Inside:

What’s My Diagnosis? A Case Study

Dental Economics and the Increasing Numbers of Individuals with Disabilities in New Jersey

A Team Approach to Restoration of the Extremely Worn Dentition: A Clinical Report
Did you know that patients with dental insurance visit dentists twice as often?

Participating in Delta Dental networks can help your practice in many ways.

As a Delta Dental of New Jersey participating dentist, here’s what we can offer you:

- A dedicated participating dentist toll free number to our customer service center.
- Freedom to participate in the network or networks of your choosing.
- Our “In Net” affiliations program which gives access only to Participating Dentists to discounts on supplies and services for your practice.
- Direct payment for all claims (both insured and self-funded clients), improving accounts receivables and reducing bad debt.
- Participating Dentists are listed in our “Find a Dentist” web and mobile applications, as well as through our customer service center.
- No cost Continuing Education Seminars such as Delta Dental Days.
- A chance for your office manager to attend a roundtable meeting with Delta Dental staff along with other office managers.
- An organization dedicated to the oral health and wellness of your patients, providing you with resources only available to Participating Dentists.

Delta Dental of New Jersey. Making it easier for you to run your practice.

To join Delta Dental or to add a network, call 1-888-396-6641 or visit www.deltadentalnj.com.
Departments
2 From Your President
4 Reflections
6 Executive Director’s Desk
7 In Memoriam
8 What If?
9 Members in the News
10 Oral Pathology Quiz #91
14 Oral Pathology Quiz #91 Answers
26 Classifieds

Articles
12 Itchy Lip—Swollen Tongue—Swollen Lip, It’s not Always an Allergy to Dental Materials; Angioedema—Possibly Life Threatening! You Might See This in Your Practice
16 What’s My Diagnosis? A Case Study
17 Dental Economics and the Increasing Numbers of Individuals with Disabilities in New Jersey
20 A Team Approach to Restoration of the Extremely Worn Dentition: A Clinical Report

Mission Statement:
"The New Jersey Dental Association serves and supports its members and fosters the advancement of quality, ethical oral healthcare for the public."

Member Publication
American Association of Dental Editors
Journal of the New Jersey Dental Association (ISSN 0093-7347, USPS No. 104-650) is published quarterly by the New Jersey Dental Association. Periodical postage paid at North Brunswick, NJ and additional mailing offices. All views expressed herein are published on the authority of the writer under whose name they appear and are not regarded as the views of the Association. We reserve the right to reduce, revise, or reject any manuscript submitted for publication. Copy for publication should be addressed to: Dr. Nisselson. Business communications and address changes should be addressed to: One Dental Plaza, P.O. Box 6020, North Brunswick, NJ 08902-6020. (732-821-9400). Materials may be reproduced without written permission. Subscription rate for members is $20 which is included in the dues; $60 per year for non-members and $100 for foreign subscribers. Single copies are $5 per issue. Periodicals postage paid at North Brunswick, NJ. The Association, in its sole discretion, has the absolute right to accept, reject, and/or cancel any advertisement for any reason whatsoever. POSTMASTER—send address changes to: Journal of the New Jersey Dental Association, One Dental Plaza, PO Box 6020, North Brunswick, NJ 08902-6020.

Advertisers
3% Dental Practice Brokerage, LLC 8
AFTCO IBC
American Practice Consultants 3
B.C. Szelrlp Insurance Agency Inc. 27
Borwinick & Co. 23
CFG Health Network 20
Delta Dental Plan of New Jersey, Inc. IFC
The Dentists Insurance Company OBC
Eastern Dentists Insurance Company 25
Epstein Practice Brokerage, LLC 18
Henry Schein 7
Mid-Atlantic' Insurance Resources 9
National Practice Transitions 5
NJDA Endorsed Business Associates 26
Paragon Dental Practice Transitions 15
Preferred Dental Laboratory 11
Temple University Kornberg School of Dentistry 13

Cover
Courtesy of Dr. Amy Golden, using a Canon 7D f14 iso125 60mm.

The New Jersey Dental Association is proud to partner with Mastergraphx to provide the community with a journal printed on environmentally-friendly paper. By using products with the FSC label you are supporting the growth of responsible forest management worldwide.
Before coming here today I was discussing my talk with my wife, Pat, and she said to me: “Don’t try to be too charming, too witty or too intellectual, just be yourself.”

It has been my privilege to serve as your president. The experience has exceeded my expectations. It is my fervent hope that I have been able to set an appropriate example by following the path that Dr. Bryon Roshong blazed.

I have visited Basking Ridge, Cherry Hill, Chicago, Dallas, Denver, the District of Columbia, Livingston, Newark, Ocean City, New York, Wilmington, Somers Point, Trenton, Warren, Weehawken, Washington Township, and Woodland Park, just to name several. One of my most recent duties was to appear on NJTV. I have spent less time in Florham Park and South Orange then I anticipated.

At this time, I am happy to report that that our organization is healthy. Our membership numbers are solid. We represent about two-thirds of the dentists in New Jersey. Like president-elect Dr. Giorgio Di Vincenzo, I am not content to maintain our membership numbers, so we will continue to work to increase the number of members under the leadership of our Membership Council chair, Dr. Nicole McGrath and her aides, Brendan Breen and AnnMarie Varga.

We are reaching out to the faculty of Rutgers School of Dental Medicine to make them aware of the extraordinary level of advocacy that we maintain in addition to other benefits. Jim Schulz, Dr. Mitch Weiner, the Council chair, and the entire Council on Governmental Affairs sees to that. NJ Dental Political Action Committee (NJDPAC) needs your support. The PAC does not support a party, it supports our profession. The PAC needs your donations.

Rather than carry non-members of NJDA, we prefer to have them step up to membership and travel with us. They are missing out on legal assistance and contract review with Art Meisel and dental benefit assistance with Dr. Joan Monaco and her assistant, Irene Tafaro.

The Budget and Finance Committee continues to manage our finances. I served as treasurer and I can say that this is not an easy task. Your officers who have served in that capacity can attest to that truth. To that end, Drs. Vitale and Rothstein have excelled and have eclipsed the example I aimed to set. I have no doubt that Dr. Rossi will do the same.

We continue to search for programs that offer value to our members. We have consolidated the various committees that in the past chose speakers and scheduled our continuing education opportunities. While this initially created some controversy, it seemed to make sense. We can now offer a variety of courses on a variety of subjects, without duplication or redundancy.

Maureen Barlow and the staff ran another great meeting. About eight out of ten of our members missed it. Your attendance at our annual session has effects far beyond what many realize. Your attendance means that our supporters—in fact, that is what are exhibitors are—get to speak with you and have “face time” with you. If attendance lacks, they may not return and this can lead to income loss followed by budget issues.

Please make it a point to visit our annual meeting in the future. I served three times on the NJDA Council on Annual Session and now serve on the ADA Council on Annual Session. If you want to hear more about the financial dynamics of the CAS, feel free to reach out to me.

I could go on about this, but won’t. Each of us here has a job to do. My job is to talk and yours is to listen. The challenge is for me to finish my job before you have finished yours.

So I want to end by thanking our components who each hosted us this year. I also want to thank the staff of NJDA. They are dedicated and very good at what they do. They take their jobs seriously and it shows.

They say… when one door closes another door opens. It is with regret that we saw the passing of Business Manager, Stan Orenstein. However, I am certain that Randi Shook will continue with the same level of expertise.

Thank you again for this honor. I hope that in some small way I have exceeded your expectations.

I hope you enjoyed my speech and if you did not, I hope you had a nice nap.

Thank you very much!
American Practice Consultants, a full service Dental Practice Broker & Appraiser, was founded in 1985 by Philip A. Cooper, D.M.D., M.B.A. to provide a range of transition services to dentists who are selling or buying a practice.

Let Us Expertly Guide You Through:

- VALUATION
- NEGOTIATION
- FINANCING
- TRANSITION PLANNING WITH PATIENTS & STAFF
- MARKETING
- CONTRACT REVIEW
- MINIMIZING TAXES
- AND SO MUCH MORE!

Philip A. Cooper, D.M.D., M.B.A.
704 East Main Street, Suite D  •  Moorestown, New Jersey 08057
856-234-3536  •  800-400-8550  •  cooper@ameriprac.com

www.ameriprac.com
Nearly 60 years ago, Jerome L. Singer launched a groundbreaking study into daydreaming that pioneered and laid the foundation for virtually every strand of mind wandering research active today.

Within the past 60 years, researchers have assigned various names to the thoughts and images that arise when attention drifts away from external tasks and perceptual input toward a more private, internal stream of consciousness. The list includes daydreaming, fantasy, absent-mindedness, zoning out, mind wandering and other terms of that ilk.

Though mind wandering is the term most commonly used by cognitive researchers today, Singer’s preferred term is daydreaming. In his work, Singer differentiates between these styles of daydreaming: positive constructive daydreaming, characterized by playful, wishful imagery and planful creative thought; guilty-dysphonic daydreaming, characterized by obsessive, anguished fantasies; and poor attentional control, characterized by the inability to concentrate on either the ongoing thought or the external task. The three daydreaming styles are reflected in the three major strands of mind wandering research today: mind wandering as adaptive and beneficial; the relationship between mind wandering, especially rumination, and mood; and mind wandering as cognitive failure related to poor attentional control.

In this essay, I will primarily confine myself to some thoughts on positive constructive daydreaming.

As early as 1960, Singer had begun to explore the relationship between mind wandering and personality traits. Over the years, Singer found that the three styles of daydreaming are associated with distinct personality traits. Singer found that positive constructive daydreaming was related to openness to experience, reflecting curiosity, sensitivity, and exploration of ideas, feelings and sensations. Poor attentional control was associated with low levels of conscientiousness, while guilty-dysphonic daydreaming correlated with neuroticism.

The vast majority of research conducted over the last two decades portrays mind wandering as a cognitive control failure, highlighting its ill effects on reading comprehension, mood, memory, sustained attention, academic performance, IQ and SAT test performance as well as task-related processing. A recent review of the costs and benefits of mind wandering identified 29 studies published since 1995, while just six recent studies were cited noting the functional benefits of mind wandering.

Why such a gross imbalance in the recent literature? Singer’s and others’ studies have shown that mind wandering is a universal human experience, affecting each of us countless times throughout the day. One large-scale study reported that, on average, mind wandering consumed 47% of the participants’ waking hours. If the costs are so great and the benefits so scant, why do we spend so much of our time daydreaming?

This question is especially cogent when we consider that mind wandering can be volitional. Individuals can choose to disengage from external tasks, decoupling attention, in order to pursue an internal stream of thought they expect to pay off in some way. The payoff may be immediate, coming in the form of pleasing reverie, insight or new synthesis of material, or it may be more distant, as in rehearsing upcoming scenarios or projecting oneself forward in time to a desired outcome. Projection backward in time to reinterpret past experiences in light of new information is also a possibility. All of these activities, which take place internally, sheltered from the demands of external tasks and perception, offer the possibility of enormous personal reward. These mental activities are, in fact, central to the task of meaning-making, of developing and maintaining an understanding of oneself in the world.

While everyone may be capable of such volitional daydreaming, the capacity to switch at will between inner and outer streams of consciousness may be more fully developed in some than in others. It stands to reason that positive constructive daydreamers, those who are most open to experience and who consider daydreaming a positive experience, would be most likely to engage in volitional daydreaming.

As previously noted, most recent studies depict mind wandering as a costly cognitive failure with relatively few benefits. This perspective makes sense when mind wandering is observed by a third party and when costs are measured against externally imposed standards such as speed or accuracy of processing, reading fluency or comprehension, sustained attention and other external metrics.
There is, however, another way of looking at mind wandering—a personal perspective. For the individual, mind wandering offers the possibility of very real, personal reward—some immediate, some more distant. These rewards can include self-awareness, creative incubation, improvisation and evaluation, memory consolidation, autobiographical planning, goal-driven thought, future planning, retrieval of deeply personal memories, reflective consideration of the meaning of events and experiences, simulating the perspective of another person, evaluating the implications of one’s and others’ emotional reactions, moral reasoning and reflective compassion. From this personal perspective, it is much easier to understand why people are drawn to mind wandering and willing to invest nearly 50% of their waking hours engaged in it.

We mind wander, by choice or accident, because it produces tangible reward when measured against goals and aspirations that are personally meaningful. Having to reread a line of text three times because our attention has drifted away matters very little if that attention shift allowed us to access a key insight, a precious memory or make sense of a troubling event. Pausing to reflect in the middle of telling a story is inconsequential if that pause allows us to retrieve a distant memory that makes the story more evocative and compelling. Losing a couple of minutes because we drove past our off ramp is a minor inconvenience if the attention lapse allowed us to finally understand why the staff was so upset by something we said at last week’s meeting. Arriving home from the store without the eggs is a mere annoyance when weighed against coming to a decision to ask for a raise, leave a job or go back to school.

In closing, I should note that much of what I have presented here first emerged not from an intense period of methodical, laser-like focus, but from periods of diffuse inward focus in which my mind was not merely permitted, but willed to roam freely. Thanks to nearly six decades of Singer’s work, and almost seven decades of personal daydreaming experience, I was confident that was where the best and most productive insights would be found.
Informed Consent Advisory

Arthur Meisel, Esq.

Editor’s note: This advisory on when and how to obtain informed consent was the topic of a recent New Jersey Dental Association Email Alert. Emails are delivered to your preferred email address weekly, and include information on changes to dental regulations, updates on insurance, available continuing education and more. If you are not receiving our weekly emails, please contact AnnMarie Varga in our membership department, 732-821-9400 or avarga@njda.org.

Informed consent under New Jersey law is regarded as a medical-negligence sub-group derived from the duty of a doctor to disclose to a patient information that will enable the patient to evaluate reasonable treatment alternatives and attendant substantial risks. Treatment choices are viewed as a shared responsibility between the doctor and the patient, with the patient possessing the right to make the final decision. The patient is entitled to receive enough meaningful information to make an informed choice about treatment. Unless material treatment risks and medically reasonable invasive and non-invasive treatment alternatives (including reasonable treatment alternatives that are not recommended by the doctor) are explained in words the patient can understand, the patient does not possess the information needed to make a knowledgeable selection. Under the law in this state, such information must be communicated even if the patient does not ask questions.

The informed consent concept does not imply that all treatment options must be disclosed in detail in every case. By way of example, the New Jersey Supreme Court observed that “a physician need not recite all the risks and benefits of each potential appropriate antibiotic when writing a prescription for treatment of an upper respiratory infection.” As further explained by the Court, “[t]he standard obligates the physician to disclose only that information material to a reasonable patient’s informed decision.” Matthias v. Mastromonaco, 160 N.J. 26, 36 (1999). A treatment risk is “material” when a prudent patient, in what the doctor knows or should know to be the patient’s position, would be likely to attach significance to in choosing or foregoing a therapy. Being objective rather than subjective in nature, the standard is derived from what a reasonably prudent patient would deem to be significant in making a decision rather than what any individual patient might say that he or she thought after the fact. In other words, if a “prudent patient” would not have declined treatment if the risk(s) had been disclosed, there is no violation of the informed consent concept.

The law does not require that treatment risks and alternatives be communicated in writing or that the patient must affirmatively state, verbally or in writing, “I consent.” However, to avoid disputes concerning recollection, it is always advisable to have a written informed consent form, especially in those instances in which liability could be substantial and when urgency is not a significant factor. In such circumstances, it also is preferable to provide enough time for a patient to consider the alternatives to avoid a claim that consent was furnished under duress or without sufficient time for reflection.

According to the New Jersey Supreme Court, to establish a case for negligence based upon a lack of informed consent, the plaintiff must show: “(1) the physician failed to comply with the reasonably prudent patient standard for disclosure; (2) the undisclosed risk occurred and harmed the plaintiff; (3) a reasonable person under the circumstances would not have consented and submitted to the operation or surgical procedure had he or she been so informed; and (4) the operation or surgical procedure was a proximate cause of plaintiff’s injuries.” Howard v. University of Medicine and Dentistry of New Jersey, 172 N.J. 537, 549 (2002), quoting from Teilhaber v. Greene, 320 N.J. Super. 453, 465 (App. Div. 1999). To recover damages, all four elements must be satisfied. Thus, even when treatment alternatives and material risks are not disclosed, if a patient was not harmed by the treatment or if a prudent patient would have consented to the treatment, there is no civil liability.

Since the informed consent concept applies only when there are “substantial” or “material” treatment risks (i.e., the kind of risks which, if disclosed, may have lead a prudent patient to decline treatment) the concept should not be applicable to many types of dental procedures. However, in addition to and separate from the case law regarding civil liability for lack of informed consent, a regulation adopted by the New Jersey State Board of Dentistry requires that every patient record include, at a minimum, “A diagnosis and treatment plan, which shall also include the material treatment risks and clinically acceptable alternatives, and cost relative to the treatment that is recommended and/or rendered.” (Emphasis added). If that information is not included in the patient record, the State Board may presume that it was not communicated.
unless the dentist can show that the treatment risks and alternatives were disclosed. Stated differently, even absent a viable claim for negligence based upon a lack of informed consent, depending upon the circumstances, a disciplinary penalty could be imposed by the State Board of Dentistry not only when material treatment risks are not disclosed, but also when information is not communicated regarding clinically acceptable alternatives.

For additional information, members are urged to contact Arthur Meisel at the New Jersey Dental Association by direct dial office telephone (732) 422-2730 or by email ameisel@njda.org.

In Memoriam

We note with sadness the passing of the following members:

**Bergen**
Ronald R. Marra  
*December 28, 2015*

Alan Gary Mischell  
*August 1, 2015*

George Robert Seligman  
*January 5, 2016*

**Central**
Jerome L. Fechtner  
*April 1, 2016*

**Mercer**
Lawrence H. Shendalman  
*March 18, 2016*

**Middlesex**
Leon Horlick  
*March 16, 2016*

**Monmouth-Ocean**
Thomas L. Smyth  
*February 14, 2016*

**Southern**
Stephen J. Uram  
*January 11, 2016*

**Tri-County**
Daniel Glass  
*February 13, 2016*

**Union**
Marvin Gould  
*March 15, 2016*
When an employee is exposed to a possible bloodborne pathogen via needlestick, follow these steps to assure your employee’s well-being and your compliance with OSHA and NJ State Board of Dentistry regulations.

**Steps to Take After Exposure**
- Document the incident in your Sharps Injury Log (sample available at www.njda.org).
- Refer the affected employee to a healthcare provider. You may refer to the employee’s primary care physician if you’d like.
- As the employer, you are financially responsible for the cost of the following:
  - Testing of the exposed employee
  - Notification of test results
  - Counseling
  - Post-exposure prophylaxis, if needed
  - Evaluation of reported illness
- If the source of the needlestick is known, you should also provide the patient’s medical history to the healthcare provider handling your employee’s case.
- **Your financial responsibility to the employee ends here.**
- Send the written opinion of the healthcare provider to the employee within 15 days of the completed evaluation.
- Document that the employee was informed of results and the need for any follow-up.

**OSHA Reporting**
- According to the OSHA website, dental offices are “currently exempt from maintaining an official log of reportable injuries and illnesses (OSHA Form 300) under the federal OSHA recordkeeping rule…” (Refer to: https://www.osha.gov/Publications/OSHA3187/OSHA3187.html).

**NJ State Board of Dentistry Reporting**
- Per NJ State Board of Dentistry regulations, you must keep confidential records of exposure incidents for at least the duration of employment plus 30 years. This means if you close your practice, you must notify the State Board of the location where you are storing employee records.

If you have a *What If?* question to pose to NJDA staff, please feel free to contact Lorraine Sedor, managing editor. You comments are also appreciated. Email: lsedor@njda.org or phone 732-821-9400.
Dr. Alan Rauchberg, a restorative and cosmetic dentist practicing in Parsippany, was sworn in as the 2016 president of the American Academy of Dental Practice Administration (AADPA) at the organization's annual meeting, March 2–5 in Long Beach, California. Dr. Alan Rauchberg is a second-generation dentist who worked with his father, Dr. Joel Rauchberg, for 23 years. Dr. Alan is a graduate of Temple University Kornberg School of Dentistry and active in volunteerism in his community.

Dr. Gregory DeVries and Dr. Vanessa Lee of Life Smile Dentistry in Wayne recently offered free oral cancer screenings at the Kinnelon Library.

Hudson County Dental Society hosted a Children's Dental Health Day in April. The event took place at Newport Centre Mall.

Dr. Steven Susskind of East Brunswick was honored in April by the East Brunswick Education Foundation at its 23rd annual Partner in Excellence Dinner. Dr. Susskind has been a member of the Foundation's board since 2007 and a contributor since 1997. He also has acted as a mentor in the Foundation's Student Association since 2011.

Dr. Ed Gold, a Montclair orthodontist, ran the Boston Marathon in April to raise funds for the Montclair Public Library Foundation. Dr. Gold has raised more than $24,000 for the foundation in four previous marathon runs.

Dr. Eric V. Thomas and Dr. Melanie Lee of Sunshine Dentistry held a Dentistry from the Heart event earlier this spring at the Cape May County Vo-Tech School. The free dentistry event was open to individuals age 18 and older. The doctors, volunteer and school staff were able to help 57 individuals in one day.

To include items in Members in the News, please contact Dr. Harvey S. Nisselson, editor, at hn3@cumc.columbia.edu or Lorraine Sedor, managing editor, at lsedor@njda.org or 732-821-9400.

Receive weekly alerts about timely and important information, sent directly to your email inbox each Monday morning. Please provide a current email address to AnnMarie Varga, in NJDA membership. Email her at avarga@njda.org or phone 732-821-9400 to be added to the Email Alert list.

Past email alerts are archived on the NJDA website: www.njda.org. Log in to your member account to access publications archives.

To log in:
Username is your 9 digit ADA number, no spaces or dashes.
Password is your last name lower case, followed by an ! and the first four digits of your ADA number.

Example:
Username: 123456789
Password: smith!1234
Oral Pathology Quiz #91

Presented by Rutgers School of Dental Medicine Biopsy Service

The RSDM oral pathology faculty are showing the clinical presentation of some relatively common lesions for readers to self-evaluate their skills in clinical differential diagnosis. You are expected to choose the most likely clinical diagnosis on the basis of history and clinical or radiographic appearance with the appreciation that definitive diagnosis requires microscopic examination of the specimen.

---

**Case Number 1**

**Figures 1 and 2: Courtesy Dr. Kenneth Gluck, Montville**

A 53-year-old healthy female presented with generalized desquamative changes affecting her gingivae. The free and attached gingivae were red with white patches, with focal erosions, especially the interdental papillae. The attached gingivae had lost the normal stippled appearance with swelling of the gingival margins in some areas. There were also white striae on the buccal mucosa. Oral changes were not symptomatic. The patient chewed 325 mg aspirin tablets regularly. She had no skin lesions. Which of the following is the most likely diagnosis?

A. Erythema multiforme  
B. Lichen planus  
C. Bullous pemphigoid  
D. Lupus erythmatosus

---

**Case Number 2**

**Figure 3: Courtesy Dr. George Papasikos, Montclair**

The clinical picture shows the right mandible of an 81-year-old female who had a three-unit bridge, with a pontic between her first premolar and first molar. She presented with an adherent white plaque on the gingival papilla between the premolar and the pontic. The patient said she had been aware of it for one year. The plaque was sharply defined and approximately 3 mm in diameter. There were no other significant oral lesions. Which of the following is the most likely diagnosis?

A. Condyloma acuminatum  
B. Leukoplakia  
C. Nicotine stomatitis  
D. White sponge nevus

---

**Case Number 3**

**Figure 4: Courtesy Dr. Emil G. Cappetta, Summit**

A 25-year-old healthy male presented with a solitary, firm, pink enlargement arising from the gingivae, covering the lower half of the labial surface of the crown of the mandibular left central incisor, extending onto the labial surfaces of the adjacent right central incisor and left lateral incisor. It measured approximately 1.2 cm horizontally, 0.6 cm vertically, and 0.5 cm in thickness. Radiographs were within normal limits and there were no other significant oral lesions. Which of the following is the most likely diagnosis?

A. Pleomorphic adenoma  
B. Adult gingival cyst  
C. Peripheral ossifying fibroma  
D. Parulis
A 47-year-old healthy white male presented with a solitary, firm, ovoid, pink enlargement, measuring 12 mm in maximum dimension, arising from the vermillion of his lower left lip, near the commissure. The patient had been aware of the lesion for 10 years and said he was biting on it more often recently. Gingival recession and staining of his teeth were due to tobacco chewing. Which of the following is the most likely diagnosis?

A. Keratoacanthoma  
B. Fibroma  
C. Peripheral giant cell lesion  
D. Squamous cell carcinoma

Answers on page 14

INTRODUCING

BruxZir®

ANTERIOR

SOLID ZIRCONIA

Over 5 million restorations placed through the Authorized BruxZir® network

The #1 prescribed brand of solid zirconia is now available at Preferred Dental Laboratory.

“THE LAB MORE DOCTORS PREFER”

Preferred Dental Laboratory

37 Woodland Road
Roseland, New Jersey 07068
800.548.2613
WWW.preferreddentallaboratory.com

“Authorized Comfort H/S™ Bite Splint Laboratory”

REMOVABLES
Dentures  
Cast Partial  
Valplast Combo  
Valplast

CROWNS
Authentic BruxZir™ Zirconia Crowns  
Zirconia Layered Crowns  
E-Max Crowns, Veneers and Inlays  
PFM Crowns

IMPLANTS
Biomet 3i Encode  
Atlantis Abutments  
Inclusive Abutments  
Straumann Abutments  
Screw Retained Implant  
Implant Supported Denture  
Experts on all brand implants  
Titanium CAD/CAM Bars
Abstract:
When providing dental treatment, the dental clinician (DC) is expected to be knowledgeable in recognition and emergency management of an allergic response. Common manifestations of localized allergic responses can present as a rash or hives (urticaria), running of the nose, and swelling of the lips, eyes, face, respiratory and gastrointestinal mucosa. More critically, there is the potential for breathing difficulties from laryngeal swelling. Airway obstruction can be potentially life threatening. Anaphylactic shock can be another serious reaction.

Although most of these allergic responses can be minimal and managed with an antihistamine (diphenhydramine), more serious allergic reactions (marked breathing difficulty, anaphylaxis) may require the use of an intramuscular injection of epinephrine. This case report describes a patient who had what appeared to be a common allergic response to some aspect of dental materials or treatment but was subsequently diagnosed with an allergic condition known as angioedema (AE) that had the potential to be non-responsive to dental office emergency medications. AE may be due to the more common histamine generated process as described below. However, if the patient’s AE is due to alternate pathophysiology, the DC may not be able to manage breathing difficulties due to airway swelling, which could be rapidly fatal.

Pathophysiology
Allergy is an immune system process (also called a type of hypersensitivity response). Hypersensitivity responses are clinical manifestations of an immune response to an allergen (substance generating an immune response). The Gell and Coombs classification divides these hypersensitivity responses into four categories based on the type of immune response. Allergy is the Type 1 response triggered by the action of the antibody IgE. The basic allergic mechanism here is that an allergen triggers the production of the antibody IgE by immune system B-cells. These IgE antibodies bind to mast cells thus “priming” them for an allergic response. Subsequently, when the allergen is again encountered (e.g., medication, food, insect bite), the antigen substance binds to the multiple IgEs on the mast cell’s surface resulting in the release of histamine and inflammatory mediators. The clinical manifestation of this response is urticaria (hives) and/or AE (facial swelling, respiratory difficulties and potentially cardiovascular collapse (anaphylaxis). Treatment for mast cell degranulation AE can include antihistamines, corticosteroids or epinephrine.
Importantly, AE may not be an IgE triggered response resulting in histamine release and thus not responsive to the basic emergency drugs used in dental practice (antihistamine, epinephrine.) Briefly, there may be a genetic or acquired flaw in the immune system’s complement function which leads to excess production of the vasodilator bradykinin, resulting in excessive fluid release in the face and upper airway followed by edema and respiratory difficulties. Treatment for bradykinin-triggered AE can include plasma transfusions and complement system modifiers.  

Case Report Summarized

In 2013, a 62-year-old male presented to his dentist for fabrication of new dentures. His past medical history was significant for controlled hypertension (HTN). His oral status was complete edentulism and he had worn maxillary and mandibular dentures for many years with no adverse effects, but now desired new maxillary and mandibular complete dentures. Medications included a calcium channel blocker for his HTN, simvastatin for cholesterol control and terazosin for prostate hypertrophy. Treatment for new dentures was initiated and after multiple dental visits (impressions, bite relations, try-in and denture insertion) the patient reported that many hours later he experienced lip itching and lip swelling. He was referred to a medical allergist and his history presented to the physician documented swelling responses and respiratory difficulties which, at other times, were not related to dental care. He was tested as to the potential for allergic responses to dental materials but these were mostly negative or non-conclusive. The final diagnosis was idiopathic AE, not due to dental treatment, but triggered by the dental procedures. Since his episodes were responsive to antihistaminic medications, it was determined that his responses were not due to a bradykinin mechanism. This may be a continuing problem for this patient not related to dental visits or his new dentures, but rather an acquired idiopathic reaction.

The learning point for the treating DC is to be aware of the potential for this pathophysiologic response; a thorough review of a patient’s medical history may imply a potential problem and require appropriate medical consultation. Dental office emergency management for allergy (antihistamine, epinephrine) may not be effective for some AE episodes resulting in the potential for serious, if not fatal, consequences.

References:
2. Riedel, M., Casillas, A., Adverse Drug Reactions, American Family Physician, 2003 68:9 1782

Permissions:
Fig. 1. Permission granted by Brian McDaniel of the Stomp on Step 1 website: http://www.stomponstep1.com/

About the Authors
Harold V. Cohen, DDS, and Samuel Y.P. Quek, DMD, MPH, are professors at Rutgers School of Dental Medicine (RSDM), Jacquelyn Marano, DMD, is a general practice resident at RSDM. Ali Abbas, DMD, and Gayathri Subramanian, DMD, PhD are assistant professors at RSDM. Prashanth Konatham Harribabu, BDS, MDS, MSD, is a faculty instructor at RSDM.
Case Number 1  Answer: B. Lichen planus

Lichen planus (B) is a chronic, immunologically-mediated disease in which oral lesions may be accompanied by lesions on the skin and other mucous membranes. Oral lesions may be white or erosive. White lesions take the form of reticular striae (a network of white lines), plaques and papules. Erosive lesions are sometimes symptomatic. They appear as atrophic or erythematous areas around central ulcerations, sometimes surrounded by peripheral white striae. Erosive lichen planus is one of the most common causes of desquamative gingivitis. After it is diagnosed, the reticular type of lichen planus should be monitored clinically but does not require treatment. The erosive form is treated with topical corticosteroids or systemic immunosuppressives, depending on the extent of the lesions.

Erythema multiforme (A) is excluded because the extensive ulcerations most often occur in young adult males. It affects the lips more than other parts of the mouth and gingivae are less involved than other sites. Bullous pemphigoid (C) and lupus erythematosus (D) are both excluded because oral lesions do not occur in the absence of skin lesions in these diseases.

The clinical differential diagnosis for erosive lichen planus includes hypersensitivity reactions (systemic due to medications or local contact), lupus erythematosus, chronic ulcerative stomatitis, and oral graft-versus-host disease.

Case Number 2  Answer: B. Leukoplakia

Leukoplakia (B) is defined as a “whitish patch or plaque which cannot be characterized clinically or pathologically as any other disease.” A simpler definition would be “a suspicious white patch.” Leukoplakias represent about 85% of oral precancers. Most leukoplakias in the U.S. are benign hyperkeratosis. About 20% of leukoplakias show evidence of dysplasia or carcinoma at first clinical recognition. Clinical types correlate with the malignant transformation potential. Mild and thin leukoplakias, of which the current case is an example, have the lowest malignant potential. Erythroplakia (speckled leukoplakia) has the highest potential. The site of the leukoplakia also correlates with the risk of cancer occurring in a lesion. Leukoplakias on the tongue, lip vermilion, and floor of the mouth represent more than 90% of cases that exhibit dysplasia or carcinoma. Scalpel biopsy is the most diagnostic method. The general rule is that lesions less than one cm in maximum dimension should be excised. Incisional biopsies should be used for larger lesions. The excisional biopsy in this case revealed mild dysplasia, which correlates with a much lower risk of malignant transformation than would moderate or severe dysplasia.

Condyloma acuminatum (A) is excluded because it is a papillary or warty exophytic lesion. Nicotine stomatitis (C) is excluded because it presents as multiple umbilicated papules on the palate. White sponge nevus (D) is an inherited disease characterized by multiple white plaques occurring on mucous membranes.

The differential diagnosis of solitary oral mucosal white plaques also includes frictional keratosis, contact (local) hypersensitivity reaction, candidiasis, and smokeless tobacco keratosis.

Case Number 3  Answer: C. Peripheral ossifying fibroma

Peripheral ossifying fibroma (C), or ossifying epulis, is a benign reactive lesion arising from the gingivae. It is usually located interdentally. The lesion is a well-defined, firm nodule which is pink or red in color. Sometimes, the calcified material which characterizes the lesion is so extensive that it is detectable on radiographs as irregular opacities within the nodule. This permits it to be distinguished radiographically from irritation fibroma, pyogenic granuloma and peripheral giant cell lesion. Peripheral ossifying fibroma and peripheral giant cell lesion arise from deep tissues (periodontal ligament or alveolar crest) and consequently have higher recurrence rates than irritation fibroma and pyogenic granuloma.

Pleomorphic adenoma (A) is excluded because it arises from salivary glands that do not occur in the gingivae. Adult gingival cyst (B) is excluded because it is a fluctuant small lesion. Parulis (D) is excluded because it is a fluctuant abscess, usually found at the muco-gingival junction.

The differential diagnosis of solitary, circumscribed, firm, pink gingival nodules includes (irritation) fibroma, peripheral giant cell lesion, benign mesenchymal tumors (neurilemoma, neurofibroma, traumatic neuroma, leiomyoma), and peripheral odontogenic tumors.
Case Number 4  Answer: B. Fibroma

Fibroma (B) is a very common reactive hyperplasia. It occurs anywhere on the oral mucosa or vermilion and presents as a dome-shaped, firm, painless, sessile or pedunculated nodule, with well-defined borders. Its surface is intact and it is similar to, or paler than, adjacent normal mucosa. They are attached to the connective tissue from which they arise. Some develop from pyogenic granulomas.

Keratoacanthoma (A) is a self-limiting epithelial proliferation that occurs on the face, including the lips. It is excluded because it has a central keratin plug and because most cases regress spontaneously within a year. Peripheral giant cell lesion (C) is excluded because it occurs only on the gingivae or alveolar ridge. Most squamous cell carcinomas (D) on the lower lip present as ulcerations. They are extremely unlikely to present as circumscribed, ovoid, pink enlargements on the lip.

The differential diagnosis for a solitary, firm, ovoid, enlargement on the lower lip includes benign mesenchymal tumors (neurilemoma, neurofibroma, traumatic neuroma, leiomyoma).

The Oral Pathology Quiz is presented by faculty of the Rutgers University—Rutgers School of Dental Medicine, Division of Oral Pathology, Drs. Joseph Rinaggio, and Lawrence C. Schneider. Clinicians who have clinical pictures and/or radiographs of cases suitable for future quizzes should call Dr. Schneider at (973) 972-4375. E-mail: Lawcschneider@aol.com.

Biopsy kits may be obtained without charge by calling (973) 972-1646. Faculty are available to answer questions Monday through Friday, from 8:00 AM to 4:00 PM.
I am a 42-year-old Caucasian female with an almost constant dull, achy pain in all my teeth. The pain started about soon after root canal therapy for an upper right molar that apparently had an abscess, about three years earlier. After the endodontic treatment, the tooth pain disappeared only to return a few days later. My pain spread to adjacent teeth and then to the lower right teeth. Another endodontist did more root canals but pain continued.

Eventually, the pain spread to the teeth on the opposite side of my mouth which also required several root canals. However, my pain still persisted and I went to a neurologist who ordered a brain MRI which was negative. Despite the many root canals and numerous pain-killers and antibiotics, I am still in pain. I am depressed and the pain is affecting my marriage and my life.

A copy of my recent x-ray is below.

Comments:
This patient has Atypical Odontalgia (AO) which is a continuous neuropathic disorder that affects apparently normal teeth and adjacent oral tissues, and can also occur at a site from which a tooth had been extracted. The onset of AO can follow common dental procedures including endodontic therapy, apicectomy, tooth extraction, periodontal surgery, dental implant, and even a crown preparation. All these procedures can cause damage to the trigeminal nerve and its branches. In the past, the terms atypical, phantom tooth pain, and “phantom tooth pain” have been used for this disorder and, more recently, the term Painful Traumatic Trigeminal Neuropathy (PTTN) has also been proposed.

Most patients are females in their 40s or 50s and the pain is described as a moderate to severe constant, dull ache with occasional burning or throbbing. Some patients also report a feeling of swelling in the area even when clinical examination does not reveal any swelling. The term dysesthesia, an unpleasant abnormal sensation, best describes AO.

AO involves pain in a tooth and it is often misdiagnosed as a toothache of pulpal origin leading to multiple failed dental interventions in an vain attempt to relieve the pain. Unfortunately, instead of alleviating the pain, these procedures often cause additional nerve damage and worsen the pain. To avoid this scenario, the dentist should be aware of the following significant differences between AO and pulpitis:

<table>
<thead>
<tr>
<th>Atypical Odontalgia</th>
<th>Acute Pulpitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>No obvious source of pain</td>
<td>Clinical and/or radiographic findings present</td>
</tr>
<tr>
<td>Local anesthesia is equivocal</td>
<td>Local anesthesia completely stops the pain</td>
</tr>
<tr>
<td>Pain is persistent — does not change over time</td>
<td>Pain does not stay the same — may worsen or resolve</td>
</tr>
<tr>
<td>Pain is easily localized by patient at onset</td>
<td>Pain is poorly localized by patient</td>
</tr>
<tr>
<td>Dull, achy quality</td>
<td>Pulsating, sharp quality</td>
</tr>
<tr>
<td>Hot/cold has little effect on pain</td>
<td>Hot/cold may affect the pain</td>
</tr>
</tbody>
</table>

When a dental procedure causes sensory nerve damage, impulses are sent to trigeminal brainstem neurons in the central nervous system (CNS), frequently causing these neurons to become hyperexcitable. This is known as central sensitization, which is an important mechanism involved in many pain disorders and is responsible for maintaining the pain in AO as well as the spreading of pain away from the original site of injury, the tooth. Because the pain is now “centralized,” a local anesthetic injection of the tooth only partially relieves the pain and is equivocal. And repeated dental procedures only cause more nerve damage which may perpetuate central sensitization by increasing noxious input to the CNS.

Management of AO is mainly pharmacological. Because it is difficult to treat, a 30-40% reduction in pain is considered significant. Analgesics are ineffective in the management of AO. However, antidepressants (e.g., amitriptyline/nortriptyline, duloxetine) and anticonvulsants (e.g., gabapentin, pregabalin) which act in the CNS may reduce central sensitization and also prevent transmission of impulses to the somatosensory cortex of the brain where pain is perceived. Because a peripheral component may also be present in AO, topical formulations may help to reduce pain.

There is a take-home message. If a source of the tooth pain can’t be identified and a diagnostic anesthetic block does not completely eliminate the pain, a nondental cause of pain should be suspected and no dental treatment should be initiated.

About the Authors
Richard A. Pertes, DDS, is a clinical professor in the Division of Orofacial Pain, Department of Diagnostic Sciences, Rutgers School of Dental Medicine.

Julyana Gomes Zagury, DMD, MSD, is a clinical assistant professor, in the Division of Orofacial Pain, Department of Diagnostic Sciences, Rutgers School of Dental Medicine.
Abstract
The dual needs of 1) providing increasing oral healthcare for individuals with special needs, and 2) improving the economics of dental practice, are explored in a review of the State of New Jersey and its counties.

Realities
Long-term patient populations which provided the bulwark for many successful dental practices are being replaced by the minority populations (particularly the Hispanic population) and individuals with disabilities of all ages, races and ethnicities. Decades of studies based on demographic variables, residency locations and insurance have emphasized the disparities in the delivery of dental care to the general public.1

Part I. Individuals with Disabilities
“New Jersey (ranks) as the worst performer of all states (when it comes) to employing proven and promising policy approaches to ensure dental health and access to care for disadvantaged children.”2 “This was the finding from the 2010 Pew Charitable Trust study of the cost of delay in the delivery of basic preventive dental services to children in low-income families.”3

“The reality is that dentists in New Jersey and throughout the country increasingly will be called upon to provide services to a burgeoning population of seniors, many of whom will have an extensive range of special needs.”4

Previous presentations in the /NJDA emphasized the need for the dental profession to take into consideration the oral health needs of the young and not-so-young who, in the past, were not able to secure needed care. More recent information for 2013 and 2014 from the Centers for Disease Control (Disability and Health Data System) and the Census Bureau provides an overview of the developing magnitude of the New Jersey population with special health needs that may require the services of dental practitioners.5,6

Number and Proportion of New Jersey Residents with Disabilities
In 2014, the proportion of civilian non-institutionalized residents with disabilities in New Jersey was the second lowest (10.5%) of all states (ranking from 9.6% in Utah to 19.9% in West Virginia).7

In the 2010–14 period, almost 894,000 (10.2% of the civilian non-institutionalized) residents were reported (with greater numbers in the 18–64 years and 65 and over years) to have one or more disabilities. They ranged from:
• 9,423 residents in Salem County to 93,601 in Essex County
• 7.6% of residents in Somerset County to 15.4% in Cumberland County. (Table 1)

Proportion of Adults with Disabilities (2013)

<table>
<thead>
<tr>
<th>Type of disability</th>
<th>New Jersey</th>
<th>United States &amp; Territories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any disability</td>
<td>19.0%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Cognitive</td>
<td>8.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Mobility</td>
<td>11.1</td>
<td>13.1</td>
</tr>
<tr>
<td>Vision</td>
<td>3.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Self-care</td>
<td>2.7</td>
<td>3.6</td>
</tr>
<tr>
<td>Independent living</td>
<td>4.9</td>
<td>6.6</td>
</tr>
</tbody>
</table>

Compared to national findings, a smaller proportion of New Jersey adult residents was reported to have a disability. Nevertheless, almost one-in-five New Jersey adult residents had a disability. (Note: respondents may have one or more disabilities.) In addition, compared to New Jersey residents without disabilities, a greater proportion of adult residents with disabilities have lower incomes, reduced education, were never married and/or are unable to work. (Table 2)

Part II. Economics of Dental Practice
“In the August 2015, Features section of the JADA, the author presented suggestions on “Solving dentistry’s ‘busyness’ problem.”8 The writer reported that numerous analyses from the ADA Health Policy Institute demonstrated that, “the percentage of dentists who report they are not busy enough and can see more patients has been rising steadily for approximately a decade.”8

Waiting times have decreased steadily, dentists’ earnings are stagnating and dentists who accept Medicaid tend to be busier. Suggestions for improvement include potential sources of referrals by physicians as they emphasize oral health during wellness visits, and collaboration with CVS Minute Clinics, a hospital emergency department, or an endocrinologist group.9
A response to the *JADA* Feature Section was that, “in the discussion of the need to expand the scope of dentistry, no mention was made of the underserved dental needs of the 57 million men: women and children with intellectual, physical and/or sensory impairment (including more than 38 million with severe disabilities).”

In 2004, the Commission on Dental Accreditation adopted a new standard (with implementation in 2006), “Graduates (from U.S. dental schools) must (sic) be competent in assessing the treatment needs of patients with special needs. The standard does not require clinical care experience during dental school training.” “The literature shows that academic dental institutions have a history of under-preparing students to deal with the increasing population of individuals with special needs.”

Subsequent to the establishment of the standard, a study of the dental school experiences in the care of individuals with special needs indicated an increase in clinical experiences in the care of these patients.

However, there are barriers to preparing current practitioners to provide care to individuals with special needs. A review of continuing education courses in the larger dental conventions provided few, if any, courses related to the topic of the care of individuals with special needs. For example, attaining Mastership in the Academy of General Dentistry, a professional designation within the Academy that reflects a general dentist’s ongoing commitment to provide quality care through continuing education, requires a specified minimum number of hours of continuing education hours in a range of subjects, including special patient care. Unfortunately only a limited number of course presentations are available to meet these requirements.

The need is to help solve dentistry’s “busyness” problem. Surely this development must include the care of individuals with special needs of all ages. While many practitioners do provide care for the legions of individuals with special needs, planning is essential to prepare the broad base of current practitioners for the provision of these services, if the care of the millions with special needs is to become a reality.

“While much of the economy has recovered since the Great Recession, the earnings of general (dental) practitioners have not according to the ADA. In fact, 2014’s average earning of $174,780 for all GP’s follow 2013’s average earning of $183,885 and come at the end of a nearly decade-long decline since 2005’s inflation-adjusted peak of $219,378.”

Yes, the need is to expand the scope of dentistry, but surely this development must include the care of men, women and children with special needs of all ages. However, this expansion can’t wait for the graduation of the next generations of dental school graduates who have greater education debts than those in previous generations. While many practitioners do provide care for the legions of individuals with special needs, planning is essential to prepare the broad base of current practitioners for the provision of these services, if the care of the millions with special needs is to become a reality.
Table 1. Estimated average number and percent of civilian non-institutionalized residents of New Jersey with disabilities by state and counties: 2010-2014

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&lt; 5 yrs</th>
<th>5–17 yrs</th>
<th>18–64 yrs</th>
<th>65+ yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jersey</td>
<td>893,672</td>
<td>10.2%</td>
<td>3,336</td>
<td>69,634</td>
<td>421,718</td>
</tr>
<tr>
<td>Atlantic</td>
<td>34,738</td>
<td>12.8%</td>
<td>73</td>
<td>2,977</td>
<td>17,960</td>
</tr>
<tr>
<td>Bergen</td>
<td>76,466</td>
<td>8.4%</td>
<td>21</td>
<td>5,165</td>
<td>30,505</td>
</tr>
<tr>
<td>Burlington</td>
<td>47,291</td>
<td>10.8%</td>
<td>112</td>
<td>3,386</td>
<td>22,330</td>
</tr>
<tr>
<td>Camden</td>
<td>66,446</td>
<td>13.1%</td>
<td>502</td>
<td>6,592</td>
<td>34,445</td>
</tr>
<tr>
<td>Cape May</td>
<td>12,966</td>
<td>13.8%</td>
<td>20</td>
<td>647</td>
<td>5,618</td>
</tr>
<tr>
<td>Cumberland</td>
<td>22,579</td>
<td>15.4%</td>
<td>71</td>
<td>2,005</td>
<td>12,498</td>
</tr>
<tr>
<td>Essex</td>
<td>93,601</td>
<td>12.0%</td>
<td>346</td>
<td>8,240</td>
<td>50,980</td>
</tr>
<tr>
<td>Gloucester</td>
<td>35,012</td>
<td>12.1%</td>
<td>117</td>
<td>2,924</td>
<td>18,060</td>
</tr>
<tr>
<td>Hudson</td>
<td>61,377</td>
<td>9.4%</td>
<td>275</td>
<td>4,402</td>
<td>31,998</td>
</tr>
<tr>
<td>Hunterdon</td>
<td>10,447</td>
<td>8.6%</td>
<td>32</td>
<td>863</td>
<td>4,477</td>
</tr>
<tr>
<td>Mercer</td>
<td>36,367</td>
<td>10.0%</td>
<td>190</td>
<td>3,024</td>
<td>14,487</td>
</tr>
<tr>
<td>Middlesex</td>
<td>69,808</td>
<td>13.2%</td>
<td>227</td>
<td>4,392</td>
<td>31,001</td>
</tr>
<tr>
<td>Monmouth</td>
<td>58,745</td>
<td>9.4%</td>
<td>171</td>
<td>4,998</td>
<td>26,020</td>
</tr>
<tr>
<td>Morris</td>
<td>37,920</td>
<td>7.7%</td>
<td>51</td>
<td>2,585</td>
<td>14,826</td>
</tr>
<tr>
<td>Ocean</td>
<td>57,852</td>
<td>8.6%</td>
<td>222</td>
<td>4,998</td>
<td>26,020</td>
</tr>
<tr>
<td>Passaic</td>
<td>46,121</td>
<td>9.2%</td>
<td>228</td>
<td>3,501</td>
<td>21,312</td>
</tr>
<tr>
<td>Salem</td>
<td>9,423</td>
<td>14.6%</td>
<td>46</td>
<td>696</td>
<td>5,085</td>
</tr>
<tr>
<td>Somerset</td>
<td>24,792</td>
<td>7.6%</td>
<td>199</td>
<td>1,860</td>
<td>9,892</td>
</tr>
<tr>
<td>Sussex</td>
<td>13,951</td>
<td>9.6%</td>
<td>39</td>
<td>1,070</td>
<td>7,145</td>
</tr>
<tr>
<td>Union</td>
<td>48,370</td>
<td>8.9%</td>
<td>207</td>
<td>4,048</td>
<td>22,645</td>
</tr>
<tr>
<td>Warren</td>
<td>11,429</td>
<td>10.7%</td>
<td>13</td>
<td>749</td>
<td>5,419</td>
</tr>
</tbody>
</table>

*Includes only children with vision and/or hearing disabilities

Note: Individuals may have one or more disabilities.

Table 2. Proportion of New Jersey adult residents with and without disabilities by selected demographic characteristics: 2013

<table>
<thead>
<tr>
<th>Income</th>
<th>Residents with disabilities</th>
<th>Residents without disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $25,000</td>
<td>49.1%</td>
<td>20.1%</td>
</tr>
<tr>
<td>$50,000 +</td>
<td>30.8</td>
<td>60.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Some high school or less</td>
<td>22.4</td>
<td>10.6</td>
</tr>
<tr>
<td>Graduated college</td>
<td>16.0</td>
<td>35.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Married or member of unmarried couple</td>
<td>40.6</td>
<td>57.2</td>
</tr>
<tr>
<td>Never married</td>
<td>34.6</td>
<td>28.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment status</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>42.3</td>
<td>66.2</td>
</tr>
<tr>
<td>Unable to work</td>
<td>17.3</td>
<td>1.4</td>
</tr>
</tbody>
</table>

References


10. Waldman HB, Bruno LD, Perlman SP. It is time for the expansion of dentistry to include the care of individuals with special needs. Quint Intern. 015:46(1):7–8.


12. Waldman HB, Wong A, Cannella D, Perlman SP. No one left behind. Editorial AGD Impact, (on line) e10-e12, July 2010.


About the Authors

H. Barry Waldman, DDS, MPH, PhD, is a distinguished teaching professor in the Department of General Dentistry at Stony Brook University, NY.

Allen Wong, DDS, EdD, is a clinical professor at the University of the Pacific, Arthur A. Dugoni School of Dentistry, San Francisco, CA.

Steven P. Perlman, DDS, MScD, DHL (Hon), is the global clinical director, Special Olympics, Special Smiles and clinical professor of Pediatric Dentistry at the Boston University Goldman School of Dental Medicine. He maintains a private practice in Lynn, MA.
Restoration of the extremely worn dentition is one of the most challenging treatments in dentistry. This clinical report describes a full-mouth rehabilitation using a team approach between a periodontist and a prosthodontist.

The process of tooth wear is multifactorial and results from attrition, abrasion and erosion. Attrition refers to the wearing away of enamel and dentin due to tooth-to-tooth contact. Abrasion refers to the loss of tooth structure due to external physical forces, such as excessive tooth brushing or a highly abrasive diet. Finally, erosion involves the loss of tooth structure by a chemical means, such as stomach acid or prolonged exposure to acidic foods. It is essential to diagnose the causes of tooth wear prior to initiating treatment, to ensure a favorable long-term prognosis of the reconstruction.

Excessive loss of tooth structure can cause compensatory supra-eruption of the teeth and periodontium and loss of occlusal vertical dimension. It is important to determine the amount of tooth structure lost as well as the amount of loss of vertical dimension in order to provide adequate space for restorative materials and to restore the patient in an esthetic, functional and comfortable position.

A 59-year-old Caucasian male presented to the periodontist with the chief complaint “I need to fix my teeth. I am unhappy with the look of my teeth and it takes me a long time to chew my food.” (Fig. 1,2) A complete periodontal evaluation was performed including complete periodontal charting and diagnosis. The patient was diagnosed with a reduced but stable periodontium, multiple non-restorable teeth, and a thick gingival biotype. He was subsequently referred to the prosthodontist for further restorative treatment planning.

The patient’s medical history was reviewed. He was currently taking Atorvastatin 40mg UID for hypercholesterolemia. The patient had a past history of smoking approximately 1 pack per day for 20 years. The patient denied any sleep disordered breathing, gastro-esophageal reflux disease or symptoms and history of eating disorders. His diet was reviewed and there was no history of overtly acidic or abrasive foods.

A review of the patient’s dental history revealed that he lost his mandibular posterior teeth “many years ago” and review of his social history revealed a physically demanding job in which he periodically clenched his teeth upon effort. He denied symptoms of
bruxism and headaches or pain in the temporomandibular joint or related musculature.

A full mouth series was performed. (Fig. 6) A TMJ examination was completed and no deviation or restriction of jaw movements was noted. Intraoral and extraoral photographs were taken. (Fig. 3, 4, 5) Preliminary impressions were made using polyvinyl siloxane material and a face bow transfer record was made. Jaw relation records were made using rigid PVS material in both the maximum intercuspation and centric relation positions. The mandible was deprogrammed using a leaf gauge. The impressions were poured and mounted on a semi-adjustable articulator. MIP was confirmed to be coincident with CR both intraorally and on the articulator. The articulator was programmed using a protrusive record and average clinical values to set the horizontal and lateral condylar inclinations, respectively.

The patient returned for consultation to discuss his treatment options. He was diagnosed with the following:

1. Partial edentulism
2. Severe attrition due to loss of posterior support and clenching habits
3. Angle’s class I occlusion (canines)
4. Dental caries with lesions noted on teeth #s 1, 3, 10 and 14
5. Lack of sufficient tooth structure for restoration #s 4, 5, 14 and 18
6. Supra-eruption of maxillary posterior segments
7. Thick gingival biotype

After explaining the risks, benefits and alternatives to treatment, the patient opted for a full-mouth reconstruction utilizing his sound existing teeth and dental implants.

The patient was referred back to the periodontist for the first surgery, which was extraction of the non-restorable teeth. Teeth #s 1, 4, 5, 14, 16 and 18 were surgically extracted, with ridge preservation in sites #4, 5, 14, and 18. This was performed with small particle mineralized cancellous allograft and resorbable collagen barriers. The patient tolerated this phase without complication.

The first step in the reconstruction process was to determine the appropriate position of the maxillary central incisors. First, measurements of the diagnostic casts were made. The preliminary vertical distance from the gingival margins of #10 to #22 was 9mm. To provide the necessary room for material thickness as well as appropriate anterior overlap, the articulator was opened 5mm at the pin to give a total vertical distance of 13 mm between the gingival margins of teeth #s 10 and #22. At this open position, teeth #s 8 and 9 were waxed to a total length of 7.5 mm. Crown lengthening of 3 mm was simulated on maxillary anterior teeth of the diagnostic cast to allow for appropriate tooth length of 10.5 mm and to aid in retention and resistance form of the future preparations. A diagnostic waxing of teeth #6–11 was completed providing ideal tooth proportions. An intraoral mock up was completed using a matrix of the wax-up and bis-acryl provisional material (Fig. 7). Once the esthetics and phonetics of #6–11 were confirmed with the patient, he was referred to the periodontist for clinical crown lengthening.

Full-mouth crown lengthening was indicated in order to provide appropriate tooth proportions as well as increased resistance and retention form of the anticipated preparations. Surgical guides were fabricated from a duplicate of the diagnostic wax-up to communicate the amount of crown lengthening required. After an initial gingivectomy, full thickness flaps were reflected and osseous recontouring performed to design a biologic width around the desired future restorative margins. The patient had an abundance of keratinized gingiva, which was not a concern to preserve. Eight weeks of healing took place ensuring stability of the periodontium in its new position. (Fig. 8)
Following crown lengthening and healing, new impressions were made, casts were cross-mounted using the original records, and a full-mouth diagnostic waxing was completed at the preliminary increased occlusal vertical dimension. (Fig. 9) A mutually protected occlusal scheme was developed with appropriate anterior guidance. Surgical guides were fabricated from a duplicate of the diagnostic wax-up to communicate with the periodontist future implant positioning.

The patient was referred to the periodontist for implant placement in positions #4, 5, 18, 20, 30 and 31. An osteotome sinus lift with xenograft (DBBM) was performed in conjunction with implant placement to site #4 due to pneumatization of the right maxillary sinus. The other implants were placed without any additional hard or soft tissue grafting and were placed without incident. Healing was uneventful and the implants osseointegrated without incident. Once osseointegration was confirmed, the patient was referred back to the prosthodontist for preparation of the remaining teeth.

All remaining teeth were prepared at the next visit. (Fig. 10) Adequate reduction was accomplished using preparation matrices based on the full contour wax-up. Due to the severe wear of the anterior teeth and the planned increase of OVD, incisal and occlusal reduction of many of the teeth was not necessary. The exception to this was the supra-erupted maxillary posterior teeth. Prefabricated abutments were torqued to 35 N/cm on implants #18, 20, 30 and 31.

Lab-fabricated full arch provisionals were created from the diagnostic wax-up and were relined using a bis-acryl resin material. The margins were trimmed and provisionals were polished. The maxillary and mandibular provisionals were initially kept in one piece to minimize strength and aid in patient comfort. The patient’s occlusion was analyzed and adjusted to provide bilateral simultaneous posterior contacts with lighter anterior contacts in centric occlusion. A mutually protected occlusion was established without posterior interferences upon excursion. The provisionals were cemented with zinc oxide and non-eugenol cement and petrolatum modifier. (Fig. 11)

The patient was closely followed and recalled in two weeks. He noted no discomfort in his TMJs or muscles of mastication. He stated he felt comfortable with his restored occlusal vertical dimension and new occlusion. Esthetics and phonetics were verified. Freeway space of 2–3 mm was noted upon phonation of “S” sounds with no premature tooth contact. The provisionals were sectioned into 3 units per arch (2 posterior and one anterior) to aid in the future jaw relation records. The patient was allowed to function with the provisional for four more weeks and did not reveal any occlusal, muscular or joint issues during this time. He noted a greatly improved chewing efficiency. Maxillary and mandibular PVS impressions were made of the provisionals along with a facebow transfer record and a centric jaw relation record to guide the technician in definitive restoration fabrication. These casts were mounted on a semi-adjustable articulator and a custom incisal guide table was fabricated.

At the next appointment, maxillary and mandibular final impressions were made using a PVS material and custom trays. Retraction cord soaked in aluminum chloride hemostatic solution was placed around the teeth using a double cord technique. Closed tray impressions copings were connected to the implant abutments and full arch final impressions were made.

Three sets of jaw relation records were made in centric relation: maxillary preparations against mandibular provisionals; mandibular preparations against maxillary provisionals; and, maxillary provisionals against mandibular provisionals. Occlusal vertical dimension remained constant throughout the records process by inserting and removing anterior and posterior provisional segments as necessary. The impressions were poured using a vacuum-mixed type 4 gypsum product and they were indexed using pins. Prior to sectioning, the master casts were mounted together and cross-mounted with the provisional casts on the articulator. The articulated casts were sent to the laboratory technician for fabrication of posterior metallic.
frameworks and full contour lithium disilicate anterior crowns. (Fig. 12, 13, 14)

The patient returned for framework try-in. The posterior frameworks were checked for marginal accuracy and passivity of fit. The lithium disilicate crowns were tried in and shape, shade and contour was verified with the patient. A centric relation verification record was made with the posterior frameworks and anterior restorations in place. The record was returned to the articulator to confirm the mounting. The frameworks were sent back to the ceramist for application of porcelain.

At the next visit, the crowns were delivered. (Fig. 15, 16, 17, 18) All crowns and fixed dental prostheses were tried in to verify marginal integrity and appropriate interproximal contact. The lithium disilicate crowns were etched with a 9% buffered hydrofluoric acid and silane was applied. They were inserted with self-adhesive resin cement. After cleaning the excess, the occlusion was checked and adjusted to provide smooth anterior guidance. The posterior restorations were cemented next. The tooth-supported crowns were cemented with resin-modified glass ionomer cement prior to treating the preparations with a conditioning agent. The implant-supported crowns were cemented with implant provisional cement.

Isn’t it about time **YOU** had something to smile about?

When it comes to selecting an accounting firm for your practice, why not follow the lead from your peers.

**Botwinick & Company, LLC** has been serving the accounting needs of New Jersey dentists since 1968. With a firm wide concentration in dental practice accounting, practice management, and acquisition consulting, we are the most trusted dental accounting firm in the Metropolitan Area.

What sets us apart from other firms is the partners’ hands on approach to your accounting, tax and management consulting needs. One on one attention from your accountant is guaranteed.

We encourage you to set up a complimentary meeting with one of our partners. Let us show you how you should be treated by your most trusted advisor.
The occlusion was checked, adjusted and polished. Maxillary and mandibular PVS impressions were made to fabricate an occlusal guard. The guard was delivered at the following appointment to prevent wear and potential fracture of the porcelain. The patient was instructed to wear the guard at night and during strenuous physical activity. (Fig. 19)

Oral hygiene instructions were reviewed with the patient and an emphasis was placed on the use of floss and interproximal brushes for cleansing around the fixed dental prostheses. The patient was placed on an alternating 6 month recall visit for prophylaxis. In addition, he was instructed to use a prescription fluoride dentifrice one time a day alternating with over-the-counter fluoride toothpaste. The patient was quite dedicated and enthusiastic toward restoring his dentition. His positive attitude and motivation to maintain his oral health in optimal condition will facilitate a favorable long-term prognosis. (Fig. 20, 21)

References

About the Authors
Michael W. Klotz, DMD, MDentSc, FACP, is a prosthodontist in private practice in Ho-Ho-Kus, NJ.

Daniel C. Barabas, DMD, MS, is a periodontist in private practice in Ridgewood, NJ.

To Contact the NJDA JOURNAL
Tell us about honors and awards that you have received, special things that you wish to share with your colleagues in a Journal article and traditional letters to the editor. Your Journal wants to hear from and about you. The NJDA also invites members to submit lifestyle and feature stories, in addition to clinical articles. Send inquiries to: Lorraine Sedor, managing editor, at lsedor@njda.org or phone 732-821-9400. Contact Harvey S. Nisselson, DDS, Editor of the Journal, via email at hn3@cumc.columbia.edu.
DENTAL MALPRACTICE INSURANCE

You wanted to be a dentist to help people. EDIC supports dentist and the profession because we are dentists.

By Dentists, For Dentists®

EDIC Supports Our Colleagues 100% Because We Are Dentists Too. Join EDIC Today!

1-800-898-3342 • www.edic.com
LinkedIn | Twitter@EDICInsurance | www.facebook.com/EDICInsurance
Practices for Sale

Well Established Ortho Practice in NNJ.
Multi-ethnic area, Grossing over $700K, Fee for service. Excellent staff. Owner will stay for smooth transition. Reply to: NJDAclassifieds@gmail.com. Include BOX L in the subject line.

Morris County
Wonderfully located, well-established general practice. Digital, Panorex, Intra-Oral cameras—Brand new computer system using Dentrix—4 ops plus an additional that is plumbed. Four day work week—1400 s/f leased space in professional building with multiple tenants. Contact Henry Schein Professional Practice Transitions Consultant, Donna Costa, (800) 988-5674, donna.costa@henryschein.com. #NJ134.

Camden County, NJ
General practice with high population of adolescents and children on a main street in busy area. Five operatories—digital—computerized. Practice does accept state funded plan. Active patient count over 1200. Real Estate is available also @ $350,000. Contact Henry Schein Professional Practice Transitions Consultant Donna Costa, (800) 988-5674, donna.costa@henryschein.com. #NJ136.

Ocean County, NJ
Beautifully, well designed! 5 large operatories, digital, 5 Sensors, chairs reversible. Hookups for nitrous. Revenue being generated on 4-day work week. PPO, FFS mix. R/E can be available also. Contact Henry Schein Professional Practice Transitions representative, Donna Costa, (800) 988-5674 or donna.costa@henryschein.com for more information. #NJ131.

General Practice Opportunity
Approximately 30 Miles From New Brunswick.
The practice has historically been operated as a satellite practice and collected $250-275K annually. Realistic first year pre-tax net income is around $100,000.00 with the opportunity for future growth and expansion. For specific details please contact Dr. Ron Prokes at (800) 334-9126, (317) 727-1534, or Ron@LegacyPracticeTransitions.Com.

Classifieds
2016 ENDORSED BUSINESS ASSOCIATES

PLATINUM PREMIER
Bank of America
Practice Solutions

PLATINUM
CareCredit
Making care possible...today.

GOLD
AXA ADVISORS
Colgate®
Delta Dental
Henry Schein®
Horizon

SILVER
MEADOWBROOK
MERCHANT ADVOCATE
Mid-Atlantic
Insurance Resources
Officie
Web Presence Solutions
for Dental Practices

tdic.
General Practice #NJ-1271
Bergen County. 2 Operatories. Starter office, great area, one of the most affluent counties in NJ. Professional building with room for expansion. For details contact Dr. Bernie Kowalski, NPT (National Practice Transitions, LLC) (877) 365-6786 x233, b.kowalski@NPTdental.com or register for FREE on our website (www.NPTdental.com) as a member for immediate updates.

General Practice #PA-1232
Northampton County. 8 Operatories. Price reduced. Real Estate available. Average collections over $600,000 (net 55%)! Fee for Service. Close to interstate highway system for North Jersey/NY. Contact Dr. Bernie Kowalski, NPT (National Practice Transitions) (215) 437-3045 x233, b.kowalski@NPTdental.com or www.NPTdental.com.

Events

Newark CE Event June 17–18
Lectures on antibiotics, restorative dentistry, surgical extractions, social media marketing, cracked teeth, occlusion, splints, and elevating flaps will be presented. AGD PACE Accepted CE. Website: www.weteachextractions.com Email: drtommmymurph@yahoo.com Phone: (843) 488-4357 Tuition: $800 per day 8 hours CE Location: Embassy Suites Newark Airport

Consultants/Services

Kodak / Carestream & Schick—Intraoral X-Ray Sensor Repair

Practice Transitions
We specialize in Practice Sales, Appraisals and Partnership Arrangements. Financing available. Free Guides for Sellers and Buyers. Contact Philip Cooper, DMD, MBA, American Practice Consultants, (800) 400-8550, cooper@ameriprac.com.

B.C.Szerlip Insurance

B.C. Szerlip Insurance

PROPER INSURANCE IS A MUST!

DO YOU REALLY HAVE WHAT YOU NEED FOR:
Your Business, Lifestyle, and Retirement

B.C. Szerlip Insurance Advantages Give You:
• The best protection for the least cost.
• Unrivalled professional attention to details and customer service.
• More of a choice of leading malpractice carriers than any other insurance source.

Find out how these exclusive advantages can work for you.
Call (732) 842-2020 or e-mail us at bcs@bcszerlip.com for a personal no-obligation coverage analysis.

B.C. Szerlip Insurance Agency Inc.
34 Sycamore Avenue • Little Silver, NJ 07739
T: 732-842-2020 • F: 732-842-2221 • www.bcszerlip.com
Gendex & Dexis Intraoral X-Ray Sensor Repair

Nationwide Dental Practice Appraisals—Dentapraise™.

BSK Dental Solutions

Opportunities Available
Exclusive Oral Surgery, LLC seeks BE/BC OMFS

Associateships
Whether you are a dentist looking for an associate position, or a practice owner looking to hire an associate, NPT has created a free job posting board to assist you with your search. Visit www.NPTdental.com/associateships to learn more.

Wanted
Endodontist to rent operatory(s) in Bergen County dental office. Great location, plenty of parking. Great opportunity for dr. to start a practice etc. contact Dr. Gagliardi at (201) 794-0440.

Offices for Lease or Purchase
Atlantic County, NJ
Modern office design, new construction. Two operatories equipped with digital radiography, dental microscopes and A-dec chairs and cabinetry. Third operatory plumbed for future expansion. Secured lease. Owner needs to relocate and must sell or lease practice. Located in the center of town, close to Garden State Parkway. Great opportunity to develop as a satellite or full scope general or specialty practice. For specific details please contact: halhskn@yahoo.com.

Princeton, NJ
Existing dental office in center of Princeton with abundant parking. Located in medical building, 5 operatories. Bathroom, Office, Laboratory, Reception and Waiting Area. 1,970 square feet. Contact Jamie Herring at Herring Properties (908) 874-5400 x800 for an appointment. Email: jph@herringproperties.com.

Chatham, NJ. Fully Equipped, 2 Op Dental Office Property for Sale
Located on Main Street across from train station. Stand alone building with signage. Contact Joe Lombardi, Licensed Real Estate Broker: (908) 420-2700 / joe@masseranorec.com Masserano Real Estate and Consulting www.masseranorec.com.

Dental Office for Rent (Specialist only)
Norwood NJ. Excellent location and parking. Approx. 1425 sq.ft. $2500/mo + utilities. 4 plumbed Ops, 3 chairs included, compressor, suction. Very good for Perio, Pedo, Ortho, Oral Surgery. No General dentist or Prosthodontist. Dr. Raymond Lynch (201) 768-9530.

Dental Office for Lease or Sale.
551 Anderson Avenue, Cliffside Park, New Jersey. No practice or equipment. Approximately 1,000 square feet with first floor entry. Two operatories, reception room, business office, private office and lab. Basement mechanical room with storage. $1,425 /month plus utilities with lease. Start practicing with expensive structural lease hold improvements complete. Redecorating needed. This commercial building for sale at $459,000. Second floor of this all brick connected building is a 2 bedroom rental at $1,400.00 per month, tenant pays all utilities. Great deal as a buyer to get tenant to help pay mortgage while you practice rent free. Contact Dr. Louis Bellotti Cell: (201) 707-6681, email: LFB1952@aol.com.

To log into your NJDA member account visit: www.njda.org and click on Member Login at the upper left of the screen.

Username: 9-digit ADA number
Password: last name lower case ! first four digits of ADA (smith!1234)
Monmouth County Beach Practice
This 3 treatment room practice is located in a well-kept building with great street visibility. The practice is grossing $310K per year with part-time hours. The office is in a beautiful setting and has an established base of PPO and FFS patients. Opportunity ID: NJ-4204

North Brunswick Practice
This 3 treatment room practice is on a main road in Middlesex County. The practice is grossing $305K and is open 3 days per week. Approximately 48% of the practice is Medicaid and the rest is FFS and PPO. This is a great satellite practice opportunity. Opportunity ID: NJ-4175

Essex County
This modern, digital general practice has 3 equipped treatment rooms with room for a 4th. The practice has an abundance of PPO and traditional insurance patients. It is currently grossing $208K on a 3 day work week, and refers out most procedures. Seller is retiring due to illness. Opportunity ID: NJ-4166

Forked River Area Practice
This free-standing office located on a major road has 3 treatment rooms and is plumbed for a 4th. The practice currently operates on a 22 hour work week with a FFS patient base. This practice has low overhead and huge growth potential. Opportunity ID: NJ-4150

Didn't find what you were looking for? Go to our website or call to request information on other available practice opportunities!
You are not a statistic.

You are also not a sales goal or a market segment. You are a dentist. And we are The Dentists Insurance Company, TDIC.

It’s been 35 years since a small group of dentists founded our company. And, while times may have changed, our promises remain the same: to only protect dentists, to protect them better than any other insurance company and to be there when they need us. At TDIC, we look forward to delivering on these promises as we innovate and grow.