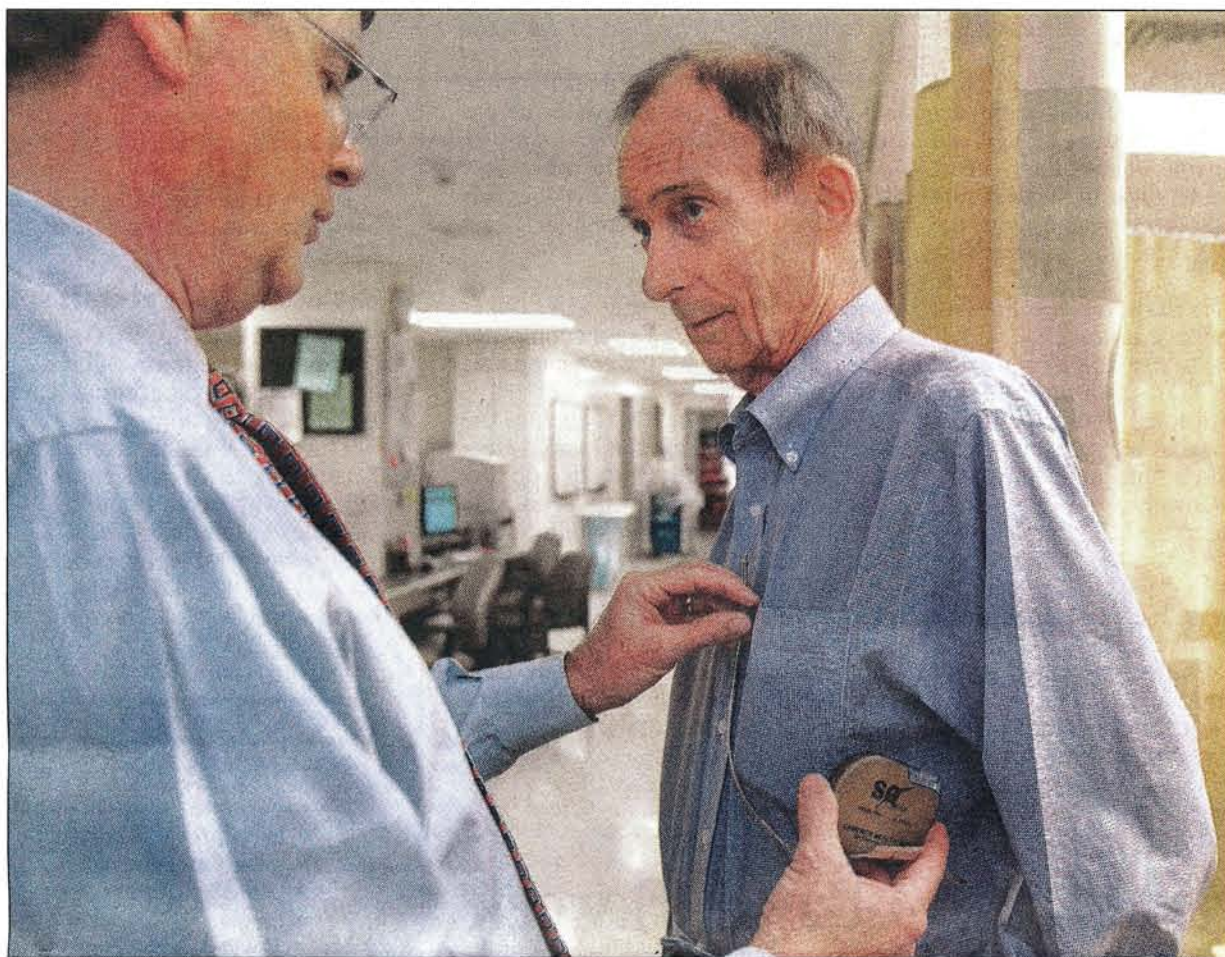


# Patient won't miss a beat

Scottsdale Healthcare is only hospital in state to test new type of defibrillator



DEIRDRE HAMILL/THE ARIZONA REPUBLIC

Thomas Mattioni (left), medical director of electrophysiology at the Scottsdale Healthcare Rhythm Center, talks to Paul Butt, the hospital's first patient to receive a new type of cardioverter defibrillator.

**By Sonja Haller**

THE ARIZONA REPUBLIC

Phoenix resident Paul Butt received a cellphone-size "shock box" of heart insurance Thursday.

He was the first in Arizona to receive a new-style defibrillator, nicknamed a shock box that can jolt his heart into normal rhythms and save his life.

Scottsdale Healthcare is the only

Arizona hospital and one of 35 in the world to test the device, an implantable cardioverter defibrillator.

It functions the same as a traditional defibrillator, but its manufacturer says implantation is safer.

Butt was an ideal candidate because, unlike other patients, he did not need additional "pacing," or tiny electrical charges to make his heart beat.

"They asked if I wanted to try the device and, what am I going to do, override the docs? I'm cooperating," said Butt, 76. "I can go home the next day and they're not planning on it being any big deal. So neither am I."

Defibrillators are used for people prone to sudden cardiac arrest, which is an abrupt, electrical mal-

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## HEART

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function of the heart. In 95 percent of cases, people die. Cardiac arrest differs from a heart attack, which is when the vessels that supply the heart with blood get clogged and part of the heart muscle dies.

Benefits of the new defibrillator are:  
 » No placement of leads that extend into the heart. "The problem with these wires is that they must be flexible enough so they don't damage heart tissue and durable enough to withstand millions of heart beats," said Dr. Thomas Mattioni, director of electrophysiology at the Scottsdale Healthcare Rhythm Center. "It's difficult to find leads that can survive in the heart without failure."

» Safer implantation because it avoids direct contact with the heart. "Even patients, who have had bad, extensive prior surgery can have this and it still protects them from life-ending lower-chamber rapid heart problems," Mattioni said.

» Less patient exposure to radiation. X-rays are used to "see" and implant traditional defibrillators.

» Implantation usually requires no overnight stay. Butt is staying overnight because he was the first patient to receive the defibrillator at Scottsdale Healthcare.

Results from clinical tests in New Zealand and Europe found that the device detected 100 percent of induced and spontaneous irregular heart rhythms and a 98 percent success rate in what would have resulted in the needed shock, according to the *New England Journal of Medicine* July issue.

This is about the same results with traditional defibrillators.

While the cost for the new device, \$23,000, is higher than the \$20,000 cost for a traditional defibrillator, patients don't have to pay for open-heart surgery or a longer hospital stay, so the overall cost is lower.

Sixty people in the U.S. have received the new defibrillator. About 330 people may be implanted for the clinical trial within a year, said Richard Sanders, vice president of sales and marketing at Cameron Health, which manufactures the defibrillator.

The device is commercially available in Europe. It will take about a year to complete testing, and Cameron Health



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Surgery to implant the new cardioverter defibrillator device is less invasive.

is hoping for Federal Drug Administration approval in late 2011.

Medicare covers the cost of the device, but other insurance companies are in a wait-and-see mode, Mattioni said.

The S-ICD inventor, Dr. Gust Bardy, a professor of medicine at the University of Washington Medical Center in Seattle, called traditional defibrillators tried-and-true life-saving devices.

But after putting in countless devices, he said, he wanted to spare the patient more procedures. Studies show that after eight years, 40 percent of the leads fail, he said.

"It becomes a considerable challenge and can lead to problems with the patient," Bardy said.

Before his procedure Thursday, Butt asked of the new device: "How does this detect arrhythmia (or irregular heart beat)?"

Mattioni answered by showing him electrodes along a coil that will sit near his sternum. "There's a super computer inside. That's why we haven't been able to do this before."

It is S-ICD software that enables the electrodes to monitor the heart's electrical activity without actually touching the heart. It remains to be seen how long the new defibrillator will function over the long term.

If the new device means that he won't have to return to a hospital for a while, Butt said he can live with that.

"I've been spending a lot more time than I would ever hope to in hospitals and doctor's offices," he said.

About 350,000 people die a year in the U.S. from cardiac arrest.