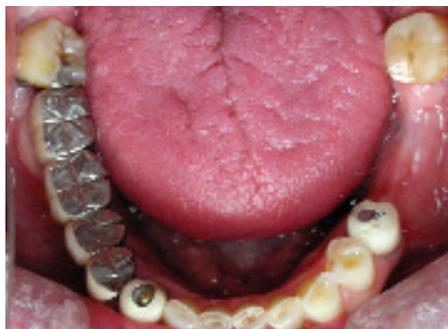


Figure 7b. An occlusal view of the mandibular arch demonstrates severe occlusal wear.



Figure 8a. Impressions have been taken and the models mounted with facebow records.



Figure 8b. The patient's vertical dimension has been increased by 5 mm in the anterior region.



Figure 9. A view of a mandibular occlusal repositioning appliance, which had been made for a patient other than Patient Y.



Figure 11b. A view of the mandibular metal-framework-reinforced provisional restoration. The clear shells of the provisional restorations will be relined and will serve as precise surgical guides.



Figure 13. Clear shells of the provisional restorations, which will be relined and will serve as precise surgical guides.



Figure 10a. A view of the metal framework for the planned maxillary provisional restoration.



Figure 12. The patient's maxillary and mandibular arches have been temporized during one clinical visit.



Figure 14a. A view of mandibular restorations on the implants and natural teeth on the models.



Figure 10b. A view of the metal framework for the planned mandibular provisional restoration.

placed in the desired maxillary and mandibular positions.

- d. Upon completion of osseointegration, impressions were taken and fabrication of the final implant and natural tooth-supported prostheses began (see Figures 14a and 14b).
- e. The final restorations were completed and inserted in the patient's mouth (see Figure 15).
- f. A bite appliance was fabricated to be worn at night indefinitely by the patient.



Figure 14b. A view of the metal frameworks on the implants and natural teeth in the mandibular arch.



Figure 11a. A view of the metal-framework-reinforced maxillary provisional restoration. The clear shells of the provisional restorations will be relined and will serve as precise surgical guides.

Conclusion

Disparate etiologies may result in clinical pictures that at first seem similar. However, appropriate patient examination and diagnosis will identify contributing etiologies, and direct the formulation of an interdisciplinary comprehensive treatment plan. Failure to perform such therapy significantly compromises long-term patient outcomes and is a disservice to those who place themselves in our care. ■

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Figure 15. A view of the maxillary and mandibular final restorations in place.

2008

MDS Year in Review

It has been a year of exciting events, changes, and milestones for the Massachusetts Dental Society and for organized dentistry. Here is a look back at 2008.



YDC moves to the BCCEC and attracts a record crowd.



Sheryl Crow performs at YDC 33.



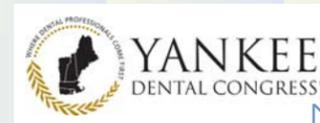
Michelle Curtin retires after 30 years of service to the Yankee Dental Congress and the Massachusetts Dental Society.



The MDS produces new brochure on the relationship between oral health and overall health.



MAC Van celebrates its first anniversary.



Yankee Future Group formed.



Posters are produced for schools statewide as part of the MDS's Canning Tooth Decay program.



The MDS receives grant from Oral Health Foundation to create a Cultural Competency Program to help dentists meet the challenges of changing patient demographics.



A Strategic Visioning Conference is held to discuss issues to be included in the MDS Call to ACTION.



The Women's Leadership Task Force holds networking and education program.



The MDS offers new dental assisting certificate program.



The MDS receives a Grassroots Award from the ADA for most outstanding state program.

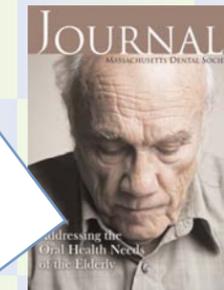
The MDS helps to enact the Omnibus Oral Health Bill to improve the oral health of all residents of the Commonwealth.



MDSIS celebrates its 10th anniversary.



The MDS and the Council on Public Affairs produce the Call to ACTION, a plan to improve the oral health of all Massachusetts residents by 2013.



The JOURNAL OF THE MASSACHUSETTS DENTAL SOCIETY highlights geriatric dentistry in its fall 2008 issue.



The MDS-PAC/MDS-People's Committee is ranked as the largest health care political action committee in Massachusetts and third-largest PAC in the state.



The MAC Van cares for its 2,000th child and passes the \$500,000 mark in free services provided.



The MDS files four bills in 2009-2010 legislative session.



Six William McKenna Volunteer Heroes are honored.



Grassroots Seminar held at MDS.



The sixth annual Beacon Hill Day is held, with more than 135 MDS members attending, the largest attendance ever.



The MDS Leadership Institute begins its third year with 16 new members, and also wins a Golden Apple Award from the American Dental Association.

MDS Governmental Affairs sponsors five Legislators' Nights throughout the state.



Drs. Cherie Bishop, Elissa Heard, Amelia Grabe Lane, and Scott Lightfoot are selected as MDS Guest Board members.

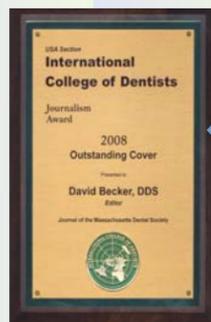
Seventh annual MDS Foundation Golf Tournament is held in Seekonk.



Dr. Janis Moriarty is named general chair of YDC 36 in 2011.



The MDS House of Delegates elects Dr. Milton Glicksman as president and Dr. John Fisher as vice president.



The MDS is honored with 15 awards from five separate local and national organizations for communications campaigns and publications.

A Clinico-Pathologic Correlation

JAMES A. KRAUS, DMD

MICHAEL A. KAHN, DDS

KALPAKAM SHASTRI, DDS, FFDRCSI

Dr. Kraus is senior resident of oral and maxillofacial surgery, Dr. Kahn is professor and chair of oral and maxillofacial surgery, and Dr. Shastri is associate professor of oral and maxillofacial surgery at Tufts University School of Dental Medicine.



Figure 1. Intraoral lesion at initial presentation.

History

A 69-year-old Asian male was referred by his primary care physician for evaluation of a progressively enlarging, ulcerative intraoral lesion of the left posterior hard palate. The patient had no complaints of pain, dysphagia, fevers, chills, or any difficulty in taking nutrition orally. His past medical history was significant for hypertension, which had been controlled medically. Pertinent social history included regular smoking of Chinese herbs for 20 years, having quit eight years prior to our examination.

Upon clinical examination, the patient presented with a well-demarcated, deep ulcerative lesion of the posterior palate measuring 2.5 x 1.0 cm, which was palatal to the maxillary posterior dentition (see Figure 1). The lateral oropharynx was soft and the uvula was positioned in the midline, and there was no other intraoral pathology noted. There was no lymphadenopathy and the remainder of the head-and-neck exam was within normal limits.

Following the examination, the patient had an incisional biopsy of the lesion and had a maxillofacial computed tomography (CT) scan with contrast. The CT scan findings were significant for bone erosion and soft-tissue changes associated with

the left superior alveolar ridge (see Figure 2). The initial biopsy report was suggestive of ameloblastoma. The patient and family were made aware of the diagnosis and were hesitant to consent to surgical resection. A second biopsy was performed to confirm the original diagnosis because the soft-tissue lesion was uncharacteristic of that of an ameloblastoma. The second biopsy was consistent with the initial pathology report. After discussion with the patient and his family, they agreed to proceed with surgical resection of the lesion. Prior to undergoing the hemimaxillectomy, the patient met with the maxillofacial prosthodontist so an obturator could be fabricated and placed intraoperatively.



Figure 2. CT scan at initial presentation.

A hemimaxillectomy was performed and an obturator was placed (see Figure 3). The tumor, which measured 3.4 cm anterior to posterior, 1.5 cm medial to lateral, 1.2 cm superior to inferior, was sent to pathology for microscopic review. The final pathology diagnosis resulted in a full oncologic workup, including a CT of the head, neck, and chest as well as a positron emission tomography (PET) scan, which was negative for any metastasis.

Differential Diagnosis

Ameloblastic carcinoma
Necrotizing sialometaplasia
Squamous cell carcinoma
Mucoepidermoid carcinoma (or other malignant salivary gland tumor such as adenoid cystic carcinoma)

Histological Findings

Histopathologic examination of the formalin-fixed specimens exhibited follicular islands and strands of peripheral columnar cells with reverse polarization of the nuclei and central stellate reticulum-like in areas exhibiting keratin pearl formation (see Figure 4). The mitotic rate was high with atypical mitoses present. There were foci at which the tumor merged with the overlying ulcerated stratified squamous. A few of the tumor cells exhibited clear cytoplasm and a few fields exhibited small amounts of calcification.

Diagnosis

Ameloblastic carcinoma

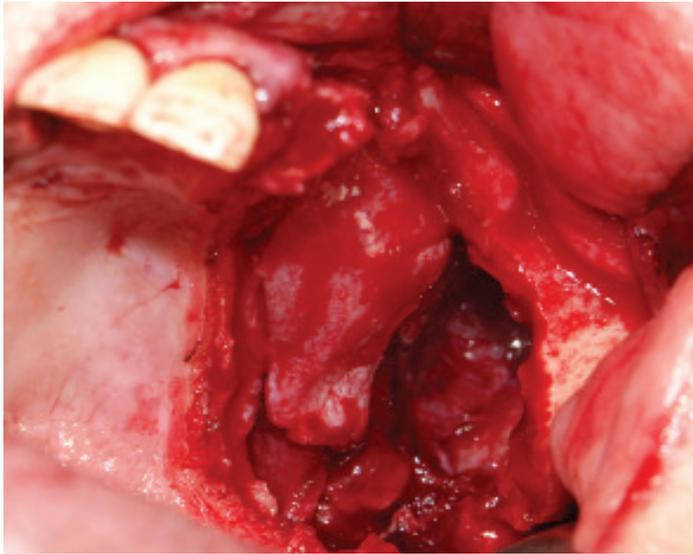


Figure 3. Surgical resection.

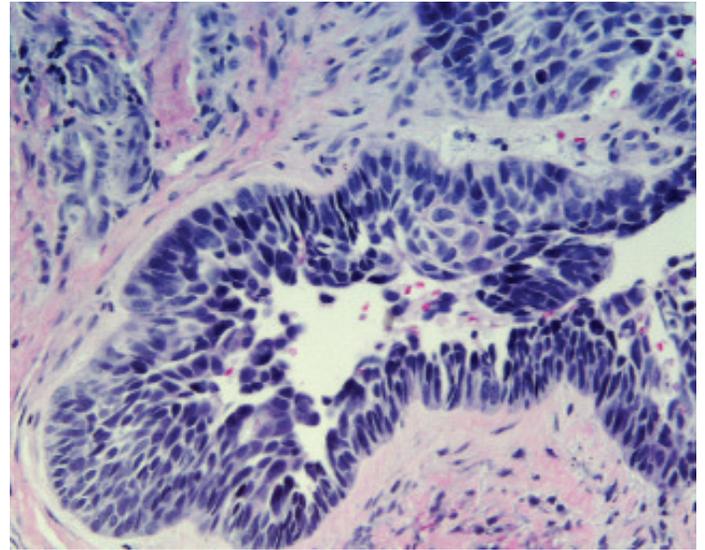


Figure 4. Medium-power microphotograph of an H&E slide of ameloblastic carcinoma showing a follicular island pattern of peripheral, palisaded columnar cell with reverse nuclear polarity; increased mitotic index with atypical mitotic figures; nuclear hyperchromatism; and a loose central stellate reticulum-like area.

Discussion

An ulcerative lesion of the posterior hard palate can be a concerning presentation and warrants biopsy if it does not show signs of healing after two weeks of initial observation. Several differential diagnoses may be considered, the most benign being necrotizing sialometaplasia.

Necrotizing sialometaplasia most commonly presents as an inflammatory, rapidly appearing deep ulcer on the mucosa of the soft or hard palate. Often, the indurated borders and deep ulcerative presentation are not as painful as they may appear. The patient may report a history of trauma or a recent palatal injection to an area approximating the lesion, which is critical information to have available because the lesion's clinical features are highly suggestive of carcinoma. Treatment for necrotizing sialometaplasia is to follow up closely because the lesion should granulate in and completely re-epithelialize its surface within three months.¹

A second consideration for an ulcerative lesion in the posterior hard palate is squamous cell carcinoma. Carcinoma of the soft palate is more common than that of the hard palate, accounting for 10 to 15 percent of intraoral carcinomas. Soft-palate carcinomas are less likely to be ulcerated and often present as red-white patches, whereas those noted on the hard palate are often described as deeply ulcerated. Treatment includes a full workup to rule out metastasis, along with a combination of surgical and radiation therapy.¹

Mucoepidermoid carcinoma is the most common malignant salivary gland tumor in adults and children. According to Marx and Stern, approximately 70 percent of these tumors occur in the parotid, 15 to 20 percent occur in the oral cavity, and 6 to 10 percent occur in the submandibular gland.¹ The tumor appears to have a female predilection of about 3:1. Typically, most tumors will not be ulcerated until they have progressed for several years, at which time the patient usually seeks treatment. These tumors can also have a variable bluish

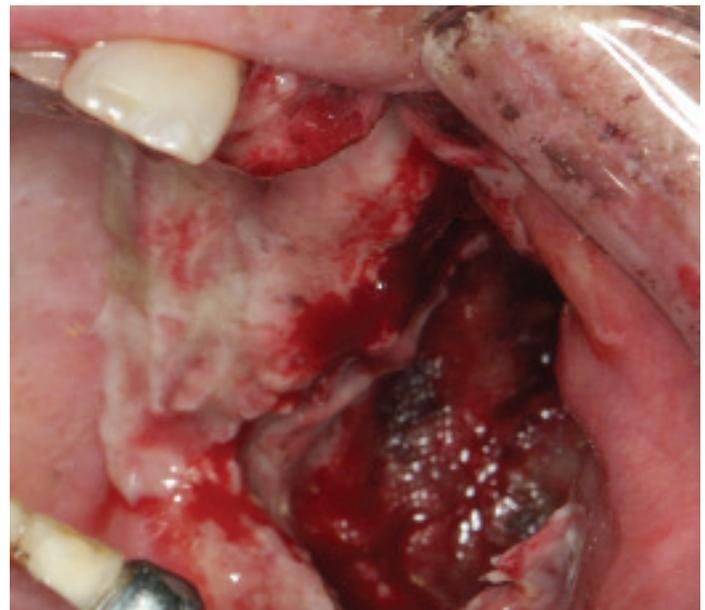


Figure 5. Five days postoperative.

appearance due to the production of mucin underneath the mucosal surface. Mucoepidermoid carcinomas are treated on the basis of their histopathologic grading (i.e., low, intermediate, or high) because it has been shown to correlate with biologic behavior.²

Ameloblastic carcinoma cannot be discussed without first commenting on the most common, clinically significant odontogenic tumor of the jaws—ameloblastoma. The ameloblastoma is a locally invasive benign lesion that demonstrates a strong tendency to recur but rarely behaves aggressively or shows metastatic dissemination.³ The very rare malignant version of ameloblastoma can be categorized into two categories: malignant ameloblastoma and ameloblastic carcinoma. Malignant ameloblastoma is used to characterize the lesion that is histolog-

ically a typical ameloblastoma but has demonstrated metastasis.⁴ Ameloblastic carcinoma, meanwhile, is a tumor that has features similar to an ameloblastoma but acts aggressively and has classic histological features of cellular atypia.⁵

Ameloblastic carcinomas are usually large tissue masses with overlying ulcerations, and they cause significant bone resorption and tooth mobility. The largest single institutional analysis of ameloblastic carcinoma reports that it appears most commonly in the posterior mandible, with about one-third of the reported cases in the maxilla.⁴ Diagnostic criteria used to differentiate an ameloblastic carcinoma from its benign counterpart are cytologic atypia and increased mitotic index.⁶

Clinical presentation may also differentiate between the malignant and benign entities and include growth rate, propensity to erode the bony cortex, pain, and sensory disturbances.⁵ A classic conventional ameloblastoma is a slow-growing, expansile tumor that rarely perforates bony structures. In contrast, the ameloblastic carcinoma's growth is rapid and commonly causes bony destruction. As one may expect, these latter properties inherent in the ameloblastic carcinoma can result in pain or sensory disturbances, such as paresthesia, and would not be typical of the classic ameloblastoma.

Surgical resection is the mainstay of treatment, although there are reports of using adjunctive radiation therapy in some cases with some potential benefit. However, the exact role of radiation therapy is uncertain at this point.⁷

Conclusion

The diagnosis of ameloblastic carcinoma is rare and may be missed if not analyzed by a pathologist familiar with tumors of odontogenic origin. Therefore, as a clinician, it is critical to combine the clinical presentation, histologic analysis, imaging results, and biologic behavior of the lesion in question to arrive at an accurate diagnosis. In our patient, although initial biopsy suggested ameloblastoma, clinical presentation was suspicious for malignancy. Final resection and histopathology confirmed our clinical suspicion. The patient had no evidence of metastasis and was treated surgically with a hemimaxillectomy. He is under close clinical follow-up and is currently doing well with no evidence of recurrence. ■

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Incidental Finding on Dental Radiographs: Odontoma

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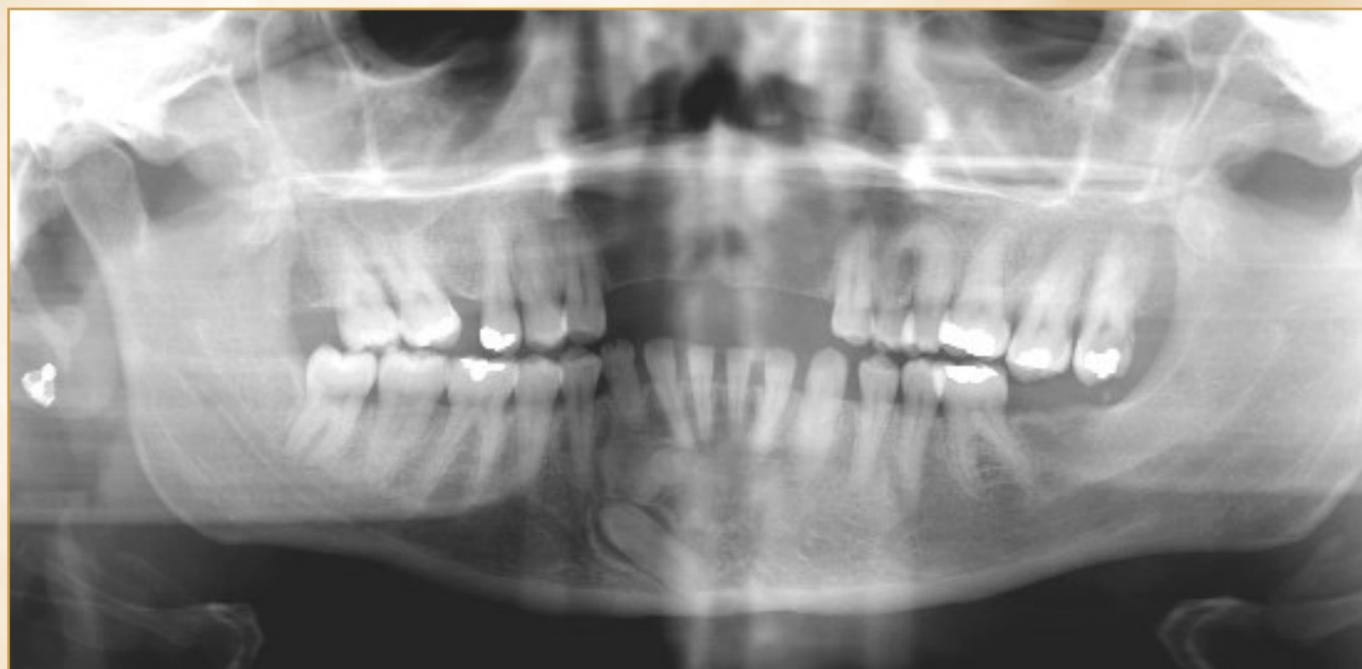


Figure 1. Panoramic radiograph of Case 1 patient.

Odontomas are considered to be the most common odontogenic tumors. These tumors are also considered to be hamartomas or pseudo tumors due to their limited and slow growth and well-differentiated tooth tissue. Radiographically and histologically, the presentation may vary between a non-descript mass of dental tissues and multiple well-formed teeth. Depending on the presentation, they are referred to as complex odontoma or compound odontoma, respectively.

Combinations of the two types of odontomas can also occur within the same lesion. The common clinical symptom of an odontoma is interference with eruption of the permanent tooth. Odontomas develop and mature while the corresponding teeth develop, and they stop development as the corresponding teeth complete development.

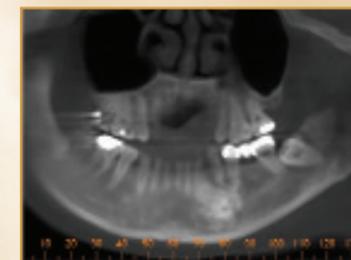


Figure 2a. CBCT panoramic image (generated from CT data) of Case 2 patient showing location and extent of the lesion in the left mandible.

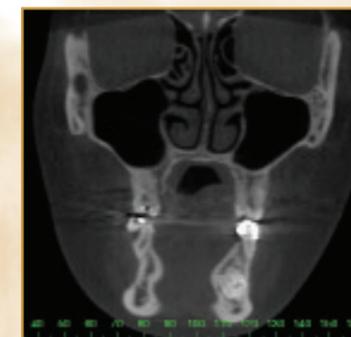


Figure 2b. CBCT coronal section of Case 2 patient showing buccolingual expansion and thinning on the left side.

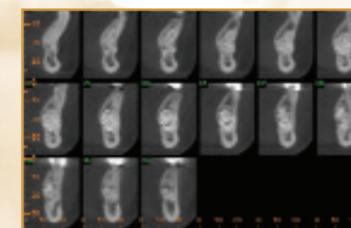


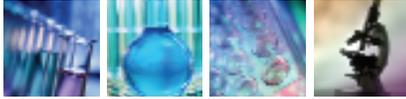
Figure 2c. CBCT cross-sectional images of Case 2 patient.

Case 1

The panoramic radiograph shows a well-defined corticated radiopaque lesion in the right mandible. (See Figure 1.) The permanent canine (tooth #27) is impacted and is displaced inferiorly by the lesion. There is retention of the deciduous canine (R). There is evidence of slight displacement of roots of teeth #26 and 28. The lesion has toothlike components and areas that are homogeneously radiopaque. The radiographic diagnosis was compound-complex odontoma. Routine radiographic follow-up with panoramic radiographs was recommended to rule out any change in the lesion, as the patient refused treatment for this asymptomatic lesion.

Case 2

The cone beam computed tomography (CBCT) images show a well-defined, corticated radiopaque lesion located apical to teeth #21 and 22. (See Figure 2a.) Multiple tooth-shaped radiopacities are visualized within the lesion. The coronal and cross-sectional views show expansion and thinning of the lingual mandibular cortical plate and thinning of buccal cortex in the region of the lesion. (See Figures 2b and 2c.) The roots of teeth in the region are unaffected by the lesion, as is the inferior alveolar nerve canal relative to the opposite side. The radiographic diagnosis was compound odontoma. ■



PATHOLOGY SNAPSHOT

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MINOCYCLINE-INDUCED STAINING OF THE ORAL CAVITY

TETRACYCLINE AND SEMISYNTHETIC DERIVATIVE MINOCYCLINE ARE widely used antibiotics that are well known for intrinsically staining teeth during odontogenesis. These medications have an affinity for calcified tissues due to an ability to chelate calcium ions¹ and, as such, are incorporated in both vital bone and developing teeth. Minocycline, frequently prescribed for the management of acne vulgaris and rheumatoid arthritis, is known for causing pigmentation of tissues, including the thyroid gland, skin, teeth, and bone.²⁻⁴ While most notable for inducing pigmented changes of the hard tissues, minocycline has been reported infrequently to induce bona fide soft-tissue pigmented lesions involving the oral mucosa.⁵

Frequently described as “black bone,” the classic bone changes attributed to minocycline administration are distinctive.^{4,6,7} Due to the relative translucency of the overlying oral mucosa, this pigmented bone is readily appreciated on intraoral examination as a blue-gray coloration and is most notable on the maxillary and mandibular alveolar mucosa, mandibular posterior lingual mucosa, and hard palate.⁸

The incidence of pigmentary changes secondary to minocycline use is dose dependent and typically increases with prolonged administration of the medication.⁸ A history of minocycline use, together with the clinical presentation, is typically enough to render the diagnosis. Although occasional esthetic

concerns may arise that must be addressed, medication-induced discoloration of the oral cavity does not yield complications. While discontinuance of the medication may cause pigmentary changes to fade, some residual effect may persist. ■

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Figures 1 and 2. Blue-gray minocycline-associated discoloration of the alveolar bone visible through the overlying oral mucosa. (Images courtesy of Dr. James Wu.)



BOOK REVIEWS

NORMAN BECKER, DDS, EDITOR EMERITUS

OROFACIAL PAIN: FROM BASIC SCIENCE TO CLINICAL MANAGEMENT—SECOND EDITION **BARRY J. SESSLE, GILLES J. LAVIGNE, JAMES P. LUND, RONALD DUBNER (EDITORS)**

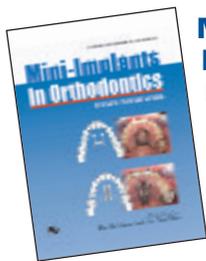
Quintessence Publishing



This second edition of *Orofacial Pain* updates the basic science and clinical management in the diagnosis and treatment of orofacial pain. New topics, such as pain genetics, pain and motor control and dysfunction, and the management of headaches and pain-related movement disorders, have been added to this edition. The editors have selected more than 40 internationally recognized authorities to provide a comprehensive, integrated, concise, and evidence-based synthesis of the topic of orofacial pain. This is done by covering a transitional bridging from molecular and cellular mechanisms to diagnosis and management approaches.

The chapter titled “Pain and Genetics” is one example of the types of topics covered in this text. It describes the rationale and some mythological considerations that underlie studies in pain genetics, and explains the background for the forecast that genetics may discover new treatment targets. The chapter continues with discussions covering relevant topics, including: Why is the variance in chronic orofacial pain important? Is chronic pain a heritable trait? What is the size of the heritable component in chronic orofacial pain? How can we find orofacial pain genes? How can the science of pain medicine advance in the post-genomic era?

This textbook is a valuable addition to the libraries of dental students, clinicians, neurology graduate students, and medical residents, as well as those of us interested in translation research using pain modules.



MINI-IMPLANTS IN ORTHODONTICS: INNOVATIVE ANCHORAGE CONCEPTS **BJORN LUDWIG, SEBASTIAN BAUMGAERTEL, S. JAY BOWMAN (EDITORS)**

Quintessence Publishing

When this text came across my desk, I was tempted to pass it over to one of my orthodontist colleagues to have it reviewed, but then I thought, I should at least take a quick read because maybe additional information about implants in orthodontics could be of value for all clinicians. And my instincts were right; this text includes some educational gems.

According to the editors, the objective of this book is to explain how we can make “action-reaction” work in our favor and, as a result, move teeth more efficiently and predictably. Now, with the use of implants, skeletal anchorage has joined extraoral anchorage in the armamentaria of the orthodontist.

From reading this book, I learned to respect the importance of diagnosis in treatment planning, and that there is more to it than just pushing teeth around. “For every action, there is a reaction” has been an axiom we’ve heard all our lives, but now, the fact that mini-implants can be used in some cases to minimize part of the reaction has expanded my thought processes in treatment planning of general dental care.

It goes without saying, but this textbook is a must for orthodontists. The editors suggest that biomechanics can be more predictable and that some patients can be treated in a manner that “was either impossible or at least unlikely in the past.” However, the claim that “no reciprocal movement occurs when mini-implants are used” is well beyond my scope of practice, so I plan on an orthodontic consult to help verify some of the claims made in this text.

CONTEMPORARY ORAL AND MAXILLOFACIAL SURGERY—FIFTH EDITION

JAMES R. HUPP, EDWARD ELLIS III, MYRON R. TUCKER (EDITORS)

Mosby Elsevier



The editors of this textbook have called upon 12 recognized clinicians to outline the scope of oral and maxillofacial surgery in order to designate the clinical skills required for various procedures. Although the general practitioner has the legal right to perform any oral and maxillofacial surgery procedure, each dentist must decide which procedures to perform, and which procedures to refer. This textbook is an aid in making those decisions.

The editors and their contributors cover the following major topics: principles of surgery; principles of exodontia; pre-prosthetic and implant surgery; infections; management of oral pathologic lesions; oral and maxillofacial trauma; dentofacial deformities; temporomandibular disorders and facial pain; and management of the hospitalized patient.

Each of these topics is introduced with a chapter outline and uses clear text, photographs, drawings, and tables to illustrate the context of the message. Throughout the book, I was impressed by the clarity of the teaching and common sense of the sequences. This text would be a fine addition to the library of all students (the beginner or the experienced practitioner) in order to reaffirm technical and educational experience and knowledge. ■

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ART OF DENTISTRY

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Dr. Curtis is past president of the American Association of Dental Editors. In 2006, he received the American Dental Association's Distinguished Editor Award.

IT'S A "SMALL" WORLD AFTER ALL

BACK BEFORE HE BECAME A MAJOR MOVIE STAR, STEVE MARTIN was a master of the obscure. His stand-up comedy routines, which he often performed wearing his trademark fake arrow-through-the-head, included complaints about such particulars as not being able to return cat toys after they had kitty spit all over them. One of Martin's favorite punch lines, guaranteed to get a rise out of his perplexed, giggling audiences, was "Let's get really small!"

I laughed, not at the humor, but at the absurdity. Then I became a dentist. In dental school, I soon realized that small things represented my biggest worries: a small open margin or a small occlusal discrepancy would provoke the wrath of authority. A small crown could disappear in cracks, down the drain, into an esophagus, or worse. The smallness of my endeavors, which were only heightened when a cranky patient once protested that my hands were too big, haunted me. As time went on, I felt—hands notwithstanding—that I was getting smaller.

It would seem I was not alone in that shrinking sensation. The dentist in John Updike's story "Dentistry and Doubt" is concerned with "keeping a dab of silver on the end of a tiny golf-club shaped tool." In Jane Smiley's *The Age of Grief*, David Hurst practices dentistry with his wife, Dana. Smiley obsessively zeroes in on dentistry's smallness factor. "I am tinkering, making something little," says Hurst about his clinical efforts. The character's sense of small is reinforced when a patient tells him, "You are just a dentist, another white coat, another small thing." Hurst sums up the essence of practice like this: "Little machines. Itsy-bitsy pieces of cotton. Fragments of gold you can't pick up with your fingers. I think [Dana] thought [dental practice] would get bigger, like Cinerama, and instead it gets smaller and smaller."

And that is precisely why dentistry is not big in the movies: It's small in real life. "We've ceased to be interesting," observes the dentist in Gunter Grass's *Local Anesthetic*, explaining why dentists seldom get major parts in literature, "[because] we work too painlessly and inconspicuously." Dentistry's success has become routine, making the profession itself perceived as

routine. In the movie *Running Scared*, Billy Crystal's Chicago detective tells his ex-wife that if she wanted stability, she should have married a dentist.

But working in the small zone shouldn't be interpreted as insignificant. Smallness means intricacy, difficulty, and precision, like in those science-fiction movies in the 1970s where a medical rescue team is shrunk to cellular size, then shoots the rapids in a man's bloodstream to save the day. Small means problem solving at the source, as in the old description that compares dentists to jewelers working underwater.

Small means in-depth. In her book *Bird by Bird*, Anne Lamott knows her readers will understand the connection. Lamott describes how an author has to write something many times over to get it right. "A friend of mine," she relates, "says that the first draft is the down draft—you just get it down. The second draft is the up draft—you fix it up. And the third draft is the dental draft, where you check every tooth, to see if it's loose or cramped or decayed, or even . . . healthy."

In the Information Age, the world does more and more dental drafts. Ironically, even as it grows larger, the world is shrinking. The more knowledge we get, the smaller the package it tends to come in—think about cell phones and MP3 players. Pundits have characterized the trend toward specialization as knowing more and more about less and less, until finally we know everything about nothing.

That shift was visible as far back as the 1920s, when medical education moved toward a smaller level of analysis. "The anatomists lost interest in gross anatomy and became electron microscopists and cellular biologists," wrote Vernon W. Lippard in *A Half Century of Medical Education: 1920–1970*. "The biochemists turned from nutrition and intermediary metabolism to molecular structure and enzymology . . ."

Anticipated breakthroughs in current molecular research may well benefit dentistry, perhaps allowing the neutralization of cavity-causing bacteria, the regrowth of bone lost to periodontal disease, or even the regeneration of lost tooth structure. Such small things will eventually make a big splash. ■

