

Stress causes chronic bad breath, study suggests

Weakened immunity leads to halitosis, Toronto doctors find

BY SHARON KIRKEY
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A weak immune system, not gum disease or a passion for garlic, may be the real culprit behind chronic bad breath, two Toronto dental professionals say.

"The thought about malodor was, 'Oh, you've got bad breath, you must have bad teeth or bad gums.' That's not necessarily true," says Dr. Julian

Geller, a pediatric dentist and associate in dentistry at the University of Toronto.

"Sure it may be a contributing factor, but we see an awful lot of people with beautiful, meticulous mouths who have chronic malodor."

Dr. Geller and dental hygienist Anne Bosy, co-founders of the Fresh Breath Clinic in Toronto, believe there may be a connection between foul breath, stress and a faulty immune system.

About half of the adult population has bad breath, known scientifically as halitosis. Chronic, persistent bad breath — not just the clammy morning breath most people experience after a nighttime drop in the production

of bacteria-cleansing saliva — affects about 23 per cent of adults, and is one of the most socially, professionally and psychologically debilitating of human maladies.

"When you're a salesperson and you walk in and say hi to somebody and flip out your card and your breath knocks them dead, they're not thinking about the card or what you do, they're thinking about getting away from you," Dr. Geller says.

Bad breath is also good business for the \$750-million U.S. mouthwash and breath-mint industry, even though most products are essentially useless at treating chronic halitosis, Dr. Geller says. "When you have chronic mal-

odor, you have to get to the root of the problem, and it's a very highly scientific approach."

Bad breath has long been thought to be caused by periodontal diseases such as inflamed gums, or by stomach problems. It also can be a symptom of serious illnesses.

Through the ages doctors sniffed the breath of sick patients to diagnose disease. For example, the breath of patients in liver failure can smell like rotting egg; kidney failure has a fishy smell.

But Ms. Bosy believes bad breath may be a serious infection unto itself.

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She and Dr. Geller urge their colleagues in an article in the most recent issue of the *Medical Post* to treat it as such.

In 1993, while working on a thesis on oral malodor for her master's degree in sciences, Ms. Bosy reviewed more than 300 cases of patients with bad breath treated at a University of Toronto halitosis clinic.

Ms. Bosy found that more than half the patients had no periodontal disease at all.

Last year, she reviewed the same population, as well as patients treated at the Fresh Breath Clinic, to see if there was a common thread.

"As I reviewed their medical histories, the same things kept popping up: asthma, bronchitis, skin conditions." In fact, about 70 per cent of the patients had an immunodepressed ailment.

Ms. Bosy believes the link may be low levels of salivary immunoglobulin A, an antibody produced by the immune system that fights bacteria.

Insufficient levels of immunoglobulin A are also linked to immunodepressed conditions, such as those that were showing up in patients with bad breath.

Ms. Bosy said samples taken from the tongues and teeth of patients treated at the Fresh Breath Clinic revealed considerably higher than normal amounts of certain bacteria and yeast

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that shouldn't have been present considering their super-conscientious oral hygiene.

"These people brush four or five times a day. They floss a lot. They should not have the bacteria that they have in that great amount," Ms. Bosy said.

"They show yeast ... pathogens that come in when the immune system isn't functioning properly."

People can be born with a depressed immune system. There's also research to suggest that increasing levels of stress can weaken the body's natural defence mechanisms against disease and infection.

"I've had mothers tell me that their babies have bad breath. I've had adults who come into our practice and say 'everything was fine until five years ago, when I woke up one day and there it (bad breath) was,'" Ms. Bosy said.

Research since 1968 has shown that stress can reduce the level of im-

munoglobulin A, allowing bacteria to run rampant.

"It's almost like a catch-22 for people with bad breath because one of the greatest stresses is the fact that they have bad breath and they can't do anything about it," Ms. Bosy says.

She and Dr. Geller worry that doctors may be overlooking the possibility of a depressed immune system when patients come in complaining of breath odour.

She says when tests indicate that bad breath isn't caused by a stomach problem, many doctors simply tell their patients not to worry. "People are driven crazy by that. They feel debilitated even more."

At the Fresh Breath Clinic, the only free-standing breath clinic in North America, patients undergo a thorough medical and lifestyle history, an oral exam and bacteriological testing. Sometimes a special machine is used to measure levels of certain odour-causing sulphides in the breath.

Since it opened in October, 1993, the clinic has treated about 2,200 patients, some as young as nine. They come from across Canada (including many from Ottawa) and around the world.

These are people with chronic malodor, people who "no matter what you do, you can't get rid of it."

Patients undergo nutrition counselling to ensure they're eating a balanced diet, including immune-boosting elements such as zinc and vitamin

E. Patients are typically sent home with a special rinse to reduce the yeast and bacteria levels in the mouth; some receive antibiotics. Patients return two weeks later for a follow-up, and are seen again a year later, unless they're having problems.

The clinic charges \$475, about half of which is covered by most private dental insurance plans. Dr. Geller says they have a 95- to 97-per-cent success rate.

"We had a French man from Quebec, a very good-looking guy. He went back to Quebec. He ended up meeting a lady. He invited us to the wedding," Dr. Geller said.

"We've had a kid who was ready to leave Ryerson University in Toronto because he couldn't socially be around people. He's now doing great, he's back in school."

Dr. Geller and Ms. Bosy say doctors and dentists should take bad breath seriously. Ms. Bosy says it may be a signal to look for other medical problems.

"It could be that if there is such an odour, it may be a risk for other infections." She stressed that more research needs to be done.

"Over time we may find more of a connection."

In the meantime, she says, doctors and dentists "should be looking at the fact that a chief complaint of bad breath probably has some validity to it, and that it's not 'all in their heads.'"