

HEALTH & WELLNESS

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Using Teeth to Help Restore Hearing in One Ear

By MELINDA BECK

Susie Reust lost the hearing in her right ear due to a brain abscess—and says she lost much of her life as well. “It’s very isolating. People think you’re stupid because you don’t respond to them,” says the 45-year-old financial manager for a hospital chain in Phoenix.

In January, Ms. Reust tried a new hearing system that transmits sounds wirelessly through the teeth. Leaving the audiologist’s office, she says she almost cried when she heard a sound on her right—high heels clicking on the sidewalk—for the first time in 10 years.

“To this day, I’m constantly clicking a pen near my right ear, just for the joy of hearing it,” she says.

The aptly named SoundBite system relies on bone conduction—the ability of sound waves to travel from teeth through the bones in the skull.

It isn’t a hearing aid, which amplifies sound in frequencies where peoples’ hearing is diminished. It is aimed instead at people who are completely deaf in one ear, often because of a problem in the cochlea, the spiral-shaped structure in the inner ear. About 8 million Americans were born with single-sided deafness and another 1.5 million developed it later in life, sometimes overnight for mysterious reasons. SoundBite can also help people with untreatable conductive hearing loss, which can be caused by trauma to the ear drum or chronic ear infections.

SoundBite effectively bypasses such damage. A tiny microphone in the patient’s deaf ear picks up incom-

### Wireless Sound System

SoundBite, which was introduced in October, is designed for people who are deaf in one ear. It sends sounds through the teeth to the hearing ear.

1. A microphone unit worn in the ear canal on the deaf side picks up sounds and transmits them wirelessly to a device attached to two back molars.

2. The mouth device sends imperceptible vibrations from the teeth through the skull bones to the cochlea on the hearing side, allowing the patient to hear.

Some patients can't use SoundBite because of tooth and gum issues. People with removable dentures can't either because it requires a firm connection to jawbone to transmit sound waves.

Source: Sonitus Medical

ing sounds; a processor worn behind the ear transmits the signals wirelessly to a receiver hooked over the patient’s back molars like a mini retainer. That sends the sound waves

on through the teeth, into the skull to the functioning cochlea, which sends the signals on to the brain. Users can eat and talk while wearing the mouth device, which is invisible

from outside.

The device costs \$6,800 and is currently available in a pilot launch at 42 major hearing centers in the U.S. Its maker, Sonitus Medical, hopes to win Medicare coverage for it before making it more widely available, says CEO Amir Abolfathi, who also helped develop invisible braces for teeth. Insurers generally don’t cover traditional hearing aids, but a few have covered SoundBite as a prosthetic device.

Its main competition is the bone-anchored hearing aid, which requires a titanium fitting to be surgically implanted into the bone behind a patient’s deaf ear; a sound processor attaches to it and sends vibrations into the skull. It costs roughly \$10,000 but is eligible for Medicare reimbursement.

An older option—wearing a hearing aid to collect sound in the deaf ear and another to process it in the hearing ear—is about \$2,500. But audiologists say patients who can hear normally in one ear seldom want to wear two hearing aids.

Currently many patients with single-sided deafness simply learn to live with it. But hearing specialists say that since SoundBite has been available, more patients are opting for treatment, many of them for the new system.

“The people who have been fit with it are very happy with it. They finally feel this is something they can wear comfortably,” says Monica Andriacchi, an audiologist with the House Clinic, a major hearing center in Los Angeles. Since it became available in October, 24 of the 85 patients

evaluated for single-sided deafness at the clinic have opted for SoundBite, 15 have chosen the surgical implant and five have gone with double hearing aids.

Using SoundBite requires some advance planning. The system comes with two rechargeable mouthpieces, which last about eight hours each, and a rechargeable earpiece, which lasts 12 to 15 hours.

### About 8 million Americans were born with single-sided deafness, and another 1.5 million developed it later in life, sometimes overnight for mysterious reasons.

“You have to be organized to use it,” says Sharon Roberts, a retired physical-education teacher in El Sobrante, Calif., who lost hearing in her right ear due to a benign tumor in 2008 and has used SoundBite since January. “You have to charge it in the evening. You have to keep track of where it is and you have to keep it clean,” she says. “I’ve forgotten to charge it many times.”

Ms. Roberts says she occasionally hears electronic feedback on her device, but adds that being able to hear from her right side allows her to sell tickets at a nearby racetrack on weekends. “It’s totally un-isolated me,” she says.

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ANIMAL INSTINCT

Paging Dr. Dog to Diagnose Disease

Many dogs can be trained to sit, fetch and roll over. Now, pups are being trained to detect disease and help patients in distress. Rebecca Johnson, director of the Research Center for Human-Animal Interaction at the University of Missouri, explains how dogs can be useful in the medical field.

**DIABETES**

Dogs can be trained to detect low blood sugar levels in diabetics by picking up scents that go unnoticed by humans. Upon detection, the dog springs into action—“kind of like sounding an alarm,” Dr. Johnson says. Dogs may nudge the diabetic, fetch a blood-glucose monitoring kit or press a button on the phone to call 911.

**SEIZURES**

Researchers don’t know what exactly enables a dog to detect seizures, but some dogs may notice a certain scent or subtle behavioral change that occurs right before an attack. Teaching a dog to

pick up on these signs is difficult, Dr. Johnson says, and many seizure-response dogs simply have an innate ability to recognize when something is wrong. During the attack, dogs can seek help, move dangerous objects out of the way and lie next to the person.

**PTSD**

A relatively new type of service dog can aid people suffering from post-traumatic stress disorder. These dogs typically serve as companions to war veterans. Dogs can help ease the anxiety and panic that often comes with the condition by leading the way around a corner or positioning themselves between

people and their handler. In a stressful social situation, the handler can signal the dog, which then barks loudly and gives the handler a reason to make a graceful exit.

**CANCER**

Dogs can also put their acute sense of smell to use by identifying certain cancer cells. Dr. Johnson notes that dogs have been trained to pick out bladder cancer cells by sniffing urine samples, while other researchers report that dogs have been able to identify lung and breast cancers by smelling patients’ breath, and melanoma by licking their owners’ skin.

—Sanette Tanaka



Walking the dog burns about 200 calories an hour for a 150-pound person. But the health benefits don't stop there.

New Way to Tame Your Temper

By ELIZABETH BERNSTEIN

Are you easily provoked? Wish you had a strategy to remain cool, calm and collected when someone makes you angry?

New research says you should try this: Pretend you’re viewing the irritating situation from a distance, rather than actively participating in it.

The study, from researchers at The Ohio State University and the University of Michigan, shows that this strategy, called “self-distancing,” can help minimize how angry and aggressive people become when someone aggravates them. It also shows that this technique can be learned quickly—and can work in the heat of the moment, when people are most likely to act aggressively.

“People don’t self-distance naturally; when they become angry, they naturally ruminate on it,” says Brad J. Bushman, a professor of communication and psychology at Ohio State and one of the study’s co-authors. This, he says, “keeps the aggressive thoughts and angry feelings active in your mind, which makes it more likely that you’ll act aggressively.”

The findings, published online in the Journal of Experimental Social Psychology, were gathered from two related experiments.

All of the subjects were told that they were participating in a study of the effects of music on creativity. They were asked to try and solve difficult anagrams (rearranging letters

to form words such as “pandemonium” or “lieutenant”) in seven seconds with Igor Stravinsky’s Rite of Spring playing loudly, and to announce their answers over an intercom.

To provoke them, the experimenters interrupted repeatedly, first telling them to speak louder and eventually saying, “This is the third time I have to say this! Can’t you follow directions? Speak louder!”

The participants were then assigned to one of three groups and asked to replay the scene in their mind for 45 seconds. The immersion group was told to view it as if it were happening all over again. The self-distancing group was told to look at it from a distance. The control group received no specific directions.

Then the real experiments started. In the first, 94 college students were asked to report their mood and to complete words that had blank letters. (Ki-:- could be “kite” “kiss” or “kill.”) In the second one, 86 students were told they were competing with a partner to see who could push a button faster. The winner could then blast the loser with an intense noise through a headset, choosing the decibel level and duration.

The result: Students who used the self-distancing strategy were less angry and irritable—and behaved less aggressively, using shorter and less intense noise blasts—than those who used the self-immersion approach or those in the control group.

“The better approach is to step back and view the situation like a fly on the wall,” says Dr. Bushman.



Imagining an irritating situation is happening at a distance might help you keep your cool.

She Sees Clutter, He Sees Treasure: Revealing the Issues Underneath

*Continued from the prior page*

money, but it’s as common as either of those,” he says.

Both chronic clutterers and neat freaks may have a very mild form of obsessive-compulsive disorder, therapists say, because of how they handle the need to part with possessions. Hoarding is at the most serious end of the spectrum.

Charla Bregante, 49, and her husband Paul Kretschmer, 57, have been seeing a couples’ therapist to address issues in their marriage including clutter. Both acknowledge they tend to leave the house messy, but the current lack of order was the source of a bigger rift, triggering “deeper issues like priorities, and how we spend our time and how much time we’re at home and how much each person cares what other people think of us,” Ms. Bregante says.

When she was a stay-at-home mom, Ms. Bregante says she was expected to keep the home neat. Now that she’s back at work, coaching students with severe disabilities, the house is messier than it used to be. She says her husband hasn’t picked up the slack.

Mr. Kretschmer agrees the transition was difficult. He dislikes clutter, and he wants the house to be cleaner. But back when his wife stayed at home with the children, he says, he gave up control over how and when housework got done. “I’ve acknowledged that I want to do more cleaning in the house,” he says. The couple’s conflicts over the issue, he adds, “show we’re in a power struggle.”

With a therapist’s oversight, the couple has been making lists of what needs to be cleaned in each room of their three-bedroom condo, and they have set a deadline for clearing out much of the clutter by mid-July: That is when they are expecting an exchange student to arrive from Japan and spend 10 days in their Goleta, Calif., home.

There’s more to de-cluttering than filling up a few Hefty bags, though. Parting with books, clothes, toys and baby gear can be traumatic for one partner, leaving the other puzzled and unsympathetic, says Patty Ann Tublin, a Stamford, Conn., clinical psychologist who specializes in couples.

The emotional misalignment may be especially sharp if the clutter is

### Moving Beyond Mess

Here are tips for creating a clutter-free home—and keeping it that way.

- ◆ Pick a stress-free moment to ask your partner to help you clean.
- ◆ Discuss the mess using humor.
- ◆ Don’t take the argument beyond physical clutter and into areas where it could hurt your partner’s self-esteem.
- ◆ Write out a To Do list.
- ◆ Clear out space so that each item you plan to keep has a place.
- ◆ Designate some spaces as off-limits to clutter at all times. Others may be clutter-acceptable, cleared out periodically.
- ◆ Teach children to tackle their own clutter.
- ◆ Occasionally, pick up after your partner to demonstrate good will.

made up of sentimental items from a previous marriage or relationship. Working together to sort through these kinds of belongings can actually ease stress and help create a sense of emotional closeness between spouses, she says.

Rather than criticism of the behavior that led to the clutter, a joke recognizing that it is a common problem can help to lighten the mood, Dr. Hallowell says. Once in a while, it can be a nice gesture to help clear up the other person’s clutter (although it’s best to avoid simply piling it all up elsewhere).

Women are no more or less likely to have clutter than men, Dr. Hallowell says.

Attitudes toward clutter often are learned in childhood. Harry Falber, 66, says his mother was always leaving papers around, and his wife collects knickknacks, just the way her own mother does.

“You walk into her house, and you’ve got to walk in sideways,” Mr. Falber says of his mother-in-law. “It’s charming stuff. It’s not like ‘Grey Gardens.’”

After 16 years of marriage, Mr.

Falber, says he and his wife, Patricia Falber, 54, have designated “no man’s zones” in their four-bedroom home in Weston, Conn., including the granite kitchen countertop, where neither person’s stuff is tolerated. “We’ve come up with an unspoken truce where you keep your stuff in your agreed-upon area,” Mr. Falber says.

Neither spouse is completely clutter-free, but they say they each keep their clutter separate. When it’s time to clean, it’s clear who has responsibility for what. “Clutter cannot be intermingled,” Mr. Falber says.

To get his wife’s cooperation in tackling clutter, Warren Techentin says he waits for the right moment to point out, tactfully, to her that the clothing she leaves around when under stress is getting out of control.

“Occasionally you have to say something, but you would do it at a time and in a manner that is amusing,” says Mr. Techentin, 43, a Los Angeles architect who works with residential interiors.

Mr. Techentin says for his clients he incorporates extra storage space around clutter hot spots, such as shelves covered by wood paneling to hold mail, located near the entryway. He avoids adding too many horizontal surfaces, though, because they quickly turn into clutter magnets.

Kelli Wilson, a professional organizer in Sacramento, Calif., says her standard process for helping clients de-clutter is, first, to ask them to remove obvious trash or recycling. Then collect and donate unwanted clothing, toys, household items and books. The rest is sorted and put away.

It’s important to have storage space for every item to prevent more pile-ups, she adds. If there are things you don’t have room to store comfortably, give serious thought to getting rid of them.

Set realistic goals, Ms. Wilson says. She tells her clients a lived-in house will never look like the cover of a home-décor magazine. “If they can live and be comfortable than that’s OK,” she says.

### Live Chat»

Speak with Alina Dizik and Dr. Patty Ann Tublin at 1:30 p.m. about clutter and relationships. Ask questions now: [WSJ.com/Wellness](http://WSJ.com/Wellness).

