Gum disease a significant public health concern

The prevalence of periodontal disease in the United States may be significantly higher than originally estimated. Research published in the Journal of Dental Research from the Centers for Disease Control and Prevention (CDC) and the American Academy of Periodontology (AAP) suggests that the prevalence of periodontal disease may have been underestimated by as much as 50 percent. The implication is that more American adults may suffer from moderate to severe gum disease than previously thought.

In a National Health and Nutrition Examination Survey (NHANES) pilot study, funded by the CDC’s Division of Oral Health, a full-mouth, comprehensive periodontal examination was conducted on over 450 adults over the age of 55. Periodontal disease was classified according to definitions determined by the CDC in collaboration with the AAP.

The prevalence rates were then compared against the results of previous NHANES studies, which used a partial-mouth periodontal examination. Historically, NHANES has served as the main source for determining prevalence of periodontal disease in U.S. adults. The pilot study finds that the original partial-mouth study methodology may have underestimated true disease prevalence by up to 50 percent.

Several research studies have associated gum disease with other chronic inflammatory diseases, such as diabetes, cardiovascular disease and rheumatoid arthritis.

“This study shows that periodontal disease is a bigger problem than we all thought. It is a call to action for anyone who cares about his or her oral health,” said Samuel Low, DDS, MS, associate dean and professor of periodontology at the University of Florida College of Dentistry and president of the AAP.

“Given what we know about the relationship between gum disease and other diseases, taking care of your oral health isn’t just about a pretty smile. It has bigger implications for overall health, and is therefore a more significant public health problem,” Low added.

Low explained that the increased prevalence of periodontal disease makes it essential to maintain healthy teeth and gums. “Not only should you

Papillary squamous cell carcinoma

Oral squamous cell carcinoma (OSCC) is the most common malignancy of the oral cavity and has several known variants. The papillary variant of OSCC affecting the palate is rare compared to more common sites of involvement that include the larynx, pharynx and nasopharynx.

ADA conference seeks solutions for older adults

The American Dental Association (ADA) is extending invitations to those concerned about the oral health of vulnerable older adults and people with disabilities to attend a national conference and help shape the future of oral health care for this underserved and growing population.

“The national coalition conference, titled Oral Health of Vulnerable Older Adults and Persons with Disabilities, is scheduled for Thursday, Nov. 18, at the JW Marriott in Washington, D.C.

“We look upon this conference as the first step in building a consensus among a multi-disciplinary group of professionals in seeking solutions about oral health care for the vulnerable older adult and the disabled,” said Dr. Raymond F. Gist, ADA president.

“We are looking for attendees’ ideas, collaboration and support in

See page 3A
take good care of your periodontal health with daily tooth brushing and flossing, you should expect to get a comprehensive periodontal evaluation every year,” he advised.

According to Paul Eke, MPH, PhD, epidemiologist at the CDC and lead author of the study, the findings have significant public health implications. “The study suggests we have like- likely underestimated the prevalence of periodontal disease in the adult U.S. population,” he said. “We are currently utilizing a full-mouth periodontal examination in the 2009/10 NHANES to better understand the full extent and characteristics of periodontal disease in our adult population.”

Eke added, “Research suggests a connection between periodontal health and systemic health. In light of these findings, understanding the relationships between periodontal disease and other systemic diseases in the adult U.S. population is more crucial than ever.”

Patients can assess their risk for periodontal disease and learn more by visiting perto.org. (Source: AAP)

About the AAP

The American Academy of Periodontology (AAP) is the professional organization for periodontists. Periodontists are also dentistry’s experts in the treatment of oral inflammation. They receive three additional years of specialized training following dental school. The AAP has 8,000 members worldwide.

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Asthmatic kids and tooth decay

In the past, there have been suggestions that asthma and tooth decay were linked, especially for children. But according to a new report from the American Dental Association, that is apparently not the case. A critical review of the literature examined 27 separate studies published in 29 different papers between 1976 and March 2010. The studies looked into possible connections between asthma and dental caries, Gerardo Maupome, professor of preventive and community dentistry at the Indiana University School of Dentistry and author of the new study, said: “We found a little evidence to suggest that asthma causes tooth decay. In fact, the two largest studies we reviewed found that children with asthma appear to have fewer cavities than others. This may be because their parents are used to taking them to health-care providers, and routinely bring them to the dentist.”

“The notion that there is a link between asthma and tooth decay may have its origin in anecdotal statements by emergency room workers who see children with poorly managed asthma, Maupome said. “These children could also be more likely to have poorly managed dental conditions, and therefore tooth decay. It’s reasonable to believe that poor clinical management may be associated with both conditions, not the asthma that is causing the cavities.”

The study does acknowledge that it is difficult to explicitly determine if there is a connection between asthma and dental decay — predominately because of the large number of variables related to asthma, including the wide range of treatments for the illness and the severity of asthma symptoms. Yet, researchers suggest there is no need for parents with asthmatic children to be concerned. However, children who use nebulizers to control their asthma may be increasing their exposure to sugars, as nebulizers often contain fructose. Frequent intake of sugar can lead to tooth decay as the sugar reacts with the plaque on teeth and forms an acid that gradually dissolves the protective enamel coating on the teeth. Dr. Nigel Carter, chief executive of the British Dental Health Foundation, advises the best way to protect children’s teeth from decay is to make sure they brush twice a day with a fluoride toothpaste. It is also important to cut down how often sugar occurs in a child’s diet. Carter said: “It is vital that children brush their teeth both morning and night for two minutes with
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Dental practice audits

By Stuart J. Oberman, Esq.

Dental audits were rare at one time. Now, however, with insurance companies and third-party payers auditing more routinely, it is much more likely that a dental practice will face an audit. Most dental practices that are contracted with dental plans are audited at least once during the course of their practice.

Many of these dentists are left wondering why audits are becoming a more routine exercise of third party payers. The answer: alarming statistics. The FBI estimates that 10 percent of the money expended on health care is due to fraudulent activity. Insurance companies estimate that fraudulent health-care billing represents up to $10 billion each year.

In addition, Medicare fraud is becoming more rampant. The United States General Accounting Office estimated that out of every $7 spent on Medicare, $1 is lost to Medicare fraud. Fraud is adding enormous costs to the nation's health-care system. As more fraudulent health-care charges rack up for insurance companies to pay, insurance companies are becoming serious about auditing health-care practices.

With a thorough understanding of the audit process, dentists will be better prepared for what appears to be the inevitable.

Why me?

After receiving notice of an impending audit, dentists often wonder why their practice has been targeted. Generally, the audits conducted by dental plans and third-party payers are a method of showing state regulators that the patients are receiving quality care. A third-party payer is an organization other than the patient (which would be the first party) or health-care provider (also known as the second party) involved in the financing of health-care services.

The audits are typically meant to check the status of a dental plan and are not meant to be a check on the specific dental practice. The selection process third parties undertake to audit a given dental practice varies. Third parties may audit dental practices based on how likely the practice is to have discrepancies once audited. The third party's goal is to recoup lost dollars, and so this strategy is chosen to allow a third party to obtain the largest return.

A dental practice is most likely to be audited after submitting atypical claims online. A third-party payer analyzes each claim submitted. The auditors flag abnormal or atypical charges as these may suggest provider abuse. Additionally, third parties track information on payment charges by analyzing the average cost per claim, average cost per person and how often certain treatments are performed. With this information, the third parties target specific dental practices for an audit.

An auditor's goals

Auditors typically share common goals. By conducting audits, third party payers are attempting to prevent abuse of the payment system. By performing audits on practices, dentists are forced to understand the importance of keeping records and submitting only honest and accurate claims. Also, dentists are more likely to keep accurate records and submit truthful claims when they know an audit may be lurking than if they assume their dental practice will never face an audit.

A second goal lies in with the first, and that is to help dentists understand and follow the third-party payer's guidelines. Finally, the auditors are trying to find instances of overpayments to dental practitioners for claims the dental practice has submitted.

Auditors and file access

When auditing the dental practice, the insurance plan will most likely send representatives to the dental practice to ensure that billing claims match documentation in patient files. Auditors will analyze whether amounts paid to the practice were for an actual member of their insurance plan, whether the services rendered were actually provided according to treatment plans and whether the services provided by the dentists were in accord with federal law.

Additionally, auditors may analyze patient files. Auditors may be interested in reviewing patient medical histories, dental histories, documentation of oral examinations, treatment notes, diagnosis, procedures completed, the outcome of each procedure and follow-up care. It is also possible that documentation supporting submitted claims will be requested during an audit.

Problems encountered during audits are most likely due to improper documentation of records rather than by fraudulent billings. The dentist is typically without recourse if the records in the patient file do not match up with the claims billed.

Various state laws and the HIPAA (Health Insurance Portability and Accountability Act) privacy rule permit third-party payers to access and review the health records of their members. However, third-party payers are no longer permitted to access the records of patients who are not enrolled in their plans like they were in the past. Therefore, third-party payers are no longer able to compare fluoride toothpaste and visit their dentist as often as recommended. Sugary foods and drinks can damage the teeth. Instead, replace these with healthy snacks such as cheese, raw vegetables, seeds, bread, crackers, breadsticks and fruit, and try to encourage children to drink more milk and water. Parents should try and reduce the number of ‘snack attacks’ to no more than three meals and two snacks a day.”

“These simple changes to a child’s diet and oral health routine can really help decrease risks of tooth decay and other oral health problems,” Carter said.

(Source: British Dental Health Foundation)
their enrollees’ records and charges with those of patients not enrolled under their plans.

Beyond patient files
Aside from auditing the patient files, the third-party payer may also access the quality of the facility, the maintenance of the equipment, the level of difficulty patients on their plan encounter in obtaining appointment times, and the level of compliance with federal regulations during the course of the audit.

It is prudent that the dentist remains with the auditor at all times. It is worth the time to clear the calendar on the day of the audit and to stay with the auditor as patient and billing records are reviewed. Also, the staff of the dental practice should be prepared for the audit, and the dentist should discuss the procedures to be followed before the day it is conducted.

Because dental audits are becoming a routine part of doing business, dentists must protect their practice by preparing their office for an audit.

To prevent audit problems, dentists should make themselves aware of terms of any third-party contracts, keep the plan manuals in a safe place so the dentist can refer back to them, ensure each procedure performed matches the procedure billed and ensure that all patient records are organized and contain all relevant information on each patient.

Also, when claims are filed online, ensure that the correct price is sent to the third-party insurer.

With a more thorough understanding of third-party audits and the third-party payer’s motivation for conducting them, dentists will be more likely to avoid costly mistakes.

Approximately one in three Americans will develop a malignancy in their lifetime. The chances of developing certain malignancies increase with age and several contributing risk factors such as tobacco and alcohol use. Notwithstanding significant decreases in death rates from heart disease, cerebrovascular disease and infections over the previous 50 years for many forms of cancer, death rates remain essentially unchanged during that same time period.

Squamous cell carcinoma (SCC) is the most common malignant neoplasm affecting the head and neck. Mucosal cases account for more than 90 percent of all malignant neoplasms affecting oropharyngeal structures, with oral squamous cell carcinoma (OSCC) being the most common oral malignancy.

Several variants of OSCC exist and histopathologic classifications for variants of OSCC include papillary, spindle cell, adenosquamous, their enrollees’ records and charges with those of patients not enrolled under their plans.

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and basaloid carcinoma; it is also possible to categorize types of OSCC based on clinical descriptors such as ulcerative, flat, polyoid and verrucoid. OSCC variants can have different growth patterns, ranging from small mucosal thickenings to large masses, and can appear endophytic or exophytic.

These tumors are erythematous to white to tan, frequently feeling firm on palpation. Conventional OSCC is composed of variable degrees of squamous differentiation, with well-differentiated cells closely recapitulating normal squamous epithelium but demonstrating some degree of basement membrane violation by nests of tumor cells, to poorly differentiated cells with more anaplastic-like appearances.

As a result of its complex exophytic papillary architecture, the papillary variant of SCC can be a challenge to accurately diagnose and histologic assessment of underlying invasion can be very difficult. Risk factors and pathogenesis for papillary SCC are unclear although human papilloma virus subtypes are thought to play a role in some cases. The purpose of this paper is to (a) present a rare case of papillary OSCC affecting the hard palate, and (b) describe the clinical and histologic features of this tumor in supporting the dentist’s role in early detection.

Case report
A 63-year-old female presented to the dental clinic at the Herman Ostrow School of Dentistry, University of Southern California with the chief complaint of a growth appearing on the roof of her mouth approximately two months prior to her presentation to our clinic. The patient’s past medical history included type II diabetes mellitus controlled with diet and exercise, and denial of any alcohol or tobacco use.

The remainder of her medical and social history was non-contributory; she was not taking any medications and a review of systems was unremarkable. Intraoral examination revealed a 3.5 cm exophytic mass in the anterior midline region of the hard palate (Fig. 1). The lesion appeared vascularized with ill-defined borders and no evidence of ulceration or erosion.

The patient was informed that a biopsy must be taken to obtain a definitive diagnosis; informed consent was obtained for incisional biopsy with local anesthesia. A representative wedge of tissue was removed and placed in 10 percent formalin for microscopic evaluation.

The biopsy was a difficult challenge to accurately diagnose papillary OSCC affecting the hard palate. The surgeon was able to obtain a representative wedge of tissue with a high degree of vascularity. The biopsy was closed with four 3.0 chromic gut interrupted sutures. Hemostasis was achieved, postoperative instructions were given and the patient’s postoperative condition was good.

The gross examination of the specimen consisted of a soft, tan papillary and friable mass. The histologic examination revealed a 3.5 cm exophytic mass in the anterior midline region of the hard palate (Fig. 1). The lesion appeared vascularized with ill-defined borders and no evidence of ulceration or erosion.

The patient had mild sensitivity upon palpation of the lesion. No cervical or submandibular lymphadenopathy was observed during the extraoral examination of the head and neck. Panoramic radiography revealed no abnormalities of the palatal area.

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Topographic evaluation revealed an exophytic, papillary proliferation of surface mucosa showing marked mucosal perturbations. It included cellular and nuclear pleomorphism, prominent nucleoli, hyperchromatism, acantholysis, increased mitotic activity and abnormal mitotic figures, dyskeratosis and keratin pearls, and increased nucleato-cytoplasmic ratios.

Invasive cords and islands of malignant mucosa were visualized and the associated connective tissue contained an influx of acute and chronic inflammatory cells. To evaluate whether the inflammatory infiltrates observed in the cancerous tissue were in response to superimposed fungal infection (because organisms such as Candida albicans are common oral inhabitants), periodic-acid Schiff staining was conducted and determined to be negative with appropriate staining of control tissue.

The patient was referred to the head and neck oncology group at the University of Southern California, Los Angeles County Hospital and Keck School of Medicine. Clinical work-up for staging was performed and computed tomography scans of the head, neck and chest were determined to be negative for metastatic disease; the lesion was staged at T2N0M0. The patient underwent tumor resection with 1 cm margins and suprahyoid neck dissection, with no evidence of perineural invasion. Biopsy is recommended for definitive diagnosis, which may represent levels of historically normal tissue (e.g., keratosis) to atypia, dysplasia, carcinoma in situ or overt carcinoma. Papillary OSCC, such as the case presented here, is a variant of SCC as classified by the World Health Organization and can present as either in situ or invasive lesions.

Male predominance exists in OSCC as classified by the World Health Organization and can present as either in situ or invasive lesions. The clinical appearance of papillary OSCC often mimics other variants such as verrucous carcinoma, which is included in a differential diagnosis until confirmation with microscopic examination and diagnosis. Microscopically, OSCC can show invasive and disorganized growth with the following: dyskeratosis, keratin pearls and keratin bridges, increased nuclear-to-cytoplasmic ratios, nuclear chromatin irregularities, prominent eosinophilic nuclei, and increased mitotic figures with atypical formation. Perineural invasion can be seen in some lesions, presenting a positive correlation to metastatic potential.

In this case presentation, many of the aforementioned microscopic features of OSCC were evident without evidence of perineural invasion. Early detection of OSCC, specifically stage I or II diagnosis, is usually associated with a favorable prognosis. Papillary OSCC in general has a 70 percent, five-year survival rate at any stage, and at T1 it carries a 100 percent survival rate compared to other variants, such as basaloid (40 percent, two-year survival), adenosquamous (55 percent, two-year survival), and spindle cell (80 percent, five-year) carcinomas. Most reported cases of papillary SCC exhibit a mean diameter of 1 to 1.5 cm. Our patient presented with a relatively large lesion measuring over 5 cm in diameter.

Dentists have a critical role in early identification of and effective care during OSCC progression from premalignant lesion to malignancy. A study conducted to evaluate the effectiveness of dentists in the early detection, treatment and postoperative care of OSCC in a central European population revealed the following results: Dentists identified 72.5 percent of the tumors in the 608 patients they saw as malignant, while family physicians did so in only 40.11 percent of their 406 patients. This difference was statistically significant (P < .001). OSCC is a major public health problem that is not just limited to certain risk groups, such as those who smoke and drink as in this case report. Early detection and identification of OSCC is critical to patient treatment and survival.

A complete list of references is available from the publisher.
Santa Barbara hosts a dentist’s look through the microscope

The Academy of Microscope Enhanced Dentistry’s 9th Annual Meeting and Scientific Session will be held Nov. 4–6 in Santa Barbara, Calif., at Fess Parker’s Double Tree Resort. The theme is “The Intersection of Macro & Micro Dentistry.”

The meeting will feature lectures from top clinicians in every discipline as well as master classes, corporate forums and pre- and post-session, comprehensive, hands-on courses at education facilities along the Pacific coast.

If you have not registered for the meeting yet, you may register online and view the complete schedule at www.microscope-dentistry.com. Your pre-registration helps AMED plan and prepare so please make your registration as soon as possible. During the meeting there will also be special events that accompanying guests will be sure to enjoy. Call (800) 584-4533 to make your hotel reservations. You may also become an AMED fan on Facebook at www.facebook.com/microdentistry. See you in Santa Barbara!

The daily schedule for the event follows.

Thursday, Nov. 4
• 7 a.m., registration and exhib-

its open
• 9:30 a.m.–1:30 p.m., spouse/ guest event, Lotus land garden tour (there is a fee for this event)
• 8 a.m.–12:45 p.m., general session
• John West, DDS, MSD, President’s Welcome
• Cliff Ruddle, DDS, My Endodontic Practice: A 35-year Retrospective Analysis
• Terrel Pannkuk, DDS, MS, The Endo/Perio Differential Diagnosis
• Paul Anstey, DDS, The Power of 3-D Imaging in Endodontics and Beyond
• Tetsuya Hirata, DDS, PhD, What I Learned During Eight Years of Research Study in Image Enhanced Dentistry
• Cheryl S. Sheets, DDS, Quantitative Percussion Diagnostics and Magnification: A Synergistic Combination
• 12:45–1 p.m., members’ business meeting
• 12:45–2 p.m., luncheon buffet
• 2–5 p.m., Endo Master Class
• Carlos Margel, DDS, Small FOV CBCT for Endodontics: Another Gadget or a Paradigm Shift?
• Terrel Pannkuk, DDS, MS, Outcome Study Science and Art: Can the Value of an Endodontic Technique or Technology Be Adequately Assessed?
• Morlo Okaguchi, DDS, Microscope Assisted Precision Dentistry II
• Eudes Gondim, DDS, PhD, Beyond the Microscope: What Else Can Make the Difference?
• Marcus Hürzeler, DMD, PhD, Minimally Invasive Implant Surgery Supported by Microsurgical Techniques
• Adriana McGregor, DDS, The Hidden Secrets of Outstanding Results in Soft-tissue Management Around Implants: From Planning to Placement to Restoration
• Te-Fu Li, DDS, Micro-invasive Treatment of Periodontal Pockets
• Katashiko Akiyama, DDS, Papilla Reconstruction Using the Patch Technique
• Bryan Pearson, DDS, MS, speakers’ panel moderator
• 2–5 p.m., Restorative Master Class
• Kunio Matsumoto, DDS, Pre-Treatment in Esthetic Restoration
• Masayuki Obara, DDS Minimally Invasive Interventions and Interdisciplinary Approach for Esthetic Dentistry
• José Roberto Moura, DDS, Art and Precision with Direct Composites
• Claudia Cia Worschech, DDS, PhD, Obtaining Clinical Success
with Micro Laminate Porcelain Veneers

- Assad F. Mora, DDS, MSD, FACP, speakers’ panel moderator
- 7–11 p.m., Social Event: Welcome reception, entertainment and dance

Friday, Nov. 5
- 8 a.m., registration and exhibits open
- 8 a.m.–5 p.m., Test Drive the Latest Technology
- 9 a.m.–12:45 p.m., general session
- Larry Rifkin, DDS, Facial Esthetics
- Glenn vanAs, DDS, Lasers and the Operating Microscope: Seeing the Light!
- Marc Alexander, DDS, Treatment Planning for Esthetics
- Paul Piontkowski, The Perfect CAD/CAM Restoration
- 2–5 p.m., short presentations
- Randy Shoup, DDS, Minimally Invasive Restorative Dentistry: Live Demonstration of Principals, Techniques, Equipment and Materials
- Junya Okawara, DDS, Periodontal Microsurgery: Achieving Gingival Level Alignment with Connective Tissue Graft
- Cami Ferris, DDS, Heroic Endodontics in an Age of Implants
- Yasahiro Nakazawa, DDS, Utility of All-on-4 with Socket Preservation
- Kazuo Kurihara, DDS, Tissue Management Around Implants in Esthetic Zones
- Dennis Shanteel, DDS, A Retrospective of Clinical Periodontal Microsurgery
- Jeff Hamilton, DDS, Oral Medicine and the Clinical Operating Microscope
- Eric Herbranson, DDS, The Latest in Photographic Documentation
- Peter J. Jannetta, MD, Neurogenic Face Pain in the Dental Office
- Malcolm Snead, DDS, PhD, Thinking the Unthinkable: Regenerating the Whole Tooth
- 2–5 p.m., corporate forums
- BioClear Composites Hands-on Course (there is an additional cost for this course)
- Global Surgical
- AMD Lasers
- Crystal Mark & GC America: Air Abrasion
- 2–3:30 p.m., spouse/guest event: Land Shark tour (there is a fee for this event)
- 7–11 p.m., social event: president’s dinner and awards

Saturday, Nov. 6
- 8 a.m. registration and exhibits open
- 9 a.m.–1:30 p.m., Test Drive the Latest Technology
- 9 a.m.–1:30 p.m., general session
- Dennis Shanteel, DDS, A Retrospective of Clinical Periodontal Microsurgery
- Jeff Hamilton, DDS, Oral Medicine and the Clinical Operating Microscope
- Eric Herbranson, DDS, The Latest in Photographic Documentation
- Peter J. Jannetta, MD, Neurogenic Face Pain in the Dental Office
- Malcolm Snead, DDS, PhD, Thinking the Unthinkable: Regenerating the Whole Tooth
- 1:30 p.m., adjourn
- Off-site hands-on courses
- Pre & post session hands-on courses will be held at the Microsurgery Training Institute

Social events and tours
- Santa Barbara Back-Country Wine Tour, Nov. 10, 9 a.m.–4:30 p.m.
  Enjoy lush valley views, breathtaking scenery and stops at four of the region’s best wineries for tastings and a gourmet picnic lunch at one of the vineyards.
  Journey back to Santa Barbara through oak-shaded canyons and dirt trails, past the former Reagan Ranch and along the beautiful Pacific.
- Spouse/guest event: LotusLand garden tour with lunch, Nov. 4, 9:30 a.m.–1:30 p.m.
  You are invited to visit Lotusland, a unique 57-acre estate and botanic garden situated in the foothills of Montecito to the east of the city of Santa Barbara. Visit www.lotusland.org for more information.
- Welcome reception, entertainment and dancing, Nov. 4, 7–11 p.m.
  Enjoy a Santa Barbara themed dinner, entertainment and dancing. Attire is California casual.
- Spouse/guest event: Santa Barbara’s land shark tour, Nov. 5, 2–3:30 p.m.
  Climb aboard Santa Barbara’s original amphibious tour vehicle for a personally narrated 90-minute land and sea adventure. Enjoy exquisite views of the Santa Barbara coastline, the Riviera and the Santa Ynez mountains as seen only from our boat at sea.
- President’s dinner and awards, Nov. 5, 7–9:30 p.m
  Enjoy an elegant evening during AMED’s annual President’s Dinner and short awards presentation ceremony. Attire for this event is semi-formal.

AMED Program Co-chairs: Drs. William Lannan and John West
AMED Scientific Session Committee: Drs. Terry Pannukah, Adrian McGregor and Tetsuya Hirata

Contact information:
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P.O. Box 15834
Fort Wayne, Ind. 46885
Phone: (260) 249-1028
www.microscopedentistry.com
‘What you learn in Vegas doesn’t have to stay in Vegas,’ AADOM says

By Fred Michmershuizen, Online Editor

The AADOM is gearing up for its 6th Annual Dental Office Managers Conference, to be held Oct. 22 and 23 at the Las Vegas Hilton, and plenty of education is on the menu. The following educational programs will be offered in Las Vegas.

Friday, Oct. 22

• 10:15 a.m.–12:15 p.m.: Conflict, Gossip & Tension Resolution for the Place to Go, Larry Wintersteen

Discover how to elevate you communication to a level that resolves conflict, gossip and tension and takes a team from good to great every time. Learn how to create an environment where everyone focuses on the positive (what is right) instead of the negative (what is wrong).

• 10:15 a.m.–12:15 p.m. and repeating 2:30–4:30 p.m.: The Practice Promise: How To Create a Thriving and Successful Study Club, Judy Kay Mausolf

Have you ever dreamed of being published? Do you have a wealth of knowledge that you would love to share but are unsure how? Join Kevin Henry, managing editor of Dental Economics and editor of Dental Assisting Digest, for this interactive workshop.

Saturday, Oct. 23

• 10:15 a.m.–12:15 p.m.: Keynote Session: Lioness Leadership: Awaken the Instinctive Leader in You!, Katherine Eitel

Lions are born leaders. Cubs are born with instincts to hunt, propagate, lead and thrive, they just don’t know it. The primary goal of nature boniesses is to awaken those instincts to ensure the success of the pride. Like lions, you already have the instinctive ability to lead and lead powerfully from wherever you are in life. Most of us just don’t know it, or trust it, yet.

• 12:30–1:45 p.m.: My Office Manager is a Rock Star!

Learn from one of the best dental management consultants in the country, Larry Wintersteen, how to handle the stress only a dental office manager can experience. Go home with stress-eliminating ideas you can implement Monday morning.

• 10:45 a.m.–12:45 p.m.: Tips for Going Green in the Dental Office, by Kevin Henry

“Going green” doesn’t mean giving up electricity or reverting back to the Stone Age. It does, however, mean a new way of thinking and awareness in the dental office. In this lecture, participants will learn how to help save the environment by taking small steps in each room of the dental office.

• 2:30–4:30 p.m.: Writers Workshop for Dental Office Managers, Kevin Henry

One of the big questions being asked today is, “How do I start a local study club?” Judy Kay, the Study Club S.T.A.R.T.S. expert, can show you how you can take your passion and ideas and transform them into a thriving and successful study club today. Learn the six step S.T.A.R.T.S. method to study club success.

More information about the event is available at www.dentalmanagers.com/conference.
EMS Air-Flow Master: prophylaxis now also available for periodontal pockets

With the new Air-Flow Master from EMS, prophylaxis is entering a previously unexplored area. This instrument gives periodontal pockets a thorough cleaning by air polishing.

The biokinetic energy, applied in a powder-air-water mixture, removes the biofilm down to the base of the pocket, brings about a sustained reduction in bacteria, firms the gum and reduces the pocket depth.

The patient benefits twice over because the procedure is not only more efficient, but also more comfortable than conventional curettes or instruments that scrape the tooth.

This “subgingival deep diving” uses a special single-use nozzle, combined with extra-fine grain Air-Flow Powder that is non-abrasive to the tooth surface. The flat and tapered, slightly bent nozzle has three openings from which the powder-air-water mixture emerges in the subgingival area with gentle turbulence.

The special construction of the nozzles ensures that the powder is thoroughly washed out of the pocket, along with the removed biofilm, according to EMS. The nozzle is simply fitted onto the Perio-Flow handpiece, which has a magnetic holding device and can therefore be removed flexibly.

The Air-Flow Master does not simply take care of periodontal pockets, but also provides supragingival prophylaxis. Whether plaque or hard deposits — the Air-Flow handpiece “strokes” the tooth surfaces clean with the appropriate powder gently and selectively. In addition to the classic powder, EMS has developed a soft powder for more sensitive teeth.

And recently, patients have acquired a taste for this treatment. The classic powder is available not only in a “neutral” flavor, but also in cherry, black currant, tropical, lemon and mint flavors. Every flavor has its own color-coded ring, which is placed on the powder chamber so that it is clear at a glance which flavor is being used at any time.

The Air-Flow Master is operated exclusively through touch and therefore is very hygienic. The person providing treatment places one finger on the touch panel and controls the power and liquid functions from minimum to maximum by gently stroking over them. In addition, a fingertip is enough to switch between the Air-Flow and Perio-Flow applications.

The application currently in use lights up in fluorescent blue. Because of its smooth surfaces, the instrument is easy and hygienic to clean and thereby guarantees the highest hygienic standards, according to EMS.

More information is available at
EMS Electro Medical Systems Corp. 
11886 Greenville Ave., #120
Dallas, Texas 75243
Tel.: (972) 690-8382
Fax: (972) 690-4981
info@ems-na.com
www.ems-dent.com

Atlas Denture Comfort provides a lasting solution

Dentists often don’t look forward to having patients with dentures, according to Paul Homoly, DDS, president of Homoly Communications.

When asked why, he replied that the procedure leaves both dentist and patient feeling bereft of lasting solutions: there is continuous need for repeated visits to the dentist for adjustments; patients endure discomfort and, worse yet, experience difficulty with everyday functions such as speaking, chewing, and smiling or laughing. Even unwanted sounds may also be heard coming from the dentures, such as clicking or laughing.

The unique Tuf-Link silicone reline provides the retention to the implants for a stress-free denture, easy insertion, retention and removal.

This minimally invasive technique is easy for dentists to learn and implement, and will change the lives of your patients. Check out dentatus.com for upcoming hands-on workshops.

Included in the tuition are a patient education model, complete patient start-up kit and marketing tools to help you get started.

The Denture Comfort procedure consists of placing four Atlas narrow-body titanium alloy implants into the edentulous jaw anterior to the mental foramen. Then, Denture Comfort’s cushioning silicone — Tuf-Link — is expelled into the denture to fit snugly over and around the short, dome-shaped heads of the Atlas implants so that the denture can be securely and confidently retained.

The result is a comfortable fit and optimal retention — all without surgery, without bleeding, without hank-breaking expense!

Atlas Denture Comfort is the only system on the market today that eliminates the hardware typically associated with overdentures. The Atlas System uses no O-rings, no housings, no adhesives.

For deep periodontal pockets: The Perio-Flow handpiece, the nozzle and the Perio Air-Flow Powder

The new Air-Flow Master from EMS: the subgingival practice unit.
SPACE-AGE TECHNOLOGY.
NEW-AGE AFFORDABILITY.

WITH FEATURES LIKE DUAL WAVELENGTH TECHNOLOGY, IT'S A MODERN MARVEL.

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For more information contact DENTSPLY Caulk at 1.800.LED.CAULK, visit www.smartlitemax.com or call an authorized DENTSPLY distributor for more information.
Maintenance of periodontally compromised teeth with direct splinting: current materials and options

By Dr. Ajay Kakar, India

Periodontal disease is initiated in the main as gingivitis, which in a smaller subset of individuals progresses to the more advanced form referred to as periodontitis. Gingivitis is restricted to the marginal gingival area and does not lead to destruction of osseous tissue.

Gingivitis is the progression to periodontitis, which encompasses extensive loss of bone surrounding the tooth. Modern-day therapy can generally ensure the arrest of the progression of periodontal destruction and, in favourable situations, even the regeneration of all the components of the periodontal apparatus, albeit to a much lesser extent than the original. Of the periodontal structures, the loss of soft tissue makes the process of complete regeneration much more difficult.

In such circumstances, wherein the inflammation and infection has been controlled and the disease activity has been curbed, it becomes imperative that the den- tition, which is definitely compromised owing to the pre-existing damage, be supported and additional aids provided to create the optimum function, coupled with aesthetics.

One of the key issues in such dentitions is the mobility of the teeth. Such mobility may be localised to certain teeth and in a specific path of motion or may be much more generalised and affect many teeth. In either case, the benefits of immobilisation are multiple. The comfort level of the patient is sufficient reason to use this treatment option for mobile teeth.

Additionally, this also leads to tremendous patient motivation and compliance in maintaining oral hygiene, which directly translates into better periodontal health. Furthermore, an immobile tooth will heal much faster and better than a mobile one. Any regenerative therapy carried out around afflicted mobile teeth will have better results than would have been the case had the teeth been immobilised (Figs. 1–4).

Another critical manifestation of periodontal disease, when coupled with imbalanced occlusal loads, is the sequel of migration that results from such a clinical situation. Migration, an extremely slowly developing phenomenon, leads to drastic consequences that can usually be optimally corrected by using orthodontic appliances.

But even this correction requires a permanent splinting procedure to ensure that the concerned teeth remain in place and do not migrate away once again.

This same technique can be used routinely by orthodontists to place permanent non-invasive quartz splints.

Another possible use of quartz glass fibre splints is in cases of alveolar fractures. The advent of bonding dentistry and the easy-to-use quartz splint fibre make it a very strong contender for the stabilisation and immobilisation of anterior alveolar fractures.

A key factor towards achieving the end point of a good and long-lasting splint is the base material used in conjunction with the composite restorative material for building and applying the splint. It is very important that the splint functions like a monobloc and bonds optimally to the enamel and dentine. In order to provide this monobloc effect, the substructure has to chemically bond and be in unison with composite restorative material.

In order to provide near-optimum bonding, the substructure and the entire monobloc, which has to be built up, have to be very closely adapted to the teeth around all the curves, right into the interproximal spaces. This means that the fibre material should have physical properties that allow curving and very easy manipulation into any shape (Figs. 5, 6).

The required materials for achieving a high quality functional and aesthetic splint are:

- a pre-impregnated glass fibre-
Based splinting material:
- a restorative micro/nano-filling composite material;
- a flowable composite material; and
- a bonding agent.

The above only highlights the materials required and does not list the armamentarium, which would consist of a number of special hand instruments to achieve a high quality result and finish. Amongst the materials, the bonding agent and the composite restorative material are dependent on the clinician’s preference.

The micro- or nano-filled range of products from any of the industry leaders in restorative materials are most appropriate. A good flowable material is also required to create a close fit of the splint material to the tooth surface, while a sixth or seventh generation bonding agent would be able to achieve the desired bond strength.

The most critical aspect in achieving the ideal splint outcome is the selection of the fibre used as the substructure. There are a number of options available on the market. I have tested different splint fibres throughout my career and quite a number of them has given very good results and lasted for years.

Available materials have some favourable properties at the cost of some other undesirable elements and at times the clinician has to choose between sacrificing several of the desired elements in order to gain the others. The ideal substructure fibre material has the following properties:
- high strength subsequent to polymerisation;
- chemically bondable with composite resin material;
- available in a pre-impregnated state;
- no thicker than 0.2 mm;
- available in varying widths;
- easy to trim and cut; and
- no memory as regards its form.

Of the above, the last property is a critical one. Because of the critical handling properties of the fibre splint, splinting has been a very technique-sensitive procedure thus far.

Unless the clinician was extremely conversant with all the requisite steps and also extremely skilful and dexterous in the handling of the fibre and composite, the likelihood of a long-term success would be reduced.

Many splint materials have a tendency to a memory, that is the property of returning to original shape if deformed under load. This memory of a material makes it resistant to being shaped around curves, especially curves that double-back, for example the interproximal areas around the linguals of lower anterior teeth or around the curvature of a maxillary premolar.

If the material can be fabricated in such a way that it bends and adapts around curves without bouncing back, it makes adapting and placing the splint in the oral cavity a far simpler and more accurate task.

Glass-based fibres have an inherent tendency to maintain their longitudinal direction. This can easily be observed in any unidirectional fibre splint material. The only way to negate this property of the fibre is to interweave the fibres in a cross-stitch pattern. This creates a kind of mesh framework, thereby making the material almost free of memory. The term zero memory can then be applied to such a material, which will only minimally maintain any form to which it is subjected (Figs. 7–10).

Although the material does possess a certain amount of memory, it becomes practically insignificant as regards clinical application. For all practical purposes, the material would then have zero memory. My best experience thus far has been with a very new entry in the splinting fibre market: Quartz Splint (Recherches Techniques Dentaires). The basic raw material used in this product is quartz glass, unlike regular glass fibre. This is the same quartz used to develop endodontic posts, which demonstrate cyclic fatigue resistance values that are much higher than desired in the oral cavity.

Quartz glass is also homogenous with the Bis-GMA range of unfilled resin, which makes it ideal for use with restorative composite material, allowing it to bond almost free of memory. The term zero memory can then be applied to such a material, which will only minimally maintain any form to which it is subjected (Figs. 7–10).

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to become a monobloc with the composite. The quartz splint is developed as a woven fibre using extremely thin strands of glass fibres.

The weave pattern imbibes certain physical attributes to the material. It allows force distribution in such a manner that it creates the previously mentioned clinical zero memory effect and not resist and inhibit crack propagation.

All of the above-mentioned effects are achieved without any compromise to the strength of the material. In fact, the quartz fibre will enhance and strengthen the monobloc that is created with the amalgamation of the unfilled resin, quartz fibre, flowable composite, and micro-/nano-filled composite material.

Since the material is available pre-impregnated and is soaked in unfilled resin, it becomes all the more easier to use the splint right out of the box. The zero memory allows it to be adapted extremely easily around a curved arch without polymerisation. Once ideal adaptation has been achieved, it can be polymerised in that position and then layered with micro/nano composite to complete the splint (Figs. 11–14).

Another critical factor in the variety of situations for which a splint is indicated is the width and thickness of the material. Too thick a material can be an encumbrance for placement and final positioning. An ideal thickness is between 0.1 and 0.25 mm.

The thinner the material becomes, the lower its ability to reinforce and strengthen will be. The quartz splint is in the 0.2 mm thickness range, making it useful in almost all clinical situations.

The quartz splint is available in a variety of patterns and widths. The recommended pattern for intra-oral splinting is the woven quartz splint. This is available in widths of 1.5 mm, 2.5 mm and 4 mm. Of these three, the 1 mm design is most suited for use as a retention splint in post-orthodontic cases in which the teeth are neither extremely mobile nor do they exhibit gingival recession and loss of the supporting structures.

The 2 mm fibres are most ideally suited for teeth afflicted with previous periodontal disease. When the teeth are large in size and exhibit clinical crowns larger than the anatomical crowns, the 3 mm fibre may be used in lieu of the 2 mm fibre.

The quartz splint has a unique design — much like a braided rope — giving it extremely high flexural strength values after complete polymerisation. The design of the material requires it to be between 1 and 2 mm in diameter.

A deep groove has to be cut into the teeth where the splint is being placed to enable it to be adapted optimally. This design can be utilised when in cases in which an occlusal splint design is used to stabilise maxillary or mandibular premolars.

Other than the woven and rope patterns, the quartz splint is available as a unidirectional fibre. This is not to be applied in clinical situations, but rather as a laboratory reinforcement material used to develop poly-ceramic prostheses. The quartz splint also has a 4 cm x 4 cm mesh that can be applied in denture repairs, for example.

With material benefits aiding and improving the functional aspect of splints, there has been a newer approach possible owing to the enhancement of bonding dentistry technology. Shade matching, polishability, enhanced bond strength and much longer-lasting composites have all contributed to a much greater usage of direct bonding procedures in everyday dentistry.

The emphasis this has given to aesthetic procedures has been tremendous. Similarly, the quartz fibre-based composite splint in a dentition with pre-existing periodontal damage can be enhanced to achieve a much better aesthetic result (Figs. 15–19).

Although function has been the paramount and most critical issue when placing a periodontal splint, aesthetics now also play an important role. The patient and the clinician may not be completely satisfied with function.

It is quite easy to apply standard bonding principles of a diastema closure to ensure that the basic substructure is appropriately located and thereby enable an excellent aesthetic outcome with longevity.

This modification of a functional splint to an aesthetic splint can be easily applied for anterior teeth exhibiting extensive mobility or migration. Several of these cases can be seen in Figures 15-24, in which the maxillary anterior teeth presented with diastemata and proclinations coupled with mobility. The results have been very satisfactory.

This article has only touched on the fundamental concepts of splints and the new improvisations available in terms of material technology.

About the author

Dr. Ajay Kakar is in private practice specialising in periodontics and implantology in Mumbai in India. He is the secretary of both the International Academy of Periodontology and the Indian Academy of Aesthetic & Cosmetic Dentistry.

He lectures extensively in India and abroad and runs a web portal for Indian dentistry at www.bitein.com. Kakar can be contacted at ajay@bitein.com or at +91 98210 15579.
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THE OSA-TMD CONNECTION

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