

## HIGHER ORAL BACTERIA POPULATIONS MAY CAUSE BAD BREATH

Unhealthy patterns of bacterial populations inherent to the mouth—not just poor oral hygiene—might be the cause of bad breath, say researchers in the May 2010 issue of the journal *Applied and Environmental Microbiology*.

Researchers from Kyushu University in Fukuoka, Japan, Fukuoka Dental College and Nihon University, Tokyo, analyzed bacterial populations in saliva samples collected from 240 patients who complained of bad breath. Researchers then divided the samples into groups on the basis of similar patterns and further explored these patterns in samples that had different levels of bad breath.

Researchers found that one group had noticeably lower levels of volatile sulfur compounds but higher proportions of bacterial populations.

“The results of this investigation clearly demonstrate that oral malodor is a symptom based on the characteristic occupation of indigenous oral bacterial populations, rather than solely on bacterial overgrowth due to poor oral hygiene,” said the research team that was led by Dr. Toru Takeshita at Kyushu University Faculty of Dentistry.

“Adjusting the global composition of indigenous bacterial populations toward a ‘healthy’ pattern may be an alternative approach to effectively prevent oral malodor,” they continued.

## BODY'S OWN STEM CELLS CAN LEAD TO TOOTH REGENERATION, RESEARCH SHOWS

Scientists have developed a technique that can guide a

body's stem cells to regenerate teeth, according to an article in the May issue of *Journal of Dental Research*.

The results of an animal-model study conducted in the Tissue Engineering and Regenerative Medicine Laboratory Columbia University Medical Center in New York City has shown that by guiding stem cells to a scaffold made of natural materials and integrated in surrounding tissue, practitioners do not need to use harvested stem cell lines or create an environment outside of the body (for example, in a petri dish) to grow the tooth and then implant the tooth once it has matured. Instead, the tooth can be grown “orthotopically,” or in the socket, where the tooth can integrate with surrounding tissue in ways that are not possible with hard metals or other materials.

Study researchers made three-dimensional anatomically shaped human molar scaffolds and rat incisor scaffolds. In each of 22 rats, they implanted an incisor scaffold orthotopically in mandibular incisor extraction pockets and a human molar scaffold ectopically in the dorsum. They then infused the scaffolds' microchannels with two growth factors. They also implanted growth-factor-free control scaffolds.

After nine weeks, they found that periodontal ligament-like fibrous tissue and new bone regenerated where the rat incisor scaffolds interfaced with native alveolar bone. The human molar scaffolds showed integration and tissue ingrowth. Researchers also found that the growth factors recruited significantly more endogenous cells and led to greater angiogenesis than did the growth-factor-free

control scaffolds.

“These findings represent the first report of regeneration of anatomically shaped tooth-like structures in vivo, and by cell homing without cell delivery,” wrote corresponding author Dr. Jeremy Mao, the Edward V. Zegarelli Professor of Dental Medicine at Columbia University Medical Center, and his colleagues.

The study was supported by National Institutes of Health grant from the National Institute of Dental and Craniofacial Research.

## TREATING PERIODONTAL DISEASE MAY LOWER DIABETES' RISKS

Treating serious periodontal disease in people with Type 2 diabetes may lower their blood glucose levels, researchers wrote in the May issue of *The Cochrane Library*.

The research team—led by researchers at the University of Edinburgh, Scotland, and supported by colleagues at the Peninsula Dental School, Plymouth, England, the University of Ottawa, Ontario, Canada, and UCL Eastman Dental Institute, London—

## JADAPreview

### COMING IN AUGUST

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- The effect of antisialogogues in dentistry
- Gout of the temporomandibular joint

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analyzed randomized controlled trials of people with Type 1 and Type 2 diabetes who also had been diagnosed with periodontal disease. The team looked at 690 articles and included seven studies in the review that met inclusion criteria.

The studies' results suggested that the treatment of periodontal disease could reduce blood glucose levels in people with Type 2 diabetes. Researchers did not find enough available evidence to support the same benefit for people with Type 1 diabetes.

The results of this study suggest that the effective treatment of periodontal disease could have a positive effect on patients who have diabetes, especially those with Type 2 diabetes, because good blood glucose control contributes to lowering the risk of serious complications linked to the condition, such as eye problems and heart disease.

"It would be wise to advise patients of the relationship between treating periodontal disease and the possibility of lowering their blood sugar levels," said lead author Terry Simpson of the University of Edinburgh. "Additionally, an oral health assessment should be recommended as part of their routine diabetes management."

Compiled by Amy E. Lund, senior editor.

## MEETINGS

- The FDI World Dental Congress will be held Sept. 2-5 in Salvador da Bahia, Brazil. For more information, contact Ms. Briana Fitzgerald by phone at 1-312-440-2727, by fax at 1-312-587-4735 or by e-mail at "fitzgeraldb@ada.org".
- The Fourth American Dental

Education Association International Women's Leadership Conference will be held Sept. 5-8 in Salvador, Brazil. For more information, contact Ms. Monique Moran by phone at 1-202-289-7201, Ext. 186, or by e-mail at "morganm@adea.org".

- The American College of Dentists will hold its annual meeting Oct. 7-8 in Orlando, Fla. For more information, contact Dr. Stephen A. Ralls by phone at 1-301-977-3223, by fax at 1-301-977-3330 or by e-mail at "info@facd.org".

- The 34th Annual American Society for Dental Aesthetics' International Conference will be held Oct. 20-23 in San Antonio. For more information, contact Dr. Dan Lambert by phone at 1-800-454-2732 or by e-mail at "ddssmile@aol.com" or visit "www.asdatoday.com".

- The American Academy of Implant Dentistry will hold its 59th annual meeting Oct. 20-24 in Boston. For more information, contact Ms. Sara May by phone at 1-312-335-1550, by fax at 1-312-335-9090 or by e-mail at "info@aaid.com".

- The Hispanic Dental Association will hold its annual meeting Oct. 28-30 in Chicago. For more information, contact Ms. Rita Brummett by phone at 1-217-529-6517, by fax at 1-217-529-9120 or by e-mail at "hispanicdental@hdassoc.org".

- Qatar Health 2010, an international healthcare congress and exhibition, will be held Dec. 10-15 in Doha, Qatar. For more information, visit "www.qatarhealth.info/main.html".

## APPOINTMENTS/ELECTIONS/ AWARDS

- **Dr. Susan Baloul**, Boston, received the Milo Hellman Research Award from the

American Association of Orthodontists.

- **Dr. Lee W. Graber**, Vernon Hills, Ill., was installed as president of the American Association of Orthodontists. Other officers are **Dr. Michael B. Rogers**, Augusta, Ga., president-elect; and **Dr. John F. Buzzatto**, Allison Park, Pa., secretary-treasurer.

- **Dr. Henry Gremillion**, New Orleans, received a lifetime service award from the American Academy of Orofacial Pain.

- **Dr. Steven Perlman**, Lynn, Mass., was inducted into the National Academies of Practice.

- **Dr. Clara M. Spatafore**, Sewickley, Pa., was installed as president of the American Association of Endodontists. Other officers are **Dr. William T. Johnson**, Iowa City, Iowa, president-elect; **Dr. James C. Kulild**, Kansas City, Mo., vice president; **Dr. Robert S. Roda**, Scottsdale, Ariz., treasurer; and **Dr. George T. Goodis**, Grosse Pointe Woods, Mich., secretary.

# CALENDAR OF EVENTS

## ADA ANNUAL SESSIONS

**2010** Oct. 9-12, Orlando, Fla.  
**2011** Oct. 10-13, Las Vegas  
**2012** Oct. 18-23, San Francisco  
**2013** Oct. 31-Nov. 5, New Orleans

## 2010 CONSTITUENT DENTAL SOCIETY ANNUAL MEETINGS

**California Dental Association**, 1201 "K" Street Mall, Sacramento 95814, 1-916-443-0505, **Fall Scientific Session, Sept. 9-11, San Francisco.**  
**Georgia Dental Association**, 7000 Peachtree Dunwoody

Road, Suite 200, Building 17,  
N.E., Atlanta 30328-1655, 1-  
404-636-7553, **July 22-25,**  
**Amelia Island, Fla.**

**Illinois State Dental  
Society**, 1010 S. Second St.,  
Springfield 62705, 1-217-  
525-1406, **Sept. 24-26,**  
**Champaign.**

**Maine Dental Association,**  
P.O. Box 215, Manchester  
04351-0215, 1-207-622-7900,  
**Oct. 1-2, Rockport.**

**Maryland State Dental  
Association**, 6410 Dobbin  
Road, Suite F, Columbia 21045,  
1-410-964-2880, **Sept. 24-26,**  
**Ocean City.**

**North Dakota Dental  
Association**, P.O. Box 1332,  
Bismarck 58502-1332, 1-701-  
223-8870, **Sept. 16-18, Minot.**

**Ohio Dental Association,**  
1370 Dublin Road, Columbus  
43215-1009, 1-614-486-2700,  
**Sept. 23-26, Columbus.**

**Vermont State Dental  
Society**, 100 Dorset St., Suite  
18, South Burlington 05403-  
6241, 1-802-864-0115, **Sept. 16-  
17, South Burlington.**

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