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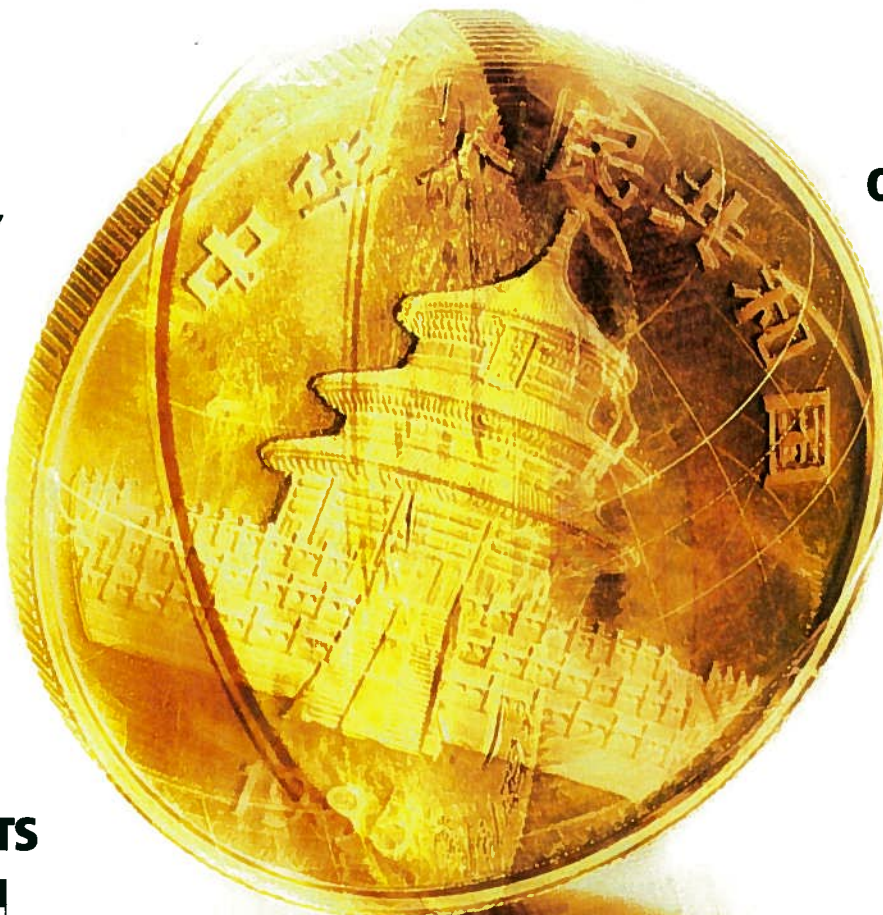
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Anticipating Cancer

Esophageal cancer is particularly deadly. A new device might prevent the disease in some patients at risk. Does it work?

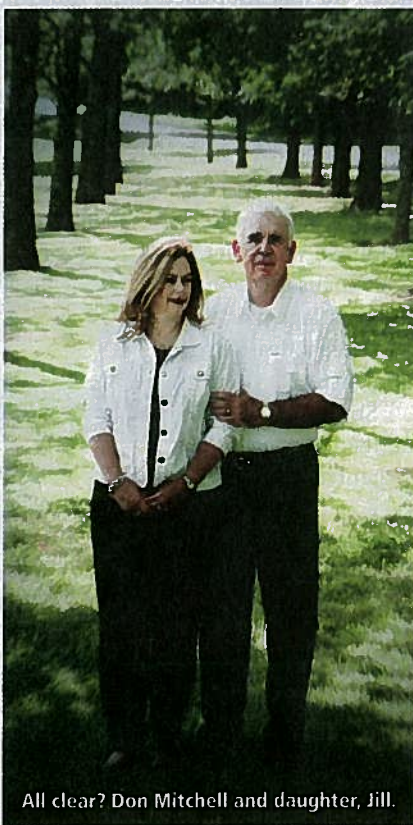
By Andy Stone

DONALD MITCHELL, 68, LOST HIS 32-year-old son, Todd, to esophageal cancer a decade ago. The odds were high that the disease would have eventually attacked both Donald, a retired engineer in Nashville, and his daughter, Jill Wilford. Each suffers from Barrett's esophagus, a disorder in which the cells deep down in the throat degrade after years of being burned by stomach acids.

Until recently doctors have been able to treat the 3.3 million Americans diagnosed with Barrett's only with acid reflux pills like Nexium and annual exams to see if the damaged cells have become cancerous. But nearly all those who suffer from the most severe form of Barrett's will get esophageal cancer. In Todd Mitchell's case the cancer diagnosis came too late: The standard treatment, removal of the esophagus combined with chemotherapy, failed to stop progression of the disease.

But a new medical device from a Sunnyvale, Calif. company called Bârrx Medical may spare Barrett's patients from their cancer fears. Bârrx's catheter has a radio-frequency emitter on its tip that burns off Barrett's cells on the surface of the esophagus without harming healthy cells underneath. Don Mitchell's throat is clean after the last of three Bârrx treatments, in January. Clinical data suggest that the cells aren't likely to return, assuming Mitchell avoids the late-night meals that contribute to acid reflux. His daughter is also undergoing Bârrx treatment.

Bârrx received Food & Drug Administration approval for its first device, the Halo 360, in 2001. But lacking long-term



All clear? Don Mitchell and daughter, Jill.

clinical data, the company decided not to push the device on doctors and risk a backlash. In May it released details of a trial involving 102 patients with early-stage Barrett's. The Halo 360 catheter killed Barrett's cells in large swaths and left 70% of trial patients free of the precancerous ailment. In 2006 Bârrx earned FDA approval for the Halo 90, a smaller catheter that targets stray cells the bigger device misses. Ronald Pruitt, the Nashville gastroenterologist who has treated Don Mitchell and 160 other Barrett's patients with Halo, says no cancers have developed among the group.

"The two therapies combined allow us to claim that we can cure anyone," says Bârrx's Chief Executive Gregory Barrett (the last name is a coincidence). Some 16,000 Americans were diagnosed with esophageal cancer last year, up 14%. Fewer than a fifth survive five years. Gastroenterologists have used thermal and light therapies in the past, but these can cause scarring that makes swallowing difficult. Few doctors use the techniques.

Bârrx, still privately held, has raised \$60 million since 2001 from venture firms, including Delphi Ventures and Alloy Ventures. It has spent \$40 million developing its product line. With solid preliminary data in hand since 2006, Barrett has hired 20 salesmen, who have sold 6,000 of the \$1,500 Halo 360 catheters to 160 U.S. hospitals, where doctors have treated 5,000 patients in the last 18 months. Bârrx also charges \$40,000 for the motors that drive the system. Barrett thinks its revenue will triple to \$9 million for 2007 now that the Halo 90 is on the market. If all goes well, Barrett thinks he can turn a profit in 2008.

Some doctors have yet to embrace the device for use in all stages of Barrett's esophagus. John Vargo, a gastroenterologist at the Cleveland Clinic who manages hundreds of patients with Barrett's, says the company may find it tough to persuade doctors to use Halo to treat early-stage Barrett's cases, where the chances of progression to cancer are low. "It's going to take years to determine whether there is a benefit in terms of cancer reduction, much less a survival benefit," he says.

Vargo, who has yet to use the device, does see immediate need for it to treat the smaller number of severe Barrett's cases where cancer is imminent. But he'd like to see more trial data to dispel his fear that the layers of healthy cells that develop following Bârrx treatment might be concealing diseased cells that the procedure might have missed. If those undetected cells turn cancerous, the Bârrx treatment would be a Pyrrhic victory.

Don Mitchell's doctor, Ronald Pruitt, is less conservative. "I think that's where things are headed," he says. "I treat all comers with Barrett's." **F**