

## First human use of new device to make arrhythmia treatment safer

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On June 16, 2008, Barbara Ganschow of Palatine, IL, became the first person in the world to be successfully treated with a new device designed to make it safer and easier for heart specialists to create a hole in the cardiac atrial septum. The hole, created by the NRGTM Transseptal Needle, allows cardiac catheters to cross from the right side of the heart to the left side.

"This may seem like a small component of the overall procedure, but when you are maneuvering within the heart everything is significant," said Bradley Knight, MD, director of cardiac electrophysiology at the University of Chicago Medical Center, who performed the procedure. "This is a complicated and delicate cardiac intervention, so having the tools to control each step is something that enhances our confidence and extends the number of patients we can help."

Ganschow, 80, suffered from atrial fibrillation, an irregular, overly rapid heart rate. During atrial fibrillation, the heart's two upper chambers (the atria) beat chaotically, out of synch with the two lower chambers (the ventricles) of the heart. This causes poor blood flow to the body, resulting in symptoms such as shortness of breath, weakness and confusion.

For Ganschow--an avid traveler who was remarkably healthy for the first 75 years of her life--the irregular heart rhythm first appeared five years ago, during a 23-hour flight back to Chicago from South Africa. "I just felt awful," she recalled. "It was a miserable flight."



She called her physician as soon as she landed. He promptly sent her to the hospital, where she was diagnosed with atrial fibrillation. Her cardiologist tried to treat the problem with medications for a year, with mixed results, then sent her to a heart rhythm specialist at Good Shepherd Hospital, near her home.

He inserted a catheter through a vein in the groin and guided it into her left atrium, where he used it to deliver radio-frequency energy to ablate the "trouble spot" in her heart, eliminating the problematic electrical pathway that was causing the problem.

That worked--for three years. Then the abnormal rhythm returned. This time it was even worse. Ganschow began to feel tired, and often disoriented. "My legs would just give out," she said. Worse yet, it meant no more traveling. "I did not leave the house with atrial fibrillation," she said.

Because of scar tissue that formed after the first procedure, however, her doctors could not repeat the initial treatment, which required mechanically poking a hole in the septum with a long needle, then passing the catheter through that hole, across the atrial septum, from the right side of the heart to the left, where the problem was centered.

So her cardiologist at Good Shepherd referred her to the University of Chicago Medical Center's Knight, MD, a specialist in difficult cases.

The NRGTM Transseptal needle was designed for the increasing number of patients like Ganshow, whose previous procedures make it dangerous or impossible to cross her septum safely with the traditional needle. Instead of using uncontrolled mechanical force, this new insulated transseptal needle has a closed end that safely delivers radiofrequency energy to create a small hole in the atrial septum, allowing the needle to pass to the left atrium with increased efficacy and control.



Using this device, Knight was able to pass the catheter smoothly from the right to the left atrium so that the ablation procedure could be performed to eradicate the problem. Ganschow went home the next day and recovered quickly.

"I feel good," she said two days after the procedure. "It gets better day by day."

A week later, she upgraded that to "I feel fantastic. I have my life back and I'm so glad."

Less than two weeks after her treatment, she'll do something she hasn't considered since that long fateful flight from South Africa. She'll step onto an airplane, for a quick trip to New York. "I'm not 80," she explained, "when I'm not in A-fib."

Source: University of Chicago

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