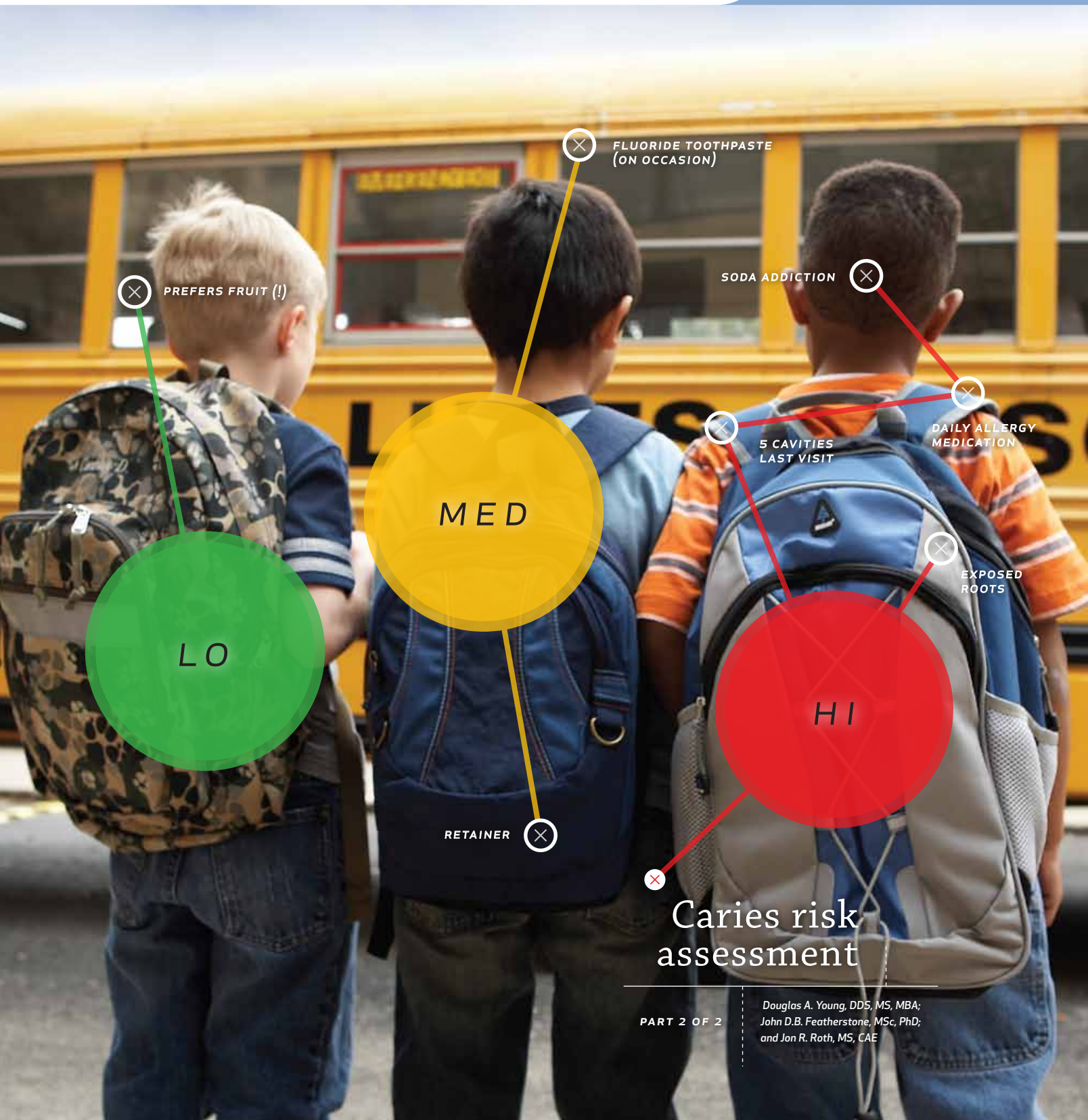
OF THE CALIFORNIA DENTAL ASSOCIATION

Journal

NOVEMBER 2007



Caries risk assessment

PART 2 OF 2

Douglas A. Young, DDS, MS, MBA; John D.B. Featherstone, MSc, PhD; and Jon R. Roth, MS, CAE

OF THE CALIFORNIA DENTAL ASSOCIATION
Journal
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DEPARTMENTS

FEATURES

CDA JOURNAL, VOL 35, Nº11

Journalism and the Sanctity of Science

STEVEN A. GOLD, DDS

Nine. That is the number of dental publications that arrived on my desk the first two days of this week. The variety of these publications is as noteworthy as the volume: three association journals, including this one, and another with *two* supplements; a popular publication featuring a reprinting of online discussions or "threads," and a tabloid-style esthetics "journal" so large that it served as a convenient folder to carry all the others home to their final destination (either the shelf or the city of Santa Monica recycling bin). The information contained therein is beyond the assimilation of all but the most freakishly gifted and bored readers. Now more than ever dentists must be selective in what they read.

The sheer existence of so many publications is a testament to the importance of the printed word in the dissemination of information within our profession. If a publication arrives on our desk, be certain that someone somewhere is reading it, even if we are not. The popularity of dental journalism is not new. Long before the days of dental mega-meetings, multimedia presentations, the DVD educational series, and online continuing education courses, scientific-based dental knowledge was primarily passed on through our journals.

It did not take long for manufacturers and others with a for-profit interest to recognize the potential for marketing their goods through our profession's publications. The American College of Dentists recognized the adverse influence commercial interests were having on our professional scientific publications and felt the situation had reached a crisis. In response, the college conceived an organization known as the American Association of Dental Editors. The year was 1931. Seventy-six years later, many in our profession feel we are still facing a crisis with regard to commercialism in dental journalism.

We rely on evidence that has withstood the rigors of the scientific process in order to make clinical decisions.

We are a profession grounded in science; and, as such, we rely on evidence that has withstood the rigors of the scientific process in order to make clinical decisions. These decisions directly affect the health of our patients. When you connect the dots, the line between our profession's journals and the oral health of the public is a short and direct one. Thus, the importance of the reliability of the information they contain cannot be overstated.

We accept that there are professional publications heavily tied to the dental industry. These are often extremely valuable to clinicians and enjoyable to read. There are times, however, when we demand to know that our information is completely unbiased.

We are disappointed when we look to a published article for reliable, unbiased scientific clinical information and we find that the study has been funded by a for-profit entity. We are not surprised when the study reaches a favorable conclusion about a product or technique that directly benefits this entity. It is disturbing when we learn the author of the study has received some form of financial remuneration from the company in question. But what is even more disturbing is when these connections are not clear to us. This link between science and selling in our dental publications is often murky and difficult to dissect. Yes, when we discover this link it is disturbing. When we don't, it can be outright dangerous.

As this issue of the *Journal* goes to press, the AADE is preparing for its annual meeting, which is held just prior to the American Dental Association Annual Session. The current president of the AADE is John O'Keefe, esteemed editor of the *Journal of the Canadian Dental Association*. During his presidency, he has devoted his efforts to addressing the issue of commercialism in dental journalism. It is our hope that at their meeting this year, the AADE will take concrete steps to curb the influence of commercialism in our scientific journals. Some have suggested a categorization of dental publications based on their relationship with commercial entities. This categorization would need to be clearly and prominently displayed to the readers in order for the publication to maintain AADE recognition status. The thought is that if the publication you are read-

ing carries the AADE logo on its inside cover, you will be able to find a statement identifying whether or not any of the published studies contained within are connected in any way to commercial interests. Those interested in the proceedings of this meeting or other activities of our organization of dental editors are welcome to visit www.dentaleditors.org.

Science and commercialism do not mix, and it is imperative the profession of dentistry continues to challenge those who seek to poison the sanctity of pure scientific knowledge with pursuit of profit.■■■■

Address comments, letters, and questions to the editor at alan.felsenfeld@cda.org.

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Dan Hubig

Butt Out!

BY PATTY REYES

There are numerous reasons for people to kick their tobacco habit, most importantly improved health, and multiple ways to quit. And it's never been easier. And just in time for the annual Great American Smokeout scheduled for Nov. 15.

The California Smokers' Helpline, which celebrates its 15th anniversary this year and is funded by tobacco taxes, is a confidential telephone program that helps smokers quit. According to the Helpline's brochure, it has been scientifically proven, in randomized trials, that a telephone quitline works.[1]

In a research study of more than 3,000 smokers, it was found that people who receive counseling are twice as likely to quit for good compared with those who embark on this daunting task alone, according to Helpline.

"Dental professionals are in a unique

CONTINUES ON 768

Office Trash May Compromise Dental Patients

Dentists are being encouraged to meet with their staffs to talk about whether disposal of patient information is an issue in the office.

Prompted by recent news of sensitive patient data being stolen from drug stores' trash bins throughout the country, the *Journal of the Philadelphia County Dental Society* published a warning in its April-June issue.

Additionally, the attempted robbery of an individual whose prescription information was discovered in the rubbish behind a store, led some pharmacies, including large chain drugstores such as Rite-Aid, Walgreen's, and CVS to revisit, and sometimes even fortify, their policies regarding patient information.

If trash receptacles contain any personal information, dental offices may be compromised. Dentists should talk with their staffs to discuss whether disposal of patient information is an issue in the office, according to the unsigned piece in the *Journal*.

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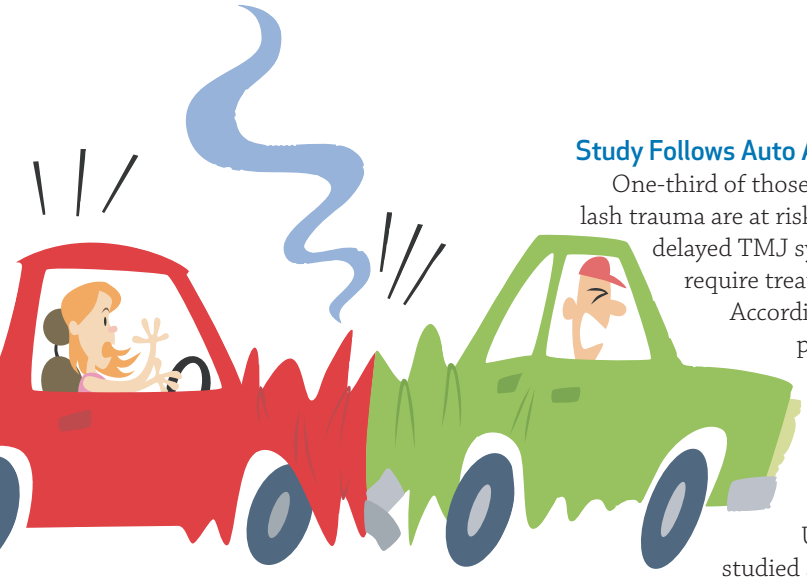


Study Follows Auto Accident Victims

One-third of those exposed to whiplash trauma are at risk of developing delayed TMJ symptoms that may require treatment.

According to research published in the August issue of the *Journal of the American Dental Association*, researchers at Umeå University, Sweden, studied short- and long-term temporomandibular joint pain and dysfunction in 60 patients in hospital emergency rooms directly after they were involved in a rear-end car collisions. Those patients were evaluated a year later.

The incidence of new symptoms of TMJ pain, dysfunction or both between the initial examination and follow-up was five times higher in subjects than in uninjured control subjects, according to the study. In the year between the examinations, 7 percent of control subjects developed symptoms in the TMJ versus 34 percent of study subjects.

The TM joint is one of the most complex joints in the body. Any problem that prevents this system of muscles, ligaments, discs and bones from working together properly may result in a painful TMJ disorder.

When the patients reported having symptoms in the TMJ either before or after their accidents, or both, authors evaluated symptoms, including TMJ pain, locking, and clicking. They also asked patients to rate their pain intensity and report the degree that symptoms interfered with their daily lives, including sleep disturbances, use of pain relievers, and the need to take sick leave.

"One in three people who are exposed to whiplash trauma, which induces neck symptoms, is at risk of developing delayed TMJ pain and dysfunction during the year after the accident," said the researchers.

ADA.org Launches New Web Career Resource

A wealth of useful information on dental careers now awaits students at ADA.org.

The ADA recently launched a new Web resource with comprehensive career information for those thinking about becoming a dentist, dental assistant, dental hygienist, or dental lab tech.

At www.ada.org/goto/careers, you'll find resources such as "10 Great Reasons to Be A Dentist," research topics that make dentistry an exciting career for the 21st century, the "College Freshman-Senior Timeline" (pertaining to the timing of applying to dental school), information on diversifying the profession and financing dental education and more. "A Day in the Life" are testimonials in which dental students, practicing dentists and dental school professors talk about what goes on during a typical day.

For more information on careers, contact Beverly Skoog, coordinator, Career Guidance, (800) 621-8099, ext. 2390.

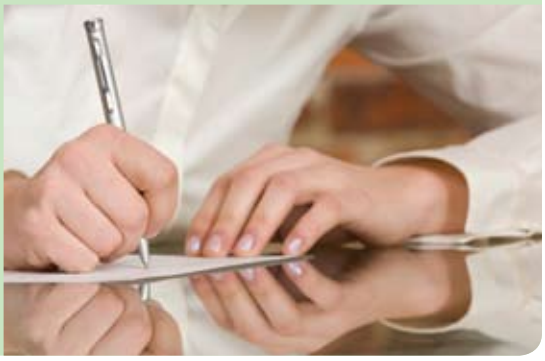
Two New ADA Surveys

An estimated 3,100 randomly chosen member dentists nationwide have been mailed the 2007 Patient Education Materials Survey. Dentists who receive this survey are asked to provide information on the types of patient education materials they use and how they educate their patients.

The ADA Survey Center also mailed the 2007 Survey of Critical Issues asking 4,200 dentists questions about a number of issues facing the profession. Included in the survey are questions about business, clinical, legal, reimbursement, and professional issues.

Since both surveys have been sent to small numbers of U.S. dentists, those who receive the surveys are encouraged to fill them out as much as possible and return them within three weeks of receipt.

Dentists with questions about either survey should call the ADA Survey Center at 312-440-2568.



UPCOMING MEETINGS

2007	
Nov. 27-Dec. 1	American Academy of Oral and Maxillofacial Radiology 58th Annual Session, Chicago, aaomr.org.
2008	
May 1-4	CDA Spring Scientific Session, Anaheim, 800-CDA-SMILE (232-7645), cda.org.
June 22-26	Flying Dentists Association Annual Meeting, South Lake Tahoe, (812) 923-2100, flyingdentists.com.
Sept. 12-14	CDA Fall Scientific Session, San Francisco, 800-CDA-SMILE (232-7645), cda.org.
Oct. 16-19	American Dental Association 149th Annual Session, San Antonio, Texas, ada.org.

To have an event included on this list of nonprofit association continuing education meetings, please send the information to Upcoming Meetings, CDA Journal, 1201 K St., 16th Floor, Sacramento, CA 95814 or fax the information to 916-554-5962.

Army Dental Corps First: Three Dentists Serve as Major General

In a first for the Army Dental Corps, three dentists have recently served as major general at the same time.

"The fact that the Army had three dentists serving at the rank of major general is testimony to the distinct leadership skills, character, and professionalism inherent in our soldier-clinician dentists," said Maj. Gen. Russell Czerw, current dental corps chief. "Today's Army dentist is ingrained with the Army values and warrior ethos, those characteristics which are critical to the success of the Army now and in the future."

Maj. Gen. Joseph G. Webb, Jr., his immediate predecessor as dental corps chief, was the first dental officer to command an Army medical center. He later headed the dental corps for nearly four years through July 10, 2006, as the Army mounted a dental fitness initiative for first-term soldiers and offered a loan repayment plan to dental officers. An oral pathologist, Webb was scheduled to retire Sept. 1.

Maj. Gen. Ronald Silverman, U.S. Army reservist who has a private practice in civilian life, is the highest ranking medical officer in Iraq and the first dentist to command all medical operations in a combat zone.

"The best way to describe it is to say I run the world's largest trauma center spread out over seven hospitals and thousands of miles," Silverman told the *ADA News*.

All three are association members.

Evidence-based Research Manual Available

Hoping to help people have a better grasp of the mechanics and fundamental nature of evidence-based dentistry, Francesco Chiappelli, PhD, Division of Oral Biology and Medicine, University of California, Los Angeles, School of Dentistry, put together the *Manual of Evidence-Based Research for the Health Sciences*.

The manual may be helpful to students, scientists, clinicians, policymakers, and industry product developers enabling them to have access to all of the parts and complexities associated with evaluating and applying information using the tools and concepts that have become associated with evidence-based dentistry, according to a press release.

Topics in the book range from the fundamentals, such as an overview, research and ethical concerns; practicum; issues about methodology; and research for geriatric populations, just to name a few. For more details, including the cost and purchasing the book, contact Dr. Chiappelli at fchiappelli@dentistry.ucla.edu.

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"Intervention is as simple as implementing a system to: Ask patients if they smoke; advise smokers it is in the best interest of their health to quit; and refer them to the Helpline at (800) NO BUTTS."

WALTER SILVERMAN

BUTTS, CONTINUED FROM 765

position to intervene with patients," said Walter Silverman, partner development coordinator with the California Smokers' Helpline. "Receiving dental care in the clinic provides a teachable moment and often boosts motivation to quit smoking. Intervention is as simple as implementing a system to: Ask patients if they smoke; advise smokers it is in the best interest of their health to quit; and refer them to the Helpline at (800) NO BUTTS."

This fast and easy technique is promoted nationally by the Smoking Cessation Leadership Center, added Silverman.

Once callers contact the Helpline, they will be asked a series of questions to establish their needs. They are offered options for services such as materials and/or counseling. If they choose counseling, they may begin immediate counseling or schedule an appointed time. The first counseling session is approximately 40 minutes, according to Helpline materials. The counselor will provide as many as five additional counseling sessions, set at a certain time, following the first counseling session. Out-of-state residents can also access quitline services by calling (800) QUIT-NOW.

Helpline counselors, who have bachelor's and master's degrees, have backgrounds in health-related fields, social work, or psychology. To become a counselor, all have completed a 48-hour in-house training program, a one-month apprenticeship at the Helpline center, and trained fully on empirically validated protocol. Overseeing all the clinical work is a licensed psychologist.

While Helpline does not provide nicotine replacement therapy or other cessations medications that are FDA-approved, the organization works with Medicare, Medi-Cal, and county health enrollees to use their benefits. County health programs and Medi-Cal provide free pharmacotherapy for those enrollees who participate in behavior-modification, such as Helpline, and who also have a prescription from their physician. Some pharmacotherapy is covered by Medicare, and it also reimburses for provider counseling.

And you can't beat the cost: free to California residents, whether they are currently smoking, have quit already, or want information to help a relative or friend kick their habit. Since the Helpline's creation in 1992, an estimated 430,000 people living in the Golden State have received help via the telephone quitline. The average daily call volume is 250, according to the Helpline. At the moment, there are more ex-smokers than current users in California.

Services include over-the-phone counseling and quitting materials, referral to local programs on tobacco cessation, and self-help materials. Clients who request counseling receive up to six sessions with a counselor on a proactive basis. Service hours are 7 a.m. to 9 p.m. Monday through Friday; and 9 a.m. to 1 p.m. Saturday. For those who call after hours, or if lines are busy, the Helpline has a 24-hour voice mail service. They may leave a message or listen to automated messages about the use of quitting aids and the benefits of tobacco cessation, for example.

There are services available in English, Cantonese, Korean, Mandarin, Spanish, TDD/TTY, and Vietnamese. Additionally, there are specialized services available for teens, pregnant women, and tobacco users.

Funded by tobacco taxes, through the state's Department of Health and First 5 California, Helpline operates out of the Moores Cancer Center located at the University of California, San Diego.

The Web site for California Smokers' Helpline is www.nobutts.org. Free promotional materials are available to providers to distribute to their patients. Providers simply call the outreach department at (858) 300-1010 or go to the Web site.

REFERENCES

1. Zhu S-H, Anderson CM, et al, Evidence of real-world effectiveness of a telephone quitline for smokers. *N Engl J Med* 347:1087-93, 2002.

Honors

David Lunt, DDS, of Northridge, Calif., has been installed as secretary of the Flying Dentists Association. Founded in 1960 for dentists who also are pilots, members use their aircraft to bring dental care to remote areas that lack dentists. Additionally, the organization sponsors seminars to share technical information related to aviation safety as well as continuing education meetings for dentists and related health professionals.

Paul Glassman, DDS, MA, MBA, of Greenbrae, Calif., associate dean for education and information technology, and director of Advanced Education in General Dentistry at University of the Pacific, Arthur A. Dugoni School of Dentistry, received the Special Care Dentistry Association 2007 Saul Kamen Award.

The award, the association's highest, annually recognizes one individual for demonstrating "exemplary leadership and contributions to the advancement of oral health care for persons with special needs."

Glassman, former president of the Special Care Dentistry Association, has been involved with the national organization for almost 30 years.

Gurminder Sidhu, DDS, MS, of San Francisco, has been appointed to the position of assistant professor and director of radiology services at Pacific School of Dentistry.

Paul Glassman, DDS, MA, MBA

Disaster Response Resources Expanded by OSHA

The Occupational Safety and Health Administration's disaster and storm resources include hurricane-specific information for employers conducting response and recovery operations.

A Web-based hurricane eMatrix at www.osha.gov incorporates occupational hazards information, observations, recommendations, and data OSHA has gathered in responding to hurricanes Katrina, Rita, and Wilma and offers as guidance on OSHA standards for future disaster response.

For more information about preparing for and recovering from disasters, see the Disaster Planning and Recovery content area, www.osha.gov.

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Wrongful Termination and Workers' Compensation: Firing an Employee With an Open Claim

Once a quarter, the *Journal* features a TDIC risk management case study, which provides analysis and practical advice on a variety of issues related to liability risks.

Authored by TDIC risk management analysts, each article presents a case overview and real-life outcome, and reviews learning points and tips that everyone can apply to their practice.

A former employee filed a lawsuit against a dentist alleging wrongful termination when the dentist fired her after she opened a workers' compensation claim. The dentist claimed she fired the employee due to poor performance and excessive absenteeism.

A dentist hired Sally Smith as an office manager on Sept. 9, 2002. Over the next year, the dentist noted several job-related issues including insurance billing mistakes and generally, poor job performance in Ms. Smith's personnel file. On May 12, 2003, Ms. Smith hit her right knee against a piece of wood underneath the countertop of her desk. The dentist and another employee saw the injury happen. Ms. Smith did not seek medical attention until May 16 when her knee became stiff and painful. Her physician diagnosed trauma to her right knee and prescribed Celebrex. Ms. Smith did not take any time off work.

Two weeks later, on May 30, Ms. Smith told coworkers she fell while coming out of the office's storage area. Since she fell during the lunch hour, there were no witnesses. She said she injured her right foot when she tripped over boxes in the storage room doorway. A staff person called the dentist and asked her to return to the office immediately. When she arrived, she instructed Ms. Smith to go to the emergency room, but Ms. Smith refused. Even though the injury was bothering her, Ms. Smith did not seek medical care until one week later. Radiographs indicated no fracture, and her physician diagnosed bruising to the right foot but did not prescribe medication or therapy for her foot.

Ms. Smith returned to her physician at the end of June for back, knee, and foot pain. She underwent physical therapy for one month. At that time, Ms. Smith determined the therapy was not helping and elected to stop treatment. During her August performance review, Ms. Smith presented the dentist with a disability note from her physician stating she would need extended time off for her nonwork related injury. The note did not indicate a return to work date. The employee manual stated, "Employees must put all requests for time off work in writing indicating the start and end dates." Even

though the dentist reminded her of the policy, Ms. Smith refused to do this.

Ms. Smith filed a workers' compensation claim during the third week of her leave of absence. She alleged she hurt her right knee on May 12, 2003, had back problems that started after the May 30 fall, and cumulative trauma injuries to her neck, back, and shoulders since she began working for the dentist in 2002. After the fourth week, the dentist terminated Ms. Smith for poor performance and excessive absences. Subsequently, Ms. Smith filed a wrongful termination claim alleging retaliation for filing the workers' compensation claim.

During Discovery

It is important to realize a workers' compensation claim is separate from the wrongful termination claim. Each claim has its own insurance coverage. However, each insurance carrier has access to the other's investigation information and often share information while defending the same policyholder. Since the dentist had the Employment Practices Liability Insurance endorsement, TDIC initiated an investigation into the wrongful termination allegation.

The investigation revealed Ms. Smith had been in a car accident in 1986, which injured her neck. According to testimony given at the workers' compensation deposition, Ms. Smith reported complete recovery from that injury. She claimed that she first noticed problems with her neck, back and shoulders after her May 30, 2003, fall.

The extent of her injuries was questionable. Reports from several physicians revealed differing diagnosis and treatment recommendations. Her actions also contradicted her allegations. While she claimed her right knee continued to bother her after she hit it on May 12, she never requested

It is important to realize a workers' compensation claim is separate from the wrongful termination claim.

time off work. Additionally, Ms. Smith sought treatment one week after her alleged fall in the storage room when she claimed she hurt her right foot on May 30. Even though she refused the dentist's suggestion to go to the emergency room that day, the dentist should have completed an incident report addressing this fall and the steps she took to offer medical care to Ms. Smith.

Ms. Smith's employee file noted that approximately one month after she starting working for the dentist, Ms. Smith requested four days off. She wrote a letter to the dentist saying she was getting migraine headaches due to stress at work and family issues. The letter also claimed that the dentist was not allowing her to complete her duties as the office manager by not permitting her to discipline two employees. Furthermore, there were several entries where the dentist noted Ms. Smith taking unapproved time off.

Ms. Smith's employee file contained several entries including the August 2003 performance evaluation, which noted:

- Her poor job performance,
- Many patients had not received a bill since February, and
- An inquiry regarding the inconsistency in the decrease in office earnings when the daily schedule was busier than ever.

There is no record of Ms. Smith's response. The dentist placed Ms. Smith on probation pending an improvement in her job performance.

Ms. Smith went to a doctor's appointment mid-August. She returned with a note from her physician stating she would have to take time off, but offered no timeline. She picked up her check and returned her office key to the dentist without an explanation on Aug. 25. The dentist terminated Ms. Smith, in writing, on Sept. 4 stating the termination was due to excessive absenteeism, poor job performance, and numerous errors and omissions that affected the practice. The dentist attached Ms. Smith final paycheck to the letter.

With the documentation the dentist took during Ms. Smith's employment, TDIC argued the merits of the wrongful termination allegation. Ms. Smith's lack of performance and failure to fulfill her job requirements supported the dentist's decision to terminate her employment. However, the timing of the termination did affect the case outcome. Since it occurred shortly after Ms. Smith filed the workers' compensation claim, it appeared the dentist was retaliating against Ms. Smith.

The case ended up settling for a small amount due to the dentist's consistent entries regarding Ms. Smith's poor performance.

Lessons Learned

WHAT CAN WE LEARN FROM REVIEWING THIS CASE?

Workplace injuries and incident reports

Providing immediate access to a physician provides the injured employee needed care and lessens the possibility of further harm. It also provides documentation as to the extent of the injury. Delaying treatment may exacerbate the injury exposing the dentist to continued risk. Document and report to your workers' compensation carrier all employee injuries whether or not they sought medical attention.

Similar to the documentation in patient charts, proper documentation of an

CASE STUDY, CONTINUED FROM 772

incident can be an excellent defense to a workers' compensation or general liability lawsuit. Complete a report when patients, staff, or visitors are involved in an incident that has caused injury, loss, or damage to them or their personal property. This includes incidents where no obvious injury occurred. The person completing the report should be the individual who witnessed or is the most familiar with the incident. The report should include:

- The date, time and location of the incident. Factually explain what happened but do not include a judgment as to the cause of the incident or the extent of any injuries.
- A brief description of the incident, including injuries.
- Names of witnesses along with their contact information.
- All action taken, including whether medical services were needed. If so, by whom. Also, note whether medical services were offered and denied by the injured party.
- The signature of the injured party, if possible.

File the report in a readily accessible folder separate from the personnel file and give a copy to the injured person. Workers' compensation insurance is a federal requirement; however, some states opt for requirements that are more stringent. To find if your state follows federal or state requirements, go to www.dol.gov/esa/owcp_org.htm for workers' compensation information or ask your workers' compensation carrier.

In this case, the dentist should have filled out incident reports after Ms. Smith hit her knee and again after she claimed to have fallen in the storage room. Both reports would have documented the dentist's inquiry about medical care and Ms. Smith's refusal. Further, when an employee suffers a work injury, seeking medical care should not be an option. Some employees may want to go to their own physician. This may or may not be acceptable to your workers' compensation carrier. Contact your carrier to discuss or set an appointment for a medical evaluation. This evaluation memorializes the injury and its extent, which discourages the employee from adding further injuries onto a future claim.

It is illegal to terminate an employee in retaliation of or to avoid a workers' compensation claim.

Employee Manual

The dentist had a current employee manual that detailed the office's policies and procedures. It emphasized that employment in the office was "at-will" and either party may terminate employment at any time. In the event the dentist terminates the employee, the dentist must pay all wages earned by the employee on the final day of employment. The manual also detailed that employees were expected to arrive at the office at their scheduled time and gave instructions about what to do in the event the employee was sick or late to work. The dentist's policy stated employees must submit requests for leaves of absence in writing. Except in the case of accident or illness, employees were to give two months notice if they required an extended leave of absence.

Personnel Records

The dentist kept excellent personnel records on all of her employees. She regularly gave performance evaluations and counseled employees who were not fulfilling their employment obligations. The files also reflected recognition awards she gave employees who were doing their jobs well.

Among other things, Ms. Smith's file reflected the extent of her unexcused absenteeism and tardiness, failure to produce satisfactory quantity and quality work, attending to personal affairs during office hours, and failure to follow office policies. This documentation supported Ms. Smith's termination and would have been sufficient justification for her termination had she not filed a workers' compensation claim.

Workers' Compensation

The timing of Ms. Smith's termination is the real issue in this case. The dentist should have written a letter to Ms. Smith accepting her resignation when she voluntarily turned in her office key. Unfortunately, she terminated Ms. Smith after Ms. Smith opened a workers' compensation claim. It appears the dentist retaliated against Ms. Smith because she opened the claim. It is illegal to terminate an employee in retaliation of or to avoid a workers' compensation claim.

Workers' compensation law allows employees to seek medical care when injured while performing job duties. They have a right to medical care and the employer has an obligation to provide it. Because of this obligation to provide medical care, it stands to reason that employers will be diligent in providing a safe working environment for their employees and avoid workplace injuries.

Do not terminate an employee who is out on a workers' compensation claim. Contact your workers' compensation carrier or an employment attorney for assistance with performance issues of employees who have open or active workers' compensation claims.

— JAIME DAVENPORT
TDIC RISK MANAGEMENT ANALYST

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Caries Management by Risk Assessment

— A PRACTITIONER'S GUIDE

DOUGLAS A. YOUNG, DDS, MS, MBA; JOHN D.B. FEATHERSTONE, MSC, PHD; AND JON R. ROTH, MS, CAE

GUEST EDITORS

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John D.B. Featherstone, MSC, PHD, is interim dean, University of California, San Francisco, School of Dentistry, and is a professor in the Department of Preventive and Restorative Dental Sciences at UCSF.

Jon R. Roth, MS, CAE, is executive director of the California Dental Association Foundation.

Last month we reviewed the updated CAMBRA assessment tools for children age 0-5, children age 6 through adult, as well as the latest products in the marketplace that can assist practitioners with incorporating CAMBRA into their practices.

In Part 2 of this series, we will look through the lens of practicing dentists who are using CAMBRA in their offices, how to establish financially viable models for CAMBRA adoption, as well as how to enlist the rest of the dental team and patients into the benefits of the CAMBRA approach to care.

V. Kim Kutsch, DMD; Graeme Milicich, BDS; Max Anderson, DDS, MS, MEd; Edwin J. Zinman, DDS, JD; and William C. Domb, DMD, begin with a discussion regarding the importance of the dentist owner/manager detailing the CAMBRA benefits to the dental office team and patients in order to facilitate a smooth transition. The authors examine the different requirements of each member of the dental team to integrate caries risk assessment into an existing dental practice.

Shirley Gutkowski, RDH, BSDH; Debi Gerger, RDH, MPH; Jean Creasey, RDH, DDS; Anna Nelson, CDA, RDA, MA; and Douglas A. Young, DDS, MS, MBA, present information relating to the role of the dental team in CAMBRA as a critical component to successful patient outcomes. Proper appointment scheduling, diagnostics, and data gathering, as well as implementation of noninvasive or minimally invasive procedures can be the responsibility of all members of the dental team.

Bruce Peltier, PhD, MBA; Philip Weinstein, PhD; and Richard Fredekind, DMD, MA, discuss managing the behavioral components of prevention as crucial to creating buy-in by both dental team members and patients. Challenges to successful implementation of CAMBRA include such issues as resource allocation, the inherent complexity of the process, and the influence of third-party payers on patient acceptance.

Dr. Young; John D.B. Featherstone, MSc, PhD; Jon R. Roth, MS, CAE; Dr. Anderson; Jaana Autio-Gold, DDS, PhD; Gordon J. Christensen, DDS, MSD, PhD; Margherita Fontana, DDS, PhD; Dr. Kutsch; Mathilde (Tilly) C. Peters, DMD, PhD; Richard J. Simonsen, DDS, MS; and Mark S. Wolff, DDS, PhD, complete this series with a consensus document adopted by hundreds of dental experts, academic researchers, practitioners, and dental organizations that summarizes the main principles and clinical application of CAMBRA. ■■■■

CDA Foundation will host a live Web cast featuring Drs. John D.B. Featherstone and Douglas A. Young, along with authors from last month's issue and this month's Journal, from 5 to 7 p.m. Dec. 5. Participants will be able to submit questions on the topics covered in these issues for answers during the Web cast. This course is sponsored by the CDA Foundation through its grant from First 5 California, and is approved to confer two C.E. credits. To register for the event, go to: cdafoundation.org or first5oralhealth.org.

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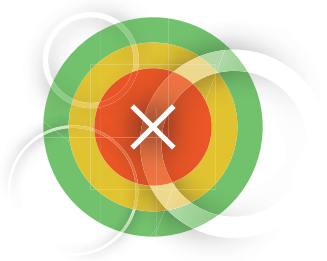

How to Integrate CAMBRA into Private Practice

V. KIM KUTSCH, DMD; GRAEME MILICICH, BDS; WILLIAM DOMB, DMD; MAX ANDERSON, DDS; AND ED ZINMAN, DDS, JD

ABSTRACT The traditional dentistry approach treated the disease with a limited surgical strategy aimed at removing carious lesions on teeth. Today, the dental profession is refocusing its efforts to include risk assessment with evidence-based diagnosis while also treating the biofilm component of the disease. While there is compelling science to support CAMBRA, there are fewer articles with practical direction regarding how to integrate CAMBRA diagnostics and treatment into clinical practice, which this article addresses.

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A clinician's ability to successfully integrate any new methodology or technology into an existing dental practice may require a change in some, if not all, of the existing systems. The dentist-owner/manager who explains CAMBRA benefits (through education) to the dental office team will gain their support and facilitate a smooth transition. The authors examine the different requirements of each member of the dental team to successfully integrate caries risk assessment into an existing dental practice.

There is ample scientific research to support caries risk assessment as a prudent approach to treating, and more importantly, preventing dental caries. Successful implementation requires education and support of the dental team and subsequent education of patients about CAMBRA benefits.

Caries risk assessment, or the management of caries by risk assessment, represents an evidence-based approach to managing dental caries. A challenge for dental practitioners integrating new scientific implications into clinical practice is identifying the practical and strategic steps necessary to accomplish that task. Key tools that help the dentist and the dental team integrate CAMBRA into their existing practices are recommended.

Traditional dentistry has not always adequately controlled caries by its predominantly surgical approach. Only treating existing caries restoratively may not prevent a lifelong continuation of a chronic disease state that ultimately contributes to recurrent caries necessitating additional surgical interventions.[1] Consequently, a working group has re-examined our profession's approach to preventing and managing caries.[2] CAMBRA, caries

management by risk assessment, is a rationale that examines caries concentration in a particular patient, then plans a measured treatment based on the individual needs of the patient.[3]

In health, the oral biofilm is a diverse and complex community of about 400 different bacterial species in any individual patient. When desirable bacteria dominate the oral biofilm, there is a healthy equilibrium. This biofilm serves many positive functions, including balancing the demineralization-remineralization cycles of enamel, and standing as the first line of defense against pathogens.[4] Cariogenic bacteria are known to be infectious and transmittable.[5] Most children acquire these bacteria during the first few months of life from their primary caregiver. Typically these cariogenic bacteria represent less than 1 percent of the oral biofilm. However, under certain conditions, a healthy biofilm can be transformed into a diseased state. Cariogenic bacteria then thrive and proliferate into a much higher percentage of the biofilm.[6]

Caries risk factors — which include cariogenic biofilm, poor diet, saliva production, medications, absence of fluorides, and inadequate homecare — are summarized in Featherstone et al. in last month's issue.[7] Metabolism of carbohydrates by cariogenic bacteria results in acid production. This lowers the pH of the biofilm, which inhibits many commensal organisms. When compounded with other risk factors, the acidic pH becomes the selection pressure that results in an overabundance of acidogenic organisms.[8] Demineralization sufficient to cause cavitation is a sign of the underlying disease. CAMBRA examines the carious biofilm and its potential for releasing its variety of bio-acids that, unless neutralized, can eventually destroy tooth structure.

While it is important to restore teeth, it is critical to address correcting the biofilm imbalance and other predisposing factors to be successful in treating the source of carious lesions. When restoring new cavities, we should be asking ourselves, "What am I doing to help the patient prevent more cavities from forming?" Appropriately, then, CAMBRA has been continually gaining ground in scientific research, dental education, and private practice.

CARIES MANAGEMENT by risk assessment represents a significant change in mindset: how we examine and prioritize treating caries disease.

Implementation Strategies

While there are a number of valid scientific reasons to implement CAMBRA into private practice, including ethical, legal and standard of care issues, the most important reason is patient benefit, which is our primary obligation. CAMBRA conversion in private practice does not happen overnight. Caries management by risk assessment represents a significant change in mindset: how we examine and prioritize treating caries disease. Implementing CAMBRA affects all systems in the practice, from scheduling and fees to diagnostics, treatment, and patient education.

CAMBRA's goal is to educate and motivate patients to improve their behaviors and give them strategies to attain and maintain a healthy bio-balance in their mouth. Many patients will still need restorative procedures. CAMBRA does not eliminate the need for lesion or tooth repair. However, other tactics may be introduced that reduce the number of restorative interventions when patients can be empowered to rebalance their own oral equilibrium and remineralize tooth damage. Then, depending on assessed risk factors, patients should be re-examined at reasonable frequencies to review potential changes in their risk factors. This can involve saliva testing, diet review, quantification of acidogenic bacterial levels, buffering capacity and the like. CAMBRA, in this sense, is a formalization of many techniques of caries control used by dentists for considerable time (refer to Ramos-Gomez et al., Featherstone et al., and Jenson et al., in last month's issue for details of the recommended procedures).

Being the Leader

First, the team leader is determined and this person must be very clear and realistic about the goals. The authors recommend the CAMBRA team leader provide written CAMBRA goals and methodology, and share them with the team. Goals should be concise, concrete, and easy for team members to understand and implement. Some goals may require the acquisition of new skills, knowledge, or materials. In the case of CAMBRA, it requires an understanding of the cariogenic biofilm, how to properly diagnose, treat, monitor, and measure treatment outcomes, i.e., CAMBRA courses for the dental team should be considered along with training videos and manuals. Standardized caries risk assessment forms are useful, along with some metric to gauge bacterial load. What antibacterials and/or remineralization products are available? What patient education materials are on hand?

Once the practice appreciates CAMBRA goals and benefits, it can design

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the pathway from the present position to accomplish the future goal. As with any planning process, it is a good idea to establish a timeline with intermediate milestones. Deciding which team member is responsible for each step is important. Do not arbitrarily designate a person to do a step without education. Also, identify who will monitor and measure the progress on a timely basis. Consider implementing a reward system for both the intermediate process as well as final steps.

Identifying the challenges and barriers to accomplishing each milestone is also of great use:

- How much will it cost?
- What space will be necessary?
- What materials will we use?
- How long before we are able to implement CAMBRA for all patients?
- How will this affect all of the office systems already in place?
- Who will be doing the initial caries risk assessment?

Implementing CAMBRA is an opportunity for benefiting patients and our profession. Probably the greatest challenge is the paradigm shift in the dentist's mindset. Dentists were trained to drill first and ask questions later. They were instructed in the first week of dental school that dental caries is an infectious bacterial disease and then, instantly, a dental drill was placed in their hands. The practice of CAMBRA changes this approach to: Ask questions first; follow up with more questions; find out why you are drilling; figure out how to avoid drilling in the future; and then drill only what is minimally necessary. Finally, monitor and measure your treatment outcomes.

The Role of the Dental Team

CAMBRA can only be successfully integrated into a practice if the entire dental team understands and supports this methodology. Like any other change in the dental practice, CAMBRA will not succeed without the support of the entire dental team. Peltier, Weinstein, and Fredekind discuss behavioral change in more detail in this issue. Communication and education are vital keys to success. The dentist should spend time with their team studying the scientific basis of dental caries and then focusing on the patient benefits of CAMBRA.

CAMBRA CAN ONLY be successfully integrated into a practice if the entire dental team understands and supports this methodology.

Staff meetings can be used to discuss the evidence and the approach to CAMBRA as the standard of care. One measure of success in this education process of your team is to end the session with a show of hands to "How many would like their own children or loved ones treated in this fashion?" If everyone raises their hand, then your next question should be "Why then shouldn't we treat all our patients the way we would treat our own loved ones?" Isn't this the type of practice you want to develop?

There are many resources for CAMBRA's scientific foundation. Previous issues of the *Journal of the California Dental Association* focused on this topic in February and March 2003, and are permanently archived in their entirety on the CDA Foundation Web site at www.cdafoundation.org/journal. PubMed is also an excellent resource for articles on caries risk assessment. Additional information can be gathered by attending local or state C.E. programs focused on CAMBRA. Taking the entire dental team to these programs is an excellent opportunity to update the CAMBRA team.

Once the team understands and supports the goal, each member can contribute to the road map design by identifying how CAMBRA will impact their responsibilities and what changes are needed. This will create some new challenges, as team members evaluate how they can incorporate more services into a limited amount of time. In many offices, the majority of the CAMBRA education, risk assessment, bacterial testing, and treatment monitoring occurs in the hygiene operatory. This may place new demands on the duties and scheduling of both the hygienist and dental assistants. Every practice will solve these changes as appropriate for the individual practice. Many of these issues are discussed by Gutkowski et al. in this issue of the *Journal*.

It is important during the implementation to have frequent feedback and evaluate successes or delays. Having the entire team solve these issues is critical for success. It is also important to share patient success stories as a group. Nothing takes the fear and dread out of changes like hearing about the differences we are making in patients' lives. Address and solve issues, but success comes from keeping the team focused on the goal. Since our goal is to ultimately improve the dental health of our patients, we need new benchmarks to measure our success. The dental profession has always used the "no cavities" as a gold standard for the measurement of health. But a patient with high risk factors and "no cavities" is in reality a patient with a disease that

hasn't manifested caries signs or symptoms yet. In addition, a patient that currently has "no cavities" doesn't necessarily mean they are at low risk for future caries.

Enlightening Experience

There is no substitute for a first-hand experience. The dentist should follow through the CAMBRA process as a patient in the office. Then, each team member should go through the process as well. This may be an enlightening experience for the individual team members, as they may personally discover unknown risk factors or risky bacterial loads. In a delicate bio-balance of dental health equilibrium, it may take only tiny changes to create serious issues in what otherwise appeared to be a healthy mouth.

Every dentist has had experience with the high-risk patient, young or old, with serious decay issues. And every practice has patients who have been decay-free for years. It's the group in between that represents the greatest diagnostic challenge. Patients who come along with little evidence of disease for long periods may suddenly develop multiple new cavities. These patients potentially benefit the most from CAMBRA. It is easy to identify the high-risk, high caries active patients, and also the low-risk, low caries active patients. However, the patients who are at risk with no apparent signs of the disease are the ones CAMBRA helps to identify and benefit with caries risk reduction.

At a staff meeting, the dental team should practice filling out the caries risk assessment forms and doing the bacterial testing. Each can practice how they will explain CAMBRA benefits to patients. Communicating new ideas comfortably and competently generally requires some practice and role play. It also presents an opportunity to practice answering the patients' frequently asked questions as follows:

- Why do I get cavities?
- I brush and floss, doesn't that prevent any cavities?
- How do you determine my caries risk? Is the treatment expensive?
- If I have the caries disease, should other members of my household be tested too?
- Why hasn't anybody explained this to me before?

THE PATIENTS WHO are at risk with no apparent signs of the disease are the ones CAMBRA helps to identify and benefit with caries risk reduction.

Because CAMBRA is pretty straightforward and logical, the most frequently asked question seems to be "Why hasn't anybody told me this before?" The staff can give each other immediate feedback during the process. How did the experience feel? Was there enough information? Did it make sense? Was it comfortable? This scenario gives everybody a first-hand experience as a patient. It also gives everybody a chance to practice in a safe and comfortable environment the new language and communication skills that the changes will require. They will be more confident and the program will be more successful as a result of taking the time to practice.

There are numerous offices that have already successfully integrated CAMBRA into their daily practices. You don't have to necessarily reinvent the wheel. Contacting a CAMBRA colleague or joining organizations that currently practice CAMBRA provides valuable information on what ideas helped the process and what hurdles the dental team overcame. Use established networks and resources such as the World Congress of Minimally Invasive Dentistry for support and advice.

- www.cdafoundation.org/journal
- www.first5oralhealth.org
- www.adea.org/DMS/Sections/default.htm
- www.aapd.org
- www.icdas.org
- www.midentistry.org
- www.wcmid.com

Educating the Patients

Once the entire team understands and is ready to implement CAMBRA, it is time to educate your patients. A personal letter explaining the CAMBRA benefits is a great way to break the news to everybody at the same time. Put it in your newsletter or on your Web site and advise your patients to look and learn. Experience reported from a number of offices has shown that this is a very effective way to deliver detailed information because most patients do read your newsletters. Some practices have developed brochures explaining CAMBRA. These are mailed with a cover letter to the patient base. Also provide patients with a brochure at the front desk when they arrive for their appointment. Explain the evolving change in the practice's progressive improvements with the latest scientific technology and caries studies. Let them know what to expect on their next visit. The more informed basic information you can provide in these formats, the less chairtime you will need to spend explaining CAMBRA to them.

Also, the information you advise in the operatory will reinforce what they read earlier. A simple one-page description of the caries process designed for children and adults is included at the end

of the description of caries risk assessment by Featherstone et al. in this issue. Thus, chairtime can be effectively devoted to answering questions rather than beginning CAMBRA education at ground zero.

Provide the extra time for education and communication with the patients. Try to schedule and allow for the few more minutes it will require to explain CAMBRA to them, and always answer their questions. The benefit of having the entire team supporting the philosophy change is they will hear it from more than one person and tend to require less of the dentist's direct time in education. However, the most effective message still has to originate from the dentist. "This is how we are changing and here is why" is the doctor's obligation. A logical goal in the CAMBRA conversation with the patient is for them to understand that just treating their cavities will not prevent future disease. Also, cavities are only underlying signs and symptoms of the caries bacterial infection process. Patients need to understand that this biofilm infection must be diagnosed and treated as a disease process. They also need to learn and understand the concept of the balance between health and disease and the pathologic factors versus the protective factors. With proper educational background, patients should be able to help identify any changes in their risk reduction factors during future visits.

If the patients desire additional information, direct them to the CDA Foundation Web site at www.cdafoundation.org, or other cariology Web sites on the Internet. A couple of abstracts from PubMed are helpful to support particular ideas about caries risk assessment. Select the abstracts that convey the key points you want your patients to understand. Download these abstracts as document files, and then boldface and underline the significant sentences you want to make sure they read and understand. The documents can be printed in Word format and given to the patient to take home. Your patients can forward CAMBRA from your Web site to other friends and family, which is a proven practice builder.

Internet-savvy patients may be interested in accessing PubMed directly. The more understanding and valid information a patient has, the better is their capability to choose wise health care decisions for themselves. CAMBRA informed patients are great CAMBRA ambassadors who advise others of your improved and modern approach to caries control and prevention.

A LOGICAL GOAL
in the CAMBRA conversation with the patient is for them to understand that just treating their cavities will not prevent future disease.

Undertreatment and Overtreatment Issues

Incipient lesions that do not penetrate through the tooth's enamel and into dentin are candidates for conservative, noninvasive therapy like remineralization, dental sealants, and other preventive measures. Restoring teeth without regard to caries risk and omission of the chemo-reparative and preventative phases of therapy is sometimes called *undertreatment* because patients are only getting the restorative phase of treatment. Undertreatment occurs when a clinician systematically provides nontreatment or less-than-optimal treatment of existing pathology. This would include failure to diagnose the patient's caries risk status. The consequence of undertreatment is recurring caries and potential loss of more tooth structure and /or teeth. Previously, the rate of progression of dental caries made conservative decisions highly questionable. Today with the lower caries incidence and reduction in caries progression, surgical interventions need to be minimal in all but the most aggressive dental caries situations, the cavitation. In the CAMBRA paradigm, even a small cavitation is a very serious sign of caries imbalance. As part of their risk assessment protocol, dentists need to evaluate the frequency of recall for each patient. If the dental team has evaluated the patient as a high caries probability patient, then prophylactic preventive therapies and other principles identified in this journal should be implemented (Jenson et al. and Spolsky et al., previous issue). This reduces the possibility of undertreatment.

Overtreatment occurs when interventions are unjustified or too aggressive for the clinical situation. The goal of minimally invasive dentistry is to preserve the maximum amount of healthy dental tissues. An example of this conservative MID philosophy is the use of air abrasion, hard tissue lasers, or ultra-small burs to very conservatively clean or open a questionable fissure to "see what's in there" based on the ICDAS codes and the protocols outlined by Jenson et al. in last month's issue rather than blindly restoring the tooth with amalgam or composite. The consequences of overtreatment are well characterized as the "restoration/rerestoration cycle." Any cutting of tooth structure weakens the tooth and should be avoided if possible.

Proper Documentation

All five California dental schools practice and teach caries risk assessment or CAMBRA as a standard of care on patients treated in their clinics. Arguably, CAMBRA is the current standard of care. Standard of care debates are popular among dentists with everybody weighing in with opinions. The purpose of this paper is not to resolve those issues but rather to address current knowledge and science. When examining the risks and the benefits of practicing CAMBRA, implementing this philosophy into the dental practice reduces the caries risk for the patient and the legal risk for the dentist.

Practicing CAMBRA requires proper documentation. In the patient's chart, the dentist should have a standardized caries risk assessment form (Ramos-Gomez et al., Featherstone et al., previous issue), and then routinely include diagnosis, any bacterial testing or monitoring, treatment recommendations, treatment outcomes and recare plans. It is important to record accurately, simply, and routinely to make sure all chart entries are consistent. If the patient declines caries treatment in addition to any restorations, it is important to record that patient declination in the chart notes as well. The patients should be making their treatment decisions with a fully informed consent. Consequently, education about the benefits of CAMBRA is now required for an adequate informed consent, explaining CAMBRA ABCs, which include alternatives, benefits and consequences of non-CAMBRA implementation.

There are numerous forms available to record your assessment results as previously noted. The authors suggest keeping things as simple as possible. The forms presented for children age 0-5 years by Ramos-Gomez et al. and those for age 6 and older Featherstone et al. in the previous issue are the most scientifically validated to date. The choice of forms is not as important as having a form. This decision might best be made with your team, getting their input on which form would work best. It is best to separate the special situation for children age 0-5 from children age 6 through adult.

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caries damage when CAMBRA does not intervene stops short of reversing the carious process.

The Economics of Prevention

The dental profession has been a role model by promoting prevention via regular care and recare exams. One of the issues surrounding prevention has been the economics. Most insurance contracts have coverage for preventive care designed for those who are at minimal or moderate risk. Some patients are reluctant to spend their own money on preventive services. Consequently, the majority of traditional dentistry has been focused on restorative rather than chemo-reparative and preventive care. Focusing on caries damage when CAMBRA does not intervene stops short of reversing the carious process.

Historically, the third-party systems and our own patients developed a priority on restorative procedures because dental caries was pandemic and validated risk assessment tools were not available. While sealants and fluoride treatments were sometimes covered, the focus has too often disregarded preventive treatments. Insurance companies (and employers who negotiate the plans) and patients are willing to pay for a filling, but not the full chemotherapeutic therapy necessary to deal with the bacterial infection and/or to remineralize/repair white spot lesions and most importantly to prevent the next carious lesion from developing. Amidst this environment, the ADA Current Dental Terminology book for 2007/2008 contains a new CDT code for fluoride varnish as a therapeutic treatment for the moderate- to high-risk caries patient. While in the past the dental profession was in a situation where there is little or no apparent value placed on many preventive procedures, there is promising progress with new fee codes being added by third-party payers.

"Why won't my insurance pay for this?" can be a common complaint from patients. And, if insurance won't pay for preventive efforts, some patients reason that perhaps suggested preventive procedures are unnecessary.

CAMBRA From an Economic Standpoint

CAMBRA has a number of procedures associated with it that have direct related fees and fee codes already in place. In the CDT 7, in addition to the normal prevention codes for prophylaxis and fluoride applications there are codes for:

- D 0425: Caries Susceptibility Testing
- D 0415: Bacteriology Studies
- D 0145: Oral Evaluation Patient <3 years, Counseling Primary Caregiver
- D 1206: Topical Fluoride Application for Therapeutic Measures Moderate to High-risk Caries Patient

Medical insurance might cover some of the diagnostic tests such as salivary flow and buffer-

ing capacity measurements.

Some practices include the caries risk assessment as part of the normal oral exam, but additional procedures represent new and separate fees. The medical approach to treating dental caries usually involves behavioral counseling directed at risk factors, followed by a protocol of antimicrobial oral care products and some remineralization strategies and materials. The monitoring of ongoing treatment and outcomes requires additional bacteriology testing. These separate fees will supplement restorative care fees.

While the income generated with the CAMBRA procedures and materials is low in comparison to high-end cosmetic procedures, nonetheless practicing CAMBRA does generate sufficient revenue to justify it from a business model. What is most important is that every single person in the office is absolutely committed to helping their patients become healthy and stay decay-free. What value does that represent to the patients? Everybody must be comfortable with charging patients a fee commensurate with the service provided. Your office must appreciate how important your counsel is to your patients. Patients can be comfortable with your CAMBRA-related fees once you help them understand what value they are receiving. So what if a patient's insurance contract will not reimburse for specific important services? Many will not cover implants, veneers and other cosmetic procedures. Do we avoid presenting these procedures? Do patients decline having them done? Perhaps another analogy helps connect with your patients. Advise that you don't have tire insurance, but when your tires wear out, do you replace them for the safety of your entire family?

CAMBRA fees may result in significant monthly revenue as the process is integrated completely into the practice. And much

of CAMBRA does not require the presence of the dentist for data collection. Patients who finally manage to stabilize themselves with CAMBRA interventions often then decide to undertake more complex and financially productive restorative procedures, including elective procedures once necessary restorative treatment is reduced or eliminated. What experienced CAMBRA practices are discovering is that the real reason behind why patients don't have expensive tooth replacement treatment done is because they don't feel confident in it lasting. They have had a lifetime of chronic misery with dental caries, and the whole process seems a mystery. Most of these CAMBRA practices report an unanticipated increase in revenue from previously declined treatment knowing treatment will last.

Another consideration in the economics of practicing CAMBRA: direct referrals from the practice's existing patients. For many patients, CAMBRA is a life-changing experience. They change from continuous cavities and problems to being decay-free for the first time in their lives. When patients appreciate and understand the biofilm component of dental caries and experience first hand how to finally control the disease, they want everybody they know to experience the same benefits. Word-of-mouth referrals have led to patients traveling hours just to locate a dental office that practices CAMBRA.

The last economic consideration is often the unspoken fear that dentists are putting themselves out of business. What if your patients really didn't develop new cavities, what would you do? On the other hand, what if every patient in your practice stopped developing new single surface lesions and you could focus on complete restorative care? If your patients decided to have ideal restorative dentistry done, would you have enough time left in your career even to accomplish that?

Conclusion

Many private practices began practicing CAMBRA a few years ago, when there was a wealth of scientific information and not much practical implementation tips or advice. There were no validated forms; there were no validated treatment regimens for treating the bacterial biofilm disease. This was uncomfortable territory for CAMBRA initiating dentists. For a century we have had a one-size-fits-all approach to disease: Surgically remove the cavity, regardless of location, size, or nature, and replace it with an amalgam restoration. Now, every patient must have their risk assessment evaluated individually. Every patient is unique. Treatment will need to be custom-designed for that individual patient at the present time. Then, we must continue to monitor each patient to prevent even a low-risk patient becoming a high-risk patient tomorrow.

Rome wasn't built in a day. Integrating a significant methodology change in a dental practice requires some time and effort. The key is to keep the changes as simple as possible, break it down to small logical sequential steps, and keep the dental team involved in the process. The CAMBRA approach, philosophy, and treatment will continue to evolve and change as more data is gathered over time, but certainly this represents the best standard of care today. Weighing the risks versus the benefits of CAMBRA for your patients, it is virtually all benefit. It all boils down to doing the right thing for your patient. How would you want to be treated based on what you now know?

Between the direct economic benefit and the new patient referrals, CAMBRA more than supports itself from a business model. The additional revenue from the increased restorative and elective treatments gained by caries reduction adds significantly to the average practice. From a purely economic standpoint, CAMBRA is dentistry's best kept secret. But, finances aside, the most important reason to implement CAMBRA is for the patient's best interest. There is no greater reward than making a significant difference in a patient's life through improved dental health that lasts a lifetime. We owe this to our patients and our profession. ■■■■

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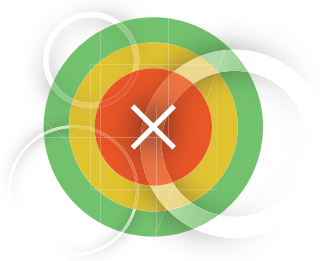

The Role of Dental Hygienists, Assistants, and Office Staff in CAMBRA

SHIRLEY GUTKOWSKI, RDH, BSDH; DEBI GERGER, RDH, MPH; JEAN CREASEY, RDH, DDS; ANNA NELSON, CDA, RDA, MA; AND DOUGLAS A. YOUNG, DDS, MBA, MS

ABSTRACT The role of the dental team in caries management by risk assessment is critical to successful patient outcomes. Positive patient interactions and communication, proper appointment scheduling, diagnostics and data gathering, as well as implementation of noninvasive or minimally invasive procedures can be the responsibility of all members of the dental team. This article will evaluate the role of the clinical and administrative staff in maintaining a practice with a focus on disease prevention and management..

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The role of the dental hygienist in implementation of caries management by risk assessment will vary by the dental practice philosophy and will vary according to the state Dental Practice Act. Hygienists are knowledgeable and prepared to contribute to risk assessment through the development of office protocols, the creation of patient literature, and the expansion of treatment recommendations. Many of the disease prevention and management procedures fall within the purview of the dental hygienist; however, only a synergistic relationship with other members of the staff will establish a comprehensive approach to CAMBRA.

The role of the dental hygienist may be the initiation of CAMBRA protocols in the office. One aspect of CAMBRA incorporation will include staff meetings about the philosophy and implementation of risk assessment and the corresponding treatment modalities. Several initial meetings will be necessary and may include role-play exercises for the staff to become comfortable with the information and protocols (see Kutsch et al., this issue). The entire team must support the CAMBRA protocol for successful patient outcomes.[1]

The role of the dental hygienist may include medical history review, risk assessment, necessary radiographs, intraoral photos, saliva assessment and bacterial testing, patient education about methods to decrease the risk of dental disease, and fluoride varnish and sealant application. The dental hygienist, as an example of assessment, may use a laser fluorescence carious lesion detection device such as the DIAGNOdent by KaVo. This device when properly used may assist in the evaluation of occlusal surfaces of the teeth and has been reported to be more reliable when these surfaces are free of biofilm.[2]

One method for removing the organic

material is with the use of an air powder polisher. The removal of organic material is important in gathering quality information from laser or fiberoptic detection instruments. After the hygienist debrides the teeth, the surfaces are assessed and readings are recorded. The dental assistant may be involved in recording the data. This type of synergy between team members creates an environment of excellent patient care.

Role of the Dental Assistant

The current dental practice model of the dental hygienist as an income generator/producer and the dental assistant as a support staff member can change with additional CAMBRA direct patient care duties for the dental assistant. Education and licensure can support the dental assistant with new responsibilities for an additional commitment to his or her career. The current workforce situation finds support staff available for practicing disease prevention and management.[3]

The dental assistant that is knowledgeable and experienced in CAMBRA can interview the patient, take diagnostic radiographs and photos, and perform saliva and bacterial testing.[4] Once a patient's risk status has been evaluated, the dental assistant can explain the results and offer preventive counseling to the patient. Standing orders can be relied on to provide for oral hygiene instruction, diet counseling, and instructions in the use of chlorhexidine, fluoride, and xylitol.[5] Chemical treatments such as chlorhexidine, fluoride, or xylitol must be communicated to the patient with an emphasis on the need to use the product exactly as prescribed. Reminder phone calls are recommended as a measure to encourage patient compliance. Additionally, the dental assistant can maintain the necessary dental inventory for the disease prevention management protocols.

This new model creates a shift in the responsibilities of the dental assistant such that he or she would contribute to the overall office revenue, as well as become a critical and valued member of the CAMBRA team. With proper education and training, and within the rules of the state Dental Practice Act, the dental assistant can administer portions of the risk assessment to include saliva and bacterial testing and advising the patient of the results with an explanation of diet, nutrition, and oral hygiene modifications.

THE ADMINISTRATIVE staff is pivotal in supporting a CAMBRA prevention-focused practice.

Use of a dental assistant in this practice model helps to control the cost of CAMBRA and will be reflected in reasonable patient fees while providing an increase in production for the office. The ADA Current Dental Terminology book for 2007/2008 contains billing codes for risk assessment, bacterial culturing, caries risk tests, saliva testing, nutritional counseling, fluoride varnish, and oral hygiene instructions[6] (**TABLE 1**). Strictly traditional dental practices not practicing CAMBRA may find themselves at an economic disadvantage to their contemporary colleagues who grasp the CAMBRA model and see the benefit for their patients (see Kutsch et al., this issue).

Role of the Administrative Staff

The administrative staff is pivotal in supporting a CAMBRA prevention-focused practice. Acting as practice ambassadors, the administrative staff is often the first to be approached when patients have questions about treatment, protocols, or office philosophy. Staff may be involved with the development and production of patient brochures and newsletters. Drafts can be discussed at staff meetings or written communications can be distributed to the various office departments for feedback. The administrative staff may also be responsible for maintenance of the practice Web site. This is an excellent method to disseminate knowledge about prevention and to stimulate patient referrals.

The administrative staff is crucial in the third-party payer process. Narrative letters for benefit coding are important and necessary to ensure that patients receive optimal reimbursement for the treatment received. Additionally, the administrative staff is in a position to process financial transactions or respond if insurance benefits are denied. As dental codes struggle to keep up with science, new diagnostic codes may need to be developed. In some instances, medical codes could be employed to bill medical insurance for certain procedures. Education on billing codes is continuous.

Administrators may support the office protocols with reminder phone calls or post cards reinforcing CAMBRA information and specific patient instructions. One of the challenges patients face is remembering the steps they are to take each day to decrease the risk for caries disease infection/transmission and carious lesion progression and conversely increase the chance of prevention and lesion repair. A word on dispensing products from the dental office is worthwhile. The complex

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TABLE 1

CAMBRA-associated ADA Procedure Descriptions and Codes With Corresponding Provider

Procedure Description	CDT Code*	Denti-Cal Code	Provider
Oral eval under 3 years old	D 0145	010	Dentist
Comprehensive exam new or established patient	D 0150		Dentist
Exams: Periodic/limited/detailed and extensive problem-focused/limited problem-focused	D 0120/D 0140/ D 0160/D 0170		Dentist
Radiographs: Complete series/horizontal bitewings/vertical bitewings	D 0210 / D 0274 / D 0277		DA with CA X-ray LICENSE, RDH
Oral/facial photographic images	D 0350		DA, RDH
Collection of microorganisms for culture	D 0415	160	DA, RDH
Caries susceptibility test	D 0425	160	DA, RDH
Diagnostic casts	D 0470		DA
Laser light florescence			RDH
Prophylaxis adult	D 1110	050	RDH
Prophylaxis child	D 1120	049	RDH
Toothbrush prophy (to age 5) including fluoride	D 1120	061	RDA, RDH
Prophylaxis with fluoride (age 6 to 17)	D 1120	062	RDH
Fluoride application child (prophy not included)	D 1203		RDA, RDH
Fluoride application adult (prophy not included)	D 1204		RDA, RDH
Fluoride varnish for moderate to high caries risk patients	D 1206	061 or 062 age dependent	RDH
Nutritional counseling for control of dental disease	D 1310		DA, RDH
Oral hygiene instructions	D1330		DA, RDH
Sealant application 1st perm molar	D 1351	045 to age 21	RDA with sealant sticker, RDH
Sealant application 2nd perm molar	D 1351	046 to age 21	RDA with sealant sticker, RDH
Glass ionomer 1 surface anterior	D 2330		Dentist
Glass ionomer 2 surface anterior	D 2331	646	Dentist
Glass ionomer 1 surface posterior	D 2391	600 Primary 611 Permanent	Dentist
Glass ionomer 2 surface posterior	D 2392	601 Primary 612 Permanent	Dentist
Sedative filling	D 2940		RDA, RDH
Case presentation, detailed and extensive treatment planning	D 9450		Dentist
Other drugs and/or medicaments dispensed in office: i.e., chlorhexidine, topical fluoride	D 9630	998 or 999	DA, RDH
Xylitol gum			DA, RDH
Fluoride lozenges (Rx)			DA, RDH
Application of desensitizing medicament per visit	D 9910	080 with emergency justification	DA, RDH
Application of desensitizing resin per tooth	D 9911		DA, RDH
Enamel microabrasion	D 9970		Dentist

*Procedure codes from the ADA book of Current Dental Terminology 2007-2008

pathogenic biofilm responsible for caries is not easy to modify without proper mechanical, chemical, and dietary aids.

The importance of having products available from the office cannot be over stressed. Private practices and dental school clinics experienced with CAMBRA have reported that writing prescriptions or telling patients to shop for products does not work well. Patients leave with good intentions then become discouraged at the complexity of locating several specialty items. Patients are best served if support materials and supplies are offered immediately at the office.

Typical Appointment

The risk assessment appointment can vary slightly depending on the patient's dental knowledge. The first step in the clinical examination is the completion of the caries risk assessment form that has been adopted by the dentist and staff (see Featherstone et al. in last month's issue; Kutsch et al., this issue). For new patients, the dentist should personally review the health history and all risk assessment forms with the patient. During this interview, the dentist establishes a relationship of trust and forms a partnership of prevention with the patient. This partnership reflects the philosophy where cavities are treated as an infectious disease. The dental hygienist or assistant will use information obtained during the risk assessment to then follow the CAMBRA recommendations for disease prevention and management (**TABLE 2**). For instance if the patient is determined to be high risk, a bacterial test would be administered followed by patient education and the recommendations for and dispensing of antibacterial agents.

The dental team and patient will work together to treat the current condition. Patients appreciate a dental team that takes time to tell them what they can do to prevent more disease from occurring. After this interview and a thorough clinical evaluation, including information gathered earlier by the team such as caries risk assessment data, radiographs, digital photographs, ICDAS coding, and DIAGNOdent readings, along with periodontal, oral cancer, and occlusal discrepancies, the dentist will be able to assess the patient's risk status and make treatment plan recommendations based on this assessment. If a patient is assessed as low risk, the next step may be a prophylaxis appointment with another risk assessment examination in a year's time. If a patient is assessed as moderate or high risk, then the next appointment should be with the dental assistant for saliva assessment and bacterial testing and CAMBRA counseling.

FOR NEW PATIENTS, the dentist should personally review the health history and all risk assessment forms with the patient.

Once the CAMBRA protocols are established (see Ramos-Gomez et al. and Jenson et al., previous issue), the dental hygienist can provide reinforcement and continue to assess the process as well as report progress to the patient.

Introducing existing patients to CAMBRA for the first time can be done at the recare appointment when the caries risk assessment form will be completed. The dental hygienist will then evaluate the forms as part of the patient's recare appointment. Depending on the risk status of the patient, the dental hygienist will follow the appropriate CAMBRA protocol. Patients who are found to be moderate or high risk for caries will then be referred to the dental assistant for a subsequent appointment where additional saliva assessment or bacterial testing and prevention counseling can occur. The hygienist can continue the process of CAMBRA through chairside education and helping the patient to establish a commitment to oral health.

The dental hygienist or assistant can provide oral hygiene instructions with a focus on brushing techniques and fluoride toothpastes or gels. The office protocol for fluoride will be explained and dispensed, as will the protocol for xylitol products (see Jenson et al., previous issue). This is also a time for intraoral photographs that document current conditions. Detailed instructions on the use of each product should be reviewed orally and supported by written material (see Featherstone et al., previous issue for sample letters to patients). An involvement calendar, especially for chlorhexidine use, is a very helpful tool to ensure that patients keep current with the regimen.

With the new patient, the dentist will have already completed a comprehensive hard and soft tissue examination with a treatment plan for restorative needs and sealant recommendations. The dental team will have discussed the results of the caries risk assessment with the patient. The laser fluorescence carious lesion examination and ICDAS coding will be charted and the frequency of recall examinations will be established. In California, registered dental assistants who have completed a board-approved course are allowed to place sealants. The type of sealant to be used, resin-based or glass ionomer, will be discussed with the dentist and

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TABLE 2

CAMBRA-related Therapy Recommendations Based on Caries Risk Assessment

New Patient	Overwhelming Bacterial Infection	Poor Diet	Poor Saliva	Therapy
X	X	X	X	Oral eval under 3 years old
X				Comprehensive exam new or established patient
	X		X	Exams: Periodic/limited/detailed and extensive problem-focused/limited problem-focused
X	X		X	Radiographs: Complete series/horizontal bitewings/vertical bitewings
X	X	X	X	Oral/facial photographic images
X	X			Collection of microorganisms for culture
X	X	X	X	Caries susceptibility test
	X			Diagnostic casts
X	X	X	X	Laser light florescence
X	X	X		Prophylaxis adult
X	X	X		Prophylaxis child
	X			Toothbrush prophy (to age 5) including fluoride
	X	X	X	Prophylaxis with fluoride (age 6 to 17)
	X	X	X	Fluoride application child (prophy not included)
X	X	X	X	Fluoride application adult (prophy not included)
	X	X	X	Fluoride varnish for moderate to high caries risk patients
	X	X	X	Nutritional counseling for control of dental disease
	X	X		Oral hygiene instructions
	X	X	X	Sealant application 1st perm molar
	X	X		Sealant application 2nd perm molar
	X			Sedative filling
X	X	X	X	Other drugs and/or medicaments dispensed in office: i.e., chlorhexidine, topical fluoride
X	X	X	X	Xylitol gum
	X	X	X	Fluoride lozenges (Rx)

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patient. Sealants can be delivered at the risk assessment appointment as outlined previously. The dental hygienist in some states may take over at this point. If radiographs are indicated, then the dental assistant will take them as prescribed by standing orders or prescription.

Often, the dental hygienist will find that the patient is taking a new medication during the first part of the recare appointment. This red flag is often overlooked during the subsequent hard tissue examination unless numerous lesions are evident. Office protocol may include stopping at the health history stage of the treatment sequence to do a risk assessment for caries. The patient is often engaged at this point and will follow the discussion and treatment recommendations. A saliva or bacterial test, fluoride varnish, dispensing fluoride, calcium-phosphate paste, applying glass ionomer sealants to any remaining pits and fissures will surely make up for a loss in production for that time. The planned prophylaxis should be rescheduled.

Tips for Success

The CAMBRA approach to patient care can be readily incorporated into the practice by collecting and evaluating data as it relates to the patient's risk for caries development. There are several steps to consider for successful implementation

of CAMBRA for the first time. First, the office must have meetings to discuss, study, and role-play with CAMBRA so that the dental team is comfortable with the information. Concurrently, the office may need to order supplies such as risk assessment forms, saliva or bacterial tests, fluoride varnish, advanced cariostatic materials, and antibacterial rinses. The office will need time to develop a brochure and if applicable place CAMBRA information on the office Web page.

The office can begin by incorporating CAMBRA into all new patient examinations and all known high-risk patients. Soon after, the dental team can initiate risk assessment and prevention or treatment protocols with all patients. To aid the patient in the implementation of home regimes, the dental team may want to consider the use of involvement calendars and diagnostic casts and disclosing tablets to demonstrate the patient's pattern of biofilm. Additionally, rewards such as a gift certificate for children who return with a completed involvement calendar and good oral hygiene are also useful.

One example of a population that is in need of disease prevention and management are pregnant women. They are usually very open to behavior change with the goal of a healthy pregnancy and baby. Emphasis on the contagious nature of caries can be stressed and expectant moms can be informed of how reducing levels of cariogenic pathogens in their own mouths can positively affect their child's future oral health.

Other examples of patient populations in great need of disease prevention and management are the patients with lower socioeconomic status, the elderly, and special needs patients. Often these patients do not have good access to care or do not have the ability to obtain or apply current treatment interventions or products.

Conclusion

The team approach to CAMBRA is integral to the decrease in the incidence and prevalence of dental caries among various populations. Together, the dental team can assist the patient in the prevention or control of dental disease. Carious lesions can and do affect the lives of people. Understanding and treating caries as a curable and preventable infectious, biofilm disease is the single most important step a dental practice can take to improve the lives of its patients and the quality of the practice. Through the process of assessment and corresponding protocols, the dental team can work with patients to motivate and inspire behavior changes that will have a lasting impact. ■■■■

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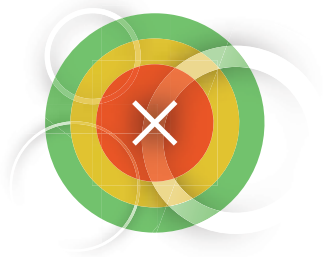

Risky Business: Influencing People to Change

BRUCE PELTIER, PHD, MBA; PHILIP WEINSTEIN, PHD; AND RICHARD FREDEKIND, DMD, MA

ABSTRACT The evolution of prevention methods represents a positive development of significant value. Managing the behavioral components of prevention is crucial to create buy-in by staff and patients. Numerous recommendations for successful implementation of CAMBRA are cited. It is important for dentists to establish which option works best with each employee, and for the dental care team to do the same with each patient in the practice.

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Prevention of dental disease has a long, but sketchy history, typified by behavioral ambivalence on the part of patients and practitioners alike. A case could be made that of all the relevant stakeholders, manufacturers of toothpaste have taken the most consistent stance toward effective preventive dental care. In the 1940s and 1950s, practitioners searched for "recipes" to induce appropriate patient behavior. In the 1950s and 1960s, the U. S. Public Health Service studied fluoridation and promoted its implementation as part of preventive services. Some dental schools hired behavior scientists to develop community prevention protocols. The 1980s saw increased attention to health promotion and disease prevention in both research and practical arenas. In the 1990s, goals and timelines were developed to reduce dental disease, and in the 2000s, significant research on caries risk assessment and its implementation within dental education was completed.[1,2]

Technical advances in prevention have evolved over the years to include improvements in toothpastes and brushes, enhancements in brushing techniques, radically different floss technology, expanded techniques in fluoride application (both systemic and topical), instrumentation using rubber tips and toothpicks, additional mouthwash formulations, dietary recommendations that are supported by empirical data, advances in adhesive dental materials (e.g., resins and glass ionomers), increased awareness of the negative effect of tobacco and substance abuse, and management of systemic diseases likely to have a negative impact on oral health (e.g., diabetes and cancer). Recent developments in caries risk assessment, while helpful in managing dental disease, have added a level of complexity for patients and practitioners alike.

Successful prevention requires an understanding of all of the options available for maintaining oral health along with patient "participation and cooperation, and

a practitioner who can facilitate participation and cooperation."[3] In other words, technology has advanced to a stage where real prevention can take place, but it requires a significant change in the behavior of dentists, hygienists, and patients.

Such a situation is not unique to dentistry or novel in the human experience. Most people know french fries are not good for them. We know we should exercise regularly. We should start working on our taxes late in January. We should moderate alcohol intake, eat more broccoli, and floss our teeth. Yet, we often do not do those things that are clearly in our own best interest.

For example, prevention in dentistry includes educational techniques for effective plaque removal. Unfortunately, studies have shown that while patient education may increase knowledge, it often provides only temporary improvements in plaque control.[4,5] The 2003 American Dental Association Public Opinion Survey determined that while more than 86 percent of women met the ADA recommendation of brushing at least twice daily, less than 70 percent of men met this standard.[6]

As the complexity of prevention increases the disparity between what we know and what we do is likely to widen. If prevention in dental care is to really take hold, an understanding of short and long-term behavior change process seems essential. It is clear we cannot simply tell patients (and dentists) to do what we know is good for them. That is not likely to result in actual behavior change.

Challenges

It helps to know the enemy if you are to engage in a serious fight. What follows is a listing of some of the real and perceived challenges that CAMBRA and disease prevention currently face.[7]

- CAMBRA is a new and different form of dental health care. It requires that significant resources be spent on nonsurgical methods, many of which are not currently a part of the culture of the profession.
- CAMBRA is a complex process involving numerous treatments that must first be learned by the dental health care worker then effectively passed on to the patient and accommodated into their daily schedule.

IF DENTISTS do not believe in the efficacy and value of prevention methods, patients are unlikely to succeed.

- Patient training is perceived as more time consuming than traditional preventive techniques.
- Significant recordkeeping is an essential component of the CAMBRA approach.
- There are costs to both patient and practitioner. Third-party payers typically do not provide compensation or reimbursement for these procedures and materials. A fair and comprehensive fee structure for these procedures has not yet been determined by practitioners, nor are CDT codes fully established.[8]
- The vast majority of dental practices, even those enthusiastic about prevention, have not established an efficient, workable method to manage the process in a real-life private practice.
- Dental health care workers have not generally demonstrated the ability or capacity to conduct reliable follow through with patients over extended periods of time.
- Efficacy is not yet well established in the literature. There are many studies with promising results; however, numerous faculty members and practitioners believe there is not yet a rich, comprehensive literature on the efficacy of CAMBRA.[9]

Taking Behavior Seriously

If CAMBRA is to have any realistic chance of succeeding as a paradigm shift in dental care, the behavioral side of the equation must be taken seriously. Lip service will simply not suffice. First, it must be said, dentists themselves have to truly "get on board." If dentists do not believe in the efficacy and value of prevention methods, patients are unlikely to succeed. Dentists must be willing to take the time and make the effort to demonstrate that they are serious about CAMBRA and its implementation. To do this, change is required and change is a complex process.

Stages of Change Theory

According to transtheoretical models of change, that is, models that involve stages, people pass through a predictable process as they move from acceptance to maintenance.[10] The "Stages of Change" perspective has been useful to explain how individuals change a wide range of problem behaviors, from smoking cessation to exercise acquisition to condom use.[11,12] There are five stages of change: precontemplation (uninterested in change); contemplation (considering change); preparation (committed to change); action (implementing change); and maintenance (preserving change). The importance of this model lies in the fact that strategies and activities to promote change differ significantly across stages. Individuals in different stages

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utilize different processes of change.[13] Stage status is also useful in predicting how close a person is to behavior change and how much effort is required of them and the intervention to move them to action. Such a perspective is useful in structuring tailored interventions to target at-risk populations.[14] Measures of readiness to change dental behaviors have been developed and validated.[15,16]

Patients at the initial "precontemplative" stage do not see their behavior as a problem and have no intention of changing their behavior. They are unknowing, unable, or unwilling to acknowledge that a problem exists. There is no reason to act. This same observation can be made about dentists who do not take prevention seriously in their practice. Those at the "contemplative" stage are aware a problem exists but are ambivalent. They value the change but perceive obstacles to action. When properly motivated, patients will prepare to change by deciding how to make it happen. Once this is determined, the patient moves into action by actually implementing the change. After action, there is concern over maintaining the new behaviors and avoiding relapse.[3]

Strategies to move from the precontemplative to the contemplative stage involve helping the patient, parent, or guardian feel the need for healthy dentition or avoid the consequences of dental pathology — pain, embarrassment, tooth loss, etc. Strategies to move from contemplation to action involve identifying and overcoming obstacles. For example, Mrs. Lee has a 6-year-old son with a history of rampant caries and an 18-month-old baby. She said she felt terrible when she brought her child in for emergency care and learned that her son, then 3 years old, had serious dental problems requiring oral rehabilitation under general anesthesia. In the dental office, her baby has a bottle with milk in it. Mrs. Lee, when questioned, admitted to putting the child to bed with the bottle. At what stage is she?

If Mrs. Lee tells you it is inevitable her kids will have dental problems, she is likely to be in the precontemplative stage. On the other hand, she may tell you that while she does not want her baby to have the dental problems her older child has, she nonetheless feels she cannot follow the recommendation to wean that child at 1 year, nor does she think she can put the baby to bed without a bottle. Inability to tolerate child upset and inconvenience are alluded to. She is likely to be at the contemplative stage.

THE IMPORTANCE of this model lies in the fact that strategies and activities to promote change differ significantly across stages.

The "Stages of Change" theory applies to practitioners and educators as well as patients. The theory is useful in understanding how individuals respond to or ignore innovations and change. Many dentists in practice behave as if traditional restorative treatment stops the caries process. Moreover, preventive activities are limited, brief, and carried out in a robotic fashion, resembling the reading of rights to a suspect before arresting him. Some dentists are overcome with skepticism, reporting that prevention just does not work. "Been there; done that." These colleagues are at the precontemplative stage.

Contrast those dentists to our colleagues who *know* what they are doing is not working. Such colleagues frequently report that insurance does not pay for effective prevention or that effect prevention takes too much time to be practical. These colleagues are at the contemplative stage.

Dental school faculty and administrators may also be at different stages. Most dental schools are focused on training their students to develop surgical skills. The vast majority of clinical instruction is dedicated to basic surgical proficiency. Many faculty and administrators see time away from the development of these skills to be counterproductive. They are at the precontemplative stage. On the other hand, there are those who are aware that students who graduate from their dental schools do not have the basic behavioral competencies needed to control caries in high-risk populations. While students may have taken a short course in communications skills and cultural competency as a freshman, there is awareness of the inadequacies of dental education. Given the obstacles in altering the curriculum, such individuals are at the contemplative stage.

Motivational Interviewing

While the "Stages of Change" theory provides understanding of the process of change and overall strategies, "motivational interviewing," a brief counseling approach that focuses on skills needed to motivate others, provides tactics to move patients from inaction to action.[17] This approach has been successful in eliminating addictive behaviors and has been used to establish positive health-related behaviors.[18] Weinstein, Harrison, and Benton reported a study of 240 high-risk infants aged 6- to 18-months-old and their parents.[19,20] They were randomly assigned to motivational interviewing or

traditional health education groups. Lay women were trained to conduct the intervention, which consisted of a counseling session and follow-up telephone calls. After two years there was a 50 percent reduction in the incidence of caries in the motivational interviewing group.

The motivational interviewing approach allows exploration of a problem in a supportive environment that expresses acceptance and provides affirmations of the person's strengths. It involves asking questions before providing information and advice. Individuals are encouraged to talk and there is an attempt to understand their frame of reference. These techniques are borrowed from nondirective patient-centered therapy. However, the approach is directive, advice is given, with the person's permission, and is accompanied with encouragement to make choices.

There are two phases to motivational interviewing; the patient is active in both. First, there is an attempt to establish rapport and trust and to help identify the problem of concern. During this phase the patient moves from the precontemplative to the contemplative stage. The goals are achieved primarily by asking open-ended questions and demonstrating the listener has heard the person by paraphrasing or summarizing (active listening). For example, in the protocol with the parents of 6- to 18-month-old high-risk children, parents were asked to report "What is it like to be Timmy's mom?" The next question focused on oral health. "Tell me about your dental health and the health of your family?" This was followed by "What do you want for Timmy's dental health," or "If I could grant you one wish for Timmy's teeth, what would it be?" The last question "sets the hook"; the parent is now telling us what she desires for the oral health of her child.

The second phase involves moving from the contemplative to the preparation/action stage. The person is asked to weigh the pros and cons of changing. "What are the costs, the benefits of changing? What happens if you do nothing?" Choice is emphasized and there is brief discussion of the potential obstacles to action for each action option. Working with the person focuses mainly on identifying a plan to act. "Menus" of potential changes are used in even briefer versions of motivational interviewing. Such menus are appropriate with multifactorial diseases like caries. A motivational interviewing training manual for dental health care workers is available.[21]

THE APPROACH IS directive, advice is given, with the person's permission, and is accompanied with encouragement to make choices.

Additional Approaches

There are additional theories that explain behavior change and interpersonal influence in psychology including behavioral models of reinforcement, social psychology's experimental findings, emphasis on acceptance and listening skills, family system views on group homeostasis, cognitive methods to change thinking, and hypnotic influence. These may be used in conjunction with or independent of motivational interviewing. A distillation of the best and most appropriate lessons from those theories would include the following recommendations for dentists and their auxiliaries interested in CAMBRA success:

1. Take time to listen to patients. Let them tell their story and explain what they think of their teeth and their role in the maintenance of their oral health. Make sure you understand their point of view before you try to influence them.

2. Find out whether patients have distorted, incorrect, or irrational views of dentistry and oral health. Gently correct those views, beginning with the normalizing comment that "many people feel the way that you do."

3. Provide *reasons* for the prevention activities that you recommend. Patients are more likely to follow through with home care if they understand "why" they are doing what they are asked to do.

4. Teach and demonstrate what you want patients to do. Actively teach hygiene methods and get patients to demonstrate how to brush and floss while they are in the dentist's office. Show pictures and videos of the techniques you recommend. Many patients prefer to have good hygiene habits and skills, but they simply do not know correct techniques — or worse, the techniques they apply are inadequate or harmful.

5. Conduct a "functional analysis" to determine what factors in a patient's life are likely to increase likelihood of enhanced prevention activities and which factors might get in the way.

6. Explore your patient's reinforcement structure. Behavior is a function of its consequences. A desired behavior followed by something pleasant is likely to be repeated. Analyze the contingencies of reinforcement to ensure that desired prevention behaviors are appropriately rewarded. This, of course, means that dentists must note positive changes, even small ones, and comment on them ("you are doing a good job in

the front on the left side"). Dentists can help patients set up explicit reward structures to reinforce the behavior they want to increase at home.

7. Explore the involvement of the patient's entire family in the CAMBRA process. It is more likely that a patient will make a behavior change if the whole family participates.

8. Use hypnotic language and indirect suggestion to influence patients. Tell stories about successful cases and patients. Employ vivid images of healthy and unhealthy situations to make your points ("pus" versus "nice fresh teeth and breath").[22]

9. Help patients set small, reasonable goals. Meet those goals, reinforce the progress, and set new ones. Engage patients often. Twice-a-year appointments are unlikely to be very influential.

10. Consider making appropriate treatment "deals" with patients. Agree to provide services they desire in alignment with a set schedule of oral health improvement. "We can put those veneers on as soon as you bring your decay-causing bacteria level down to a 2." or "Reduce those pockets to 4 millimeters and I'll start the preparation for the crown you need."

11. Above all, dentists and their auxiliaries must truly care about prevention and the hygiene behaviors of patients. Their interest in prevention of disease must be obvious to staff and patients if they hope to positively influence them. This is a wonderful role for hygienists and assistants as well as the dentist.

Conclusion

Different people have different motivations that determine their behavior. This paper described numerous theories and approaches that can be used to positively influence the behavior of patients and dental health care workers so they actively engage the CAMBRA process. It is important for dentists to establish which option works best with each of the employees in his/her office, and for the dental care team to do the same with each patient in the practice. ■■■■

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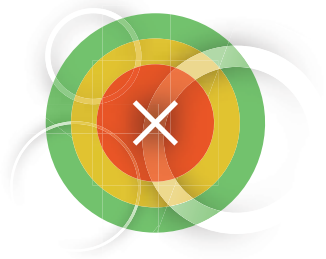

Caries Management by Risk Assessment: Implementation Guidelines

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ABSTRACT This consensus statement supports implementation of caries management by risk assessment in clinical practice by using the following principles: modification of the oral flora, patient education, remineralization, and minimal operative intervention. The statement includes a list of supporters.

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Adopted by the authors of this issue of the *Journal of the California Dental Association* and the general assembly of the World Congress of Minimally Invasive Dentistry.

Members of the Western, Central, and Eastern CAMBRA Coalitions, ADEA Cariology Special Interest Group, WCMID, and others listed in **TABLE 1** recognize the 2002 FDI Policy Statement, Minimal Intervention in the Management of Dental Caries as the current clinical standard for caries management and further support implementation of the following principles:

Main principles for CAMBRA implementation

- Modification of the oral flora to favor health.
- Patient education and informed participation.
- Remineralization of non-cavitated lesions of enamel and dentin/cementum, and

CONTINUES ON 802

TABLE 1

The following organizations/individuals support the main principles of this consensus paper. The purpose of this table is to illustrate interorganizational collaboration across our profession in support of developing an improved standard for caries management. Time constraints did not allow all institutions to be included, and we encourage interested parties to contact the authors of this consensus paper.

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CONSENSUS STATEMENT, CONTINUED FROM 799

■ Minimal operative intervention of cavitated lesions and defective restorations.

Implementation Guidelines for Clinical Practice

The following statements are suggested ways to implement caries management by risk assessment principles into clinical practice:

1. TREATING THE DISEASE OF CARIES

Successful clinical use of CAMBRA requires the dental team to understand:

■ Caries is defined as an infectious, transmissible disease process where a complex cariogenic biofilm, in the presence of an oral environmental status that is more pathological than protective, leads to the demineralization and eventual cavitation of dental hard tissues.

■ Caries, the most common chronic disease of our children, and virtually universal among adults, is both curable and preventable, and therefore should be given top priority and the full resources of our profession.

■ The conventional restorative approach alone will not eliminate the disease of caries. Preventing caries and remineralizing early lesions are cost-effective treatment options and will enhance success of all aspects of dentistry.

■ CAMBRA uses evidence-based treatment decisions based on the caries risk status of the individual as determined by the balance or imbalance between the pathological factors and protective factors of each patient. Pathological factors include cariogenic bacteria, frequent ingestion of fermentable carbohydrates, and salivary dysfunction. Protective factors include, but are not limited to, adequate saliva and its caries preventive components, fluoride therapy, and antibacterial therapy.

■ Evidence-based dentistry, as defined by the American Dental Association Council on Scientific Affairs in 2006, is an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences (www.ada.org/prof/resources/pubs/jada/reports/index.asp).

CARIES, THE MOST common chronic disease of our children, and virtually universal among adults, is both curable and preventable

■ CAMBRA, which includes minimally invasive restorative procedures, is a way to clinically implement the principles outlined in the 2002 FDI Policy Statement, Minimal Intervention in the Management of Dental Caries. CAMBRA, Minimal Intervention, and Minimally Invasive Dentistry are all terms that support these principles.

■ Minimally invasive dentistry is a concept involving early to advanced carious lesions and their treatment by minimal intervention. It includes the principles of remineralization techniques for early and advanced lesions, treatment of cariogenic plaque to reduce and prevent future carious lesions, use of minimal intervention for cavitated lesions, repair rather than replacing defective restorations when possible and controlling caries as a multifactorial disease.

■ Diagnosing the disease of dental caries is much more involved than simply detecting the signs of the disease process (the physical changes on teeth).

■ The contemporary definition of prevention is the art and science of managing the risk factors of each individual patient to promote optimum oral health.

■ Elevating the standard for caries management requires global collaboration among the entire dental profession, industry, and government.

2. PEDIATRIC RISK ASSESSMENT FOR THE CHILD FROM BIRTH TO AGE 5

■ Assessment of the caries risk status of the young child is essential before a treatment plan can be designed.

■ Children should be under the care of a dental professional by age 1.

■ Caries risk assessment for the young child starts with a parent or caregiver interview and education.

■ A clinical examination of the child completes the assessment.

■ The risk assessment drives the decisions about preventive, therapeutic, behavioral, and restorative approaches and determines which of the risk factors involved needs modification to correct the imbalance.

■ The overall aim is to determine whether the child has active dental caries, or is likely to have dental caries in the future, and to intervene with patient/caregiver education and a combination of approaches designed to arrest or reverse the disease and markedly improve the future oral health status of the child.

3. RISK ASSESSMENT FOR AGE 6 THROUGH ADULT

■ Assessment of the caries risk status of children and adults is essential before a treatment plan can be designed.

■ Caries risk assessment for the child and adult combines an assessment of disease indicators and risk factors.

■ A small number of key disease indicators and risk factors determine whether the individual is at low, moderate, high, or an additional category called extreme risk. Extreme risk is designated when a patient at high risk from other factors also has severe hyposalivation or other special needs.

■ Risk factors are biological, behavioral, or socioeconomic contributors to the caries disease process that can be modified as part of the treatment plan.

■ If the disease is currently active, or if there is the future risk of progression of dental caries, intervention appropriate to the risk status is required to correct the caries imbalance before cavitation occurs.

4. CLINICAL PROTOCOLS

The clinical management of dental caries is based upon the caries risk assessment.

■ Following a caries risk assessment, an evidence-based treatment plan is developed based upon the level of risk, namely low, moderate, high, or extreme.

■ The objective clinical judgment of the dentist, i.e., the ability to combine and use the identified risk factors based on the patient's clinical situation, has been shown to be one of the most powerful ways to determine an individual's caries risk.

■ High- and extreme-risk individuals require antibacterial therapy, reduction of identified risk factors, remineralization therapy. Extreme risk individuals with severe salivary dysfunction require additional therapy, such as the use of buffering agents and calcium and phosphate supplementation.

■ Moderate-risk individuals require improved remineralization therapy and reduction of other risk factors, which may include antibacterial therapy.

■ Topical antibacterial therapy should be used whenever a high cariogenic bacterial challenge is identified and patients should be informed it could require repeated treatments. In addition to bringing down the bacterial challenge, intensive remineralizing actions must be taken.

■ Elements of a successful remineralization therapy include thorough caries disease diagnosis, early lesion detection, and determination of proper treatment interventions based on location, activity, and severity of the carious lesions, including the development of a treatment plan to minimize surgical treatment based on the individual risk level.

EXTREME RISK IS designated when a patient at high risk from other factors also has severe hyposalivation or other special needs.

■ Chemical therapy is employed to adjust the imbalance between the pathological factors and the protective factors in order to reverse or halt the progression of early carious lesion progression toward cavitation.

■ Minimally invasive restorative work is included in the treatment plan as needed to restore the function and esthetics of the tooth. Proper material selection should be based on the individual risk assessment to reduce future failures in restored teeth.

■ Restoration may be needed to restore the function of the tooth and eliminate retentive sites for plaque accumulation. Unfortunately, restorative work alone does not deal with the bacterial infection in the remainder of the mouth.

■ Caries recall appointments at appropriate intervals are essential to monitor, renew, and reinforce the proposed caries management and prevention plan for the individual patient.

■ Reassessment of the caries risk status is necessary at each caries recall visit.

■ The overall aim of the clinical protocol is to reduce the acidogenic bacterial challenge, to reduce or eliminate other risk factors, to enhance salivary function where needed, to enhance the repair process by remineralization, and to employ a minimally invasive approach when restorative treatment is needed.

■ All patients should be informed of preventive choices and appropriate minimally invasive restorative options, if needed, based on the location (site), depth (severity), and activity of the problem as well as their current caries risk status.

■ Adhesive dental materials such as composite resin and glass ionomer products should be considered for conservative treatment of caries. Glass ionomer because of its chemical, rather than micromechanical, interaction (seal) to tooth mineral may have additional caries protective effects, especially on dentin or cementum (root surfaces).

5. PRODUCTS

■ The evidence base for current products used to treat and prevent dental caries should be evaluated and considered prior to use in practice.

■ Antibacterials (e.g., chlorhexidine, iodine, xylitol, combinations of essentials oils, chlorine-based products) can be used to reduce levels of pathogenic organisms. Bacterial assessment may help in monitoring the process and motivating patient involvement.

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■ Buffering products are needed to neutralize acid attacks when there is a lack of healthy saliva.

■ Topical fluoride from numerous sources (office and home) should be used to enhance remineralization. (e.g., 5 percent sodium fluoride varnish, 1,000-5,000 ppm fluoride toothpastes, .05 percent sodium fluoride rinses). Patients not adhering to home-care fluoride recommendations should receive more individual office-based professional topical applications of fluoride, such as fluoride varnish.

■ The evidence-based clinical recommendations for professionally applied topical fluoride, as endorsed by the ADA Council on Scientific Affairs in 2006, can serve as a chairside reference for patient care and can be found at www.ada.org/prof/resources/pubs/jada/reports/index.asp.

■ To increase patient cooperation, products can be dispensed directly by the clinician, rather than prescribed.

■ Calcium and phosphate products can be used to replace those minerals missing in patients with reduced salivary function. Other patients with observed surface demineralization (e.g., white spots) may benefit from this therapy in addition to fluoride treatments.

■ New products and treatment strategies are emerging that are expected to be even more useful to effectively modify the oral environment and should be evaluated and considered when appropriate.

6. IMPLEMENTATION INTO PRACTICE

■ There are many reasons to implement CAMBRA into practice, including ethical, legal, and standard of care issues, but the most important reason is the benefit to the patient. CAMBRA provides strategies to attain and maintain a healthy environment in a patient's mouth.

■ The dentist must communicate passionately to the dental team the goals and visions in a concise, concrete, and easy-to-understand manner, as well as provide the resources required for the acquisition of new skills, knowledge, or materials.

■ Successfully integrating CAMBRA into a practice requires that the entire dental team understands and supports the philosophical change. Once an implementation strategy is set, deciding which team members are responsible for each step is crucial.

■ Use established networks and evidence-based resources to find information and colleagues for support and advice such as:

- www.cdafoundation.org/journal
- www.first5oralhealth.org
- www.adea.org/DMS/sections/sigcariology/sigcariology.html
- www.aapd.org
- www.icdas.org
- www.midentistry.org
- www.wcmid.com

■ Supplement patient education sessions using mu ltiple approaches (e.g., newsletters, Web sites, pamphlets, handouts, and literature search engines such as PubMed or DVDs). Fully inform patients of all options available to them, including recommended, as well as elective procedures, and let them choose.

■ It is important to follow the principles and rules of high-quality practice.

- Use proper documentation and record clinical and radiographic findings.
- Include location, activity, and severity of lesions (e.g., use of ICDAS codes, laser fluorescence readings, photographs before, during, and after treatment, etc.)
- Record accurately the agreed-upon treatment plan and include detailed progress note entries.

■ Establish a sound business model for CAMBRA procedures that generates sufficient revenue to justify its economic existence. The entire dental team must be comfortable with charging patients a fee commensurate with the service provided. Patients may be comfortable with CAMBRA-related fees once the dental professional helps them understand what value they are receiving.

7. THE TEAM APPROACH

■ The team approach is essential for the successful caries management program in the dental office, and the role of the dental auxiliary is critical in the overall management of the program. The dental auxiliary will prepare and maintain the CAMBRA dental practice by providing the caries risk assessment, thorough patient education and necessary supplies.

■ A CAMBRA-trained dental auxiliary (dental hygienist or dental assistant) can be the designated prevention specialist overseeing all CAMBRA activities in the practice (where permissible by the Dental Practice Act). This prevention specialist will ensure the CAMBRA protocol is being implemented with each patient encounter to develop and implement preventive patient care based on the patient's risk assessment.

■ The practice administrative staff plays an important role as practice ambassadors. The administrative staff will take the lead role in CAMBRA patient communication and third-party payer reimbursement opportunities.

■ The dental team, led by the dentist, is a practical way to make CAMBRA work. The dentist will support the CAMBRA process financially and philosophically to provide a successful environment for implementation.

■ New and existing patients benefit from the CAMBRA protocol by having the disease addressed before expensive restorative procedures are

implemented. All patients will be informed about the CAMBRA protocol with the goal of disease management through risk assessment procedures.

■ New and existing patients are likely to refer more people to the CAMBRA office as they see the benefits of practicing this philosophy has for them.

8. BEHAVIORAL CHANGE

As the complexity of prevention increases, the disparity between what we know and what we do is likely to widen. The following are suggestions for positive behavioral change in the active implementation of the CAMBRA initiative.

■ Do not simply tell patients to do what is good for them. Use motivational interviewing, active listening, functional analysis, goal setting, and demonstrations of appropriate behaviors.

■ It is important for dentists to establish which option works best with each of the employees in their office, and for the dental care team to do the same with each patient in the practice.

Summary

Current standards in caries management emphasize risk assessment and appropriate therapeutic interventions, detection of early noncavitated lesions, diagnosis of severity and activity of lesions, and minimally invasive surgical intervention only when needed using the optimum dental materials based on the patient's problems. Collaboration among research, education, industry, dental health care workers, and patients, along with the use of evidence-based treatment recommendations, dental caries infections can be prevented and controlled. ■■■■

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Heavy Pondering on Light

Some 70 years later, I still wonder about the mysteries of light. The smallest unit of light is called a "photon." I thought that was a Japanese bed.

Robert E. Horseman, DDS

ILLUSTRATION BY CHARLIE O. HAYWARD

I'm getting along in years now and, with more time on my hands, I'm starting to think more about The End than The Beginning.

When I used to go to Sunday school with a dime tied in the corner of my handkerchief for the offering, I recall being told that, assuming we got there, heaven would be a place where all our questions would be answered, where perfect understanding would at last be ours, and presumably there would be no pop quizzes to spoil the lessons. That pleases me no end, because I have some questions that need answering.

These people who regularly report to the *National Enquirer* about their out-of-body experiences all seem to agree on one point — they are all drawn, as if by a celestial magnet, toward a beautiful white light. So one of the first things I do when I get there is ask some questions about light and its properties. This has been bothering me for a long time, ever since the fifth grade when I first learned that light travels at a speed of 186,282 miles a second.

The concept of light traveling is unclear to me. I think light just is. Or it *isn't*. That's what switches are for. Click! Light on. Click! Light off. I remember myself clearly at 10 years of age as a sort of prepubescent detective Columbo bracing my teacher.

"Ma'am, could I ask you just one question here? I'm a little confused, I'm sorry, that's the way I am, I get mixed up easily. I won't take a minute of your time, I know you're busy. I apologize for bothering you, but maybe you could just help me out here. Just for a minute, I won't keep you."

Then I would try to find out how we *know* that it takes light 32 light years to travel from a certain star to the Earth. Who threw *that* switch? Is this written down someplace? What makes light go?

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DR. BOB, CONTINUED FROM 822

Why doesn't it just stay where it is? Does it go in a straight line just to our planet like a flashlight beam, or does it go to all the other planets as well and at the same time? My teacher aged visibly during the fifth grade, developed a tic and seemed genuinely relieved when we got off astronomy and into the American Revolution.

But now, some 70 years later, I still wonder about the mysteries of light. The smallest unit of light is called a "photon." I thought that was a Japanese bed. Did you know that? I don't mean to bother you, but there's just one more thing. Like, if I point a flashlight with a couple of C cells into the dark, the beam will penetrate, say, a hundred feet or so, and then what? Does the light go, "Well, that's it! I'm pooped, I can't go any farther, I'm not gonna make it!" and just stops in midair or describes a gentle trajectory towards the ground? At 186,282 miles a second, it doesn't have much time to decide on a course of action.

It must be the same with these distant stars. Suppose some folks on Alpha Centauri want to dazzle us with a little light show, some colored strobes and dancing fountains; anybody in charge there would veto this idea as impractical because it would take 157 gazillion years for the display to reach us and by that time most of us would have tired of waiting and gone home. "These Earth people have no patience," the Alpha Centaurians would complain. "They won't even wait for Christmas; start decorating in October, for crying out loud!"

And since the Earth turns on its axis (another leap of faith), suppose the light *did* finally reach us and we were on the opposite side? By the time we found a parking space and located a good viewing angle — WHOOM! — at 11,176,920 miles an hour, the show would be over and we would have missed the whole thing. Then would the light have just gone on forever? My flashlight won't, even with fresh alkaline cells.

From a practical viewpoint, our light would take as long to get to them as theirs to us, so what they are looking at even as we speak is probably primordial ooze and not even worth sending down a saucer to check out.

With dentistry edging into lasers at slightly less than the speed of light, could I bother to ask one little question here? There's something I don't understand. I'm sorry, it's not your fault, it's mine. I know you told me all this before, but could we just go over it once more? Just take a minute. I remember the acronym stands for "light amplification by stimulated emission of radiation," or LABSEOR, which was shortened to LASER because "by and "of" are prepositions and thus forbidden to appear in the middle of acronyms by the Joint Emergency Reserve Kibitzer Service (JERKS).

Laser's big feature is that it's coherent light. What might render you incoherent is the price. My question: What do I get for my $40,000 dental laser besides some very fancy light that can cut, coagulate, and vaporize?

Could I achieve the same degree of one-upmanship on the cutting edge of my ever-shortening life with a $40,000 BMW? I'm just asking. I know it will only go about 120 mph, but at least it's the kind of traveling I understand. ■■■■