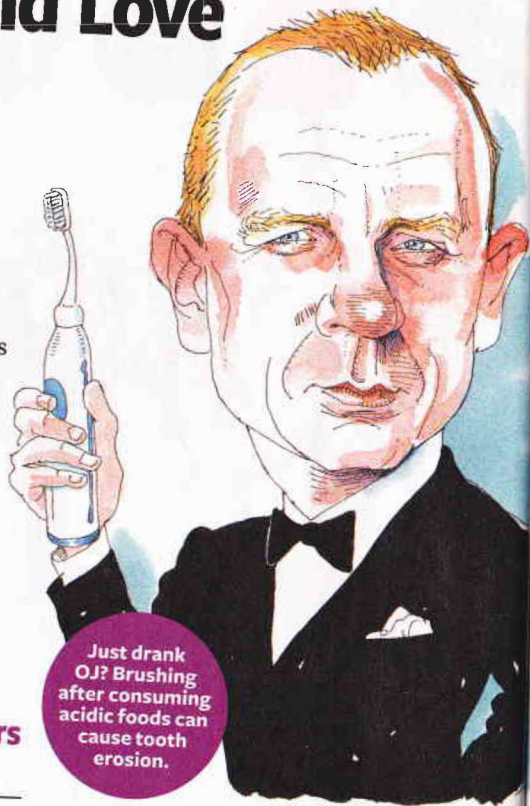


NEWS FROM THE WORLD OF MEDICINE

Medical Gadgets James Bond Would Love

1 A Toothbrush that Doesn't Brush

The Emmi-dent looks like a regular electric toothbrush, but the bristles relay ultrasonic impulses to clean teeth and gums without brushing. Simply held against the teeth, Emmi-dent's 96 million ultrasound oscillations per minute interact with a special toothpaste to destroy the bacteria that cause gum disease and tooth loss, cleaning places unreachable with toothbrushes or floss. The device (\$189, emmi-dent.com) has been available in Europe for several years, where studies found it effective at reducing plaque and keeping gums healthy.



Just drank OJ? Brushing after consuming acidic foods can cause tooth erosion.

2 A Sponge that Delivers Drugs

Bioengineers at Harvard have developed a sponge—made of a seaweed-based jelly—that can be molded to any shape, loaded with drugs or cells, compressed to a fraction of its size, and then injected into the body. Once inside,

the sponge pops back to its original shape and releases its cargo as it dissolves. The sponge can also replace tissue that's been lost while new tissue regenerates.

ILLUSTRATION BY JOE CIARDIELLO

3 The First Intelligent Weight-Loss Implant

People who want an alternative to weight-loss surgery will soon have a gentler option. Abiliti (abiliti.com) is a small pacemaker-like device that is laparoscopically inserted into the abdomen. The implant detects when the user is eating and delivers a series of low-energy electrical impulses, creating a feeling of fullness with less food. Abiliti also monitors food intake and activity and sends the information wirelessly to a physician's computer. The manufacturer—IntraPace, in California—is already selling the device in Europe and hopes it will be available in the United States soon.

4 Green-Light Glasses to Cure Jet Lag

Many people—like night shift workers and international travelers—have schedules that conflict with their natural 24-hour body clocks, leaving them sleepy when they need to be alert and unable to sleep when they should. New high-tech glasses called Re-Timer help reset the body clock by emitting a soft green light to stimulate the part of the brain that regulates the sleep-wake cycle. Developed at Flinders University in Australia, Re-Timer is worn for 50 minutes a day for three to five days: in the morning for those who want to fall asleep and wake up earlier, and before bed for those who want to stay awake and sleep later. Available at re-timer.com/us for \$274.

5 A Vision-Saver the Size of an Eyelash

A wisp of a drainage device may help reduce eye pressure in glaucoma patients, protecting vision and allowing some people to stop using prescription eyedrops. The Hydrus stent provides an artificial channel for fluid to drain from the eye, normalizing the pressure. Larger stents for treating glaucoma carry risks of infection, bleeding, and eye damage.

6 A Brain "Pacemaker" for Alzheimer's

An electrical, pacemaker-like device is being tested on Alzheimer's patients at Johns Hopkins University to see if deep brain stimulation will help slow, stall, or even reverse the progress of the disease. Already used for people with Parkinson's disease, the device delivers tiny, imperceptible electrical impulses to the brain's fornix—a pathway crucial for learning and memory—130 times a second. Doctors aren't sure exactly how the impulses work, but they appear to increase glucose metabolism, which is an indicator of brain activity.

STAY FOCUSED!

3 seconds

An interruption of this length of time doubles the chances of an error in any task involving a series of steps.

Source: Michigan State University