



Matt Mullin

## Resistant Bacterium Cases on the Rise

BY PATTY REYES, CDE

What once was common in health care surroundings and confined settings, such as prisons, methicillin-resistant *staphylococcus aureus* is now in the community. So, something as innocuous as a handshake, a brief high-five, or other skin-on-skin contact could be life-threatening, or at the very least, result in chronic compromised health.

The recent outbreaks in various parts of the country, including those that struck two children in California and caused the deaths of two teenagers on the East Coast late last year, prompted some dentists to contact the American Dental Association, who in turn encouraged them to contact the Centers for Disease Control and Prevention.

"This is a significant public health problem," said Scott K. Fridkin, a medical epidemiologist at the CDC, in a newspaper interview. "We should be very worried." And rightfully so. MRSA claimed

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## Straumann Launches New Generation Bone Level Implant

→ Straumann recently announced the launch of its new generation Bone Level Implant. It comes in three diameters and four lengths and is suitable for all dental implant indications. There is a full matching prosthetic portfolio comprising 125



components, and a CAD/CAM custom abutment service in titanium and ceramic. The new implant line extension will be available initially in most parts of Europe, North America, Australia, and New Zealand, and the rest of the world in later this year. For additional information, go to [www.straumann.com](http://www.straumann.com).

## Venom Tech: New Adhesive Derived From Snakes Useful in Oral Surgery

A study in the October issue of the *Journal of Periodontology* found that an adhesive made from an enzyme found in snake venom was a more effective and beneficial adhesive when used to close surgical incisions than traditional sutures.

The study, "Fibrin Adhesive Derived From Snake Venom in Periodontal Surgery," by Mônica D.S. Barbosa, PhD; Sebastião Luis A. Gregh; and Euloir Passanezi explores a new fibrin adhesive made of buffalo plasma-derived fibrinogen and a thrombin-like enzyme obtained from snake venom and evaluates its applicability in periodontal surgery. Free gingival grafts that were sutured (control group) were compared to others immobilized through the use of the adhesive (experimental group), according to the abstract.

The study followed 15 patients during the healing process after a gingival graft. When the adhesive derived from snake venom was used, those patients had faster recovery and better results than those treated with traditional sutures.

"This unique type of adhesive may stimulate faster tissue repair. It is a more natural form of adhesive in comparison to traditional sutures used after surgery," explained study author Barbosa of the Bauru Dental School at the University of Sao Paulo. "More studies are needed to fully evaluate the effectiveness of this alternative."





### Caries in China: Fluoride Toothpaste to the Rescue

According to the latest figures from the Chinese Stomatological Association, dental caries in China remains a pressing issue with the caries rate being 77 percent for deciduous teeth and up to 65 percent for permanent teeth.

While there has been significant improvement over the past decade, dental caries is still one of the most prevalent oral diseases in China, said Luan Wenmin, a professor, and vice president of CSA.

Working to address this issue, more than 70 experts in stomatology gathered last fall for a conference on "Oral Health through Fluoride for China and Southeast Asia" in Beijing, China. The conference was jointly organized by the World Health Organization, the FDI World Dental Federation, the International Association for Dental Research, and CSA.

The stomatological experts confirmed in a final conference statement

that fluoride toothpaste remains the most widespread and significant form of prevention of and protection against tooth decay used worldwide. It is also the most rigorously evaluated vehicle for fluoride use.

Prior to the Beijing oral health conference, the World Health Organization adopted a resolution on oral health, which urged the establishment of national plans for the use of fluoride based on appropriate programs for automatic administration through drinking water, salt or milk, or topical use, such as affordable toothpaste, said Ramon J. Baez, DDS, and a WHO representative. "We hope that this conference will invigorate those in China and Southeast Asia to move the agenda item forward."

FDI World Dental Federation President Michèle Aerden, DDS, said the implementation of affordable access and appropriate exposure to fluoride has been successful in many parts of the world.

### ADA-OSHA Alliance Posts New Ergonomics Resources

New resources about avoiding injuries now are available to dentists and dental office staff, thanks to the ADA's collaboration with OSHA to help dentistry voluntarily addresses ergonomic issues.

"It's important for dental team members to adapt their workplace and tasks in order to work as safely and as comfortably as is possible," said Mark S. Ritz, DDS, MAGD, a member of the Council on Dental Practice and chair of its ergonomic subcommittee. "This means they should have access to knowledge about ergonomics and how it can be applied to the dental office."

A tip sheet about hand pain and how dentists can adapt their offices and habits to lessen stress on their hands, as well as an article about musculoskeletal disorders in dental hygiene, now are posted on ADA.org.

The ADA-OSHA Alliance, originally signed in April 2004, established a means of collaborating on ergonomics matters that both the American Dental Association and the U.S. Occupational Safety and Health Administration view as important to the health and well-being of dentists and the dental team.

A team representing both OSHA and the ADA meets quarterly to learn the best ways to reach joint goals in communicating information about workplace safety and health.

Information about ergonomics in dentistry, as well as the hand pain tip sheet and accompanying article on musculoskeletal disorders, is available online at [www.ada.org/prof/prac/wellness/ergonomics.asp#alliance](http://www.ada.org/prof/prac/wellness/ergonomics.asp#alliance). Additional information is available on OSHA's Web site, [www.osha.gov](http://www.osha.gov).



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## UPCOMING MEETINGS

## 2008

May 1-4	CDA Spring Scientific Session, Anaheim, 800-CDA-SMILE (232-7645), cda.org.
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.

## 2009

May 14-17	CDA Spring Scientific Session, Anaheim, 800-CDA-SMILE (232-7645), cda.org.
Sept. 11-13	CDA Fall Scientific Session, San Francisco, 800-CDA-SMILE (232-7645), cda.org.
Oct. 1-4	American Dental Association 150th Annual Session, Honolulu, Hawaii, 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.

## BACTERIUM, CONTINUED FROM 11

more deaths than AIDS in 2005, according to CDC stats. In that same year in the United States, there were 94,000 infections and 19,000 people died from MRSA.

While staph infections are common in the population, according to the National Institute for Occupational Safety and Health, 1 percent carry the MRSA bacteria. Severe complications can develop when colonization leads to infection. When the bacteria is present and spread by casual contact, minor skin infections, like an abscess, can turn into major health complications including necrotizing abscesses that consume tissue.

It is thought this strain of bacteria emerged due to the overuse of antibiotics and the introduction of a vaccine that was developed to protect against the infection.

Draining and lancing sores, and the application of other antibiotics are ways to treat the infection. However, the microbe can develop in the lungs leading to pneumonia, for example, or affect vital organs, bone, and bloodstream leading to other serious and potentially fatal complications. There is also the threat of getting reinfected. Those with weakened immune

systems, including the elderly and very young children, are most susceptible.

According to the Nov. 2, 2007, issue of *Cal-OSHA Reporter*, several preventive measures can be taken easily in the workplace, as well as personally, to guard against MRSA infection. Among them:

- Wash hands frequently with warm water and soap,
- Keep wounds covered and clean with dry bandages,
- Emphasize worker health and safety on the job,
- Do not use others' personal effects such as uniforms, protective equipment, towels, washcloths, razors or clothing,
- Keep an ample supply of hygiene products, and
- Be diligent with cleanliness in the workplace; ensure contaminated surfaces and equipment are adequately sanitized.

Massachusetts-based Institute for Health Care Improvement encourages doctors to limit prophylactic use of antibiotics but it can be a hard sell, said Debby Rogers, vice president for the California Hospital Association, in the article in the *Cal-OSHA Reporter*. While many physicians are receptive to the message, some



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of their counterparts prefer to adhere to their practice and training, she added.

"This really is a societal change, said Rogers in the interview. "There's a lot of education that needs to be done."

In the meantime, researchers are working to develop antibiotics to treat MRSA. One company has created a test that can provide results in one hour. Typically, it takes 24 hours to get the results. According to the article in *Cal-OSHA Reporter*, with the new test, patients can start their treatment sooner "with medications that are still effective against the virulent staph."

The ADA and the CDC partnered to develop the CDC's infection control recommendations for dentistry. These recommendations were updated five years ago. The guidelines are available online at [www.ada.org/prof/resources/topics/cdc/index.asp#guidelines](http://www.ada.org/prof/resources/topics/cdc/index.asp#guidelines).

Those with questions about MRSA are encouraged to consult the CDC's Web site, [www.cdc.gov/ncidod/dhqp/ar\\_mrsa.html](http://www.cdc.gov/ncidod/dhqp/ar_mrsa.html).

*Capsaicin is capable of opening pores found only on the cell membrane of pain-sensing nerve cells.*



### A Hot Approach to Anesthesia

Capsaicin, the chemical that gives chili peppers their kick, chased with a local anesthetic, could be an improved way to treat pain in surgery, dentistry, and childbirth, according to a recent Harvard Medical School study.

Researchers reported in the journal *Nature* that a combination of capsaicin and QX-314, a derivative of the local anesthetic lidocaine, effectively silences pain-sensing nerve cells without disturbing other neurons that control motor function and other sensations. The innovative combination holds the potential to end pain in the dentist's chair without the temporary paralysis and numbness of current local anesthetics.

The two chemicals take advantage of

a unique characteristic of pain-sensing neurons to block their activity without blocking signals from other nerve cells. Lidocaine interferes with electric currents in all nerve cells. But QX-314, by itself is unable to enter cell membranes to block their electrical activity.

That's where the hot chili chemical came into play.

Capsaicin is capable of opening pores found only on the cell membrane of pain-sensing nerve cells. With these pores opened by capsaicin, QX-314 can then enter the cell membrane and selectively block the activity of the pain-sensing neurons while leaving alone other nerve cells.

Researchers demonstrated the approach in rats and feel confident it will also work in people.



### Updated Anesthesia Guidelines Ready for Use

After two years of work to update anesthesia guidelines, the American Dental Association has posted the new guidelines online at [ada.org](http://ada.org). The revised documents include "Guidelines for the Use of Sedation and General Anesthesia by Dentists"; "Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students"; and the policy statement: "The Use of Sedation and General Anesthesia by Dentists."

According to the ADA, the changes bring the materials in line with other dental and medical organizations that had recently made significant changes to their documents.

"The revised anesthesia guidelines will provide practicing dentists with safe parameters for patient care at different levels of sedation," according to Frank Maggio, DDS, chair of ADA Council on Dental Education and Licensure. The council, along with its Committee on Anesthesiology, proposed the guideline changes, which were approved by the ADA House of Delegates last October.

The committee also held a "Proposed Sedation and Anesthesia Guidelines: Q&A" at the ADA annual session in San Francisco, and similar Q&A seminars at the annual meetings of the Academy of General Dentistry and American Association of Dental Examiners to explain the changes and address concerns.

The ADA is in the process of transmitting the guidelines to state boards of dentistry and other communities of interest. The guidelines are available immediately for use by the profession. The link to the guidelines is <http://www.ada.org/prof/resources/positions/statements/index.asp#pain>.

## Honors

**Patrick J. Ferrillo, Jr., DDS**, San Francisco, dean of the University of the Pacific, Arthur A. Dugoni School of Dentistry, has been named president of the International Federation of Dental Educators and Associations and an honorary fellow of the Academy of Dentistry International.

**Arthur A. Dugoni, DDS, MSD**, Palo Alto, Calif., dean emeritus at University of the Pacific, Arthur A. Dugoni School of Dentistry, has received the Lifetime Achievement Award from the Pacific Coast Society of Orthodontists.



Patrick J. Ferrillo, Jr., DDS



Arthur A. Dugoni, DDS, MSD

### Magnolia Bark Means No Bite From Bad Breath

Magnolia bark extract proved to be effective against bacteria responsible for bad breath, according to a recent report in the *Journal of Agricultural and Food Chemistry*. Researchers Minmin Tan and colleagues tested magnolia bark's germ-killing ability in a Wm. Wrigley Jr. Co. lab and concluded that it can be added to mints or gum for improved breath-freshening benefits.

Magnolia bark extract, a traditional Chinese medicine used to treat fever, headache and stress, has proven effective against germs that cause ulcers, and recent studies have shown it has low toxicity and few side effects.

In the study, magnolia bark extract and its two main components, magnolol and honokiol, were evaluated. In the lab, researchers found it highly effective against three types of oral microorganisms, killing 99.9 percent of bad breath bacteria within five minutes.

"Magnolia bark extract can inhibit bacteria responsible for producing hydrogen sulfide and methyl mercaptan and even a gram positive bacteria, *S. mutans* responsible for dental cavities," Michael Greenberg, Wrigley director, summarized on the American Chemical Society Web site.

In vivo tests on nine healthy Wrigley employees who chewed mints and gum containing the bark after lunch produced less dramatic but still potent effects.

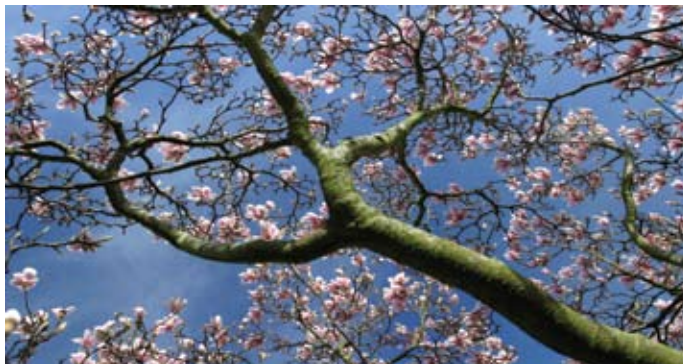
The mints killed off more than 61 percent of the germs that cause bad breath within 30 minutes — comparable to some commercial mouthwashes. Mints without the extract were only 3.6 percent effective.

The gum didn't work as well, reducing oral bacteria by 43 percent within 40 minutes, compared with an 18 percent reduction in gum with no extract.

"Because bacteria is the major cause of breath odor, products containing effective germ-kill compounds will provide a long-lasting reduction of oral malodor," the researchers wrote.

However, the product is not expected in stores any time soon.

"It's a long way from scientific research to a commercializable product, and there are a lot of perils and pitfalls along the way," said Chris Perille, Wrigley spokesman.



*"Magnolia bark extract can inhibit bacteria responsible for producing hydrogen sulfide and methyl mercaptan and even a gram positive bacteria, S. mutans responsible for dental cavities."*

MICHAEL GREENBERG

#### CORRECTION

##### C.E. LISTING WEB

**SITE:** The Web site address for online C.E. courses from the California Society of Pediatric Dentistry was incorrect in the December *Journal*. The correct address is <http://cspd.org/oce>.