# Reused pacemakers safe option in poor countries

Recycled pacemakers donated from U.S. funeral homes could offer a safe way to get the heart devices to people in the developing world who otherwise might not be able to afford them, a U.S. study said.
An estimated 1 million to 2 million people around the world die each year because they have no access to a pacemaker, an implanted device that uses electrical pulses to the heart to maintain a normal heartbeat.

One potential, largely untapped source of pacemakers for the world's poor could be the significant number of people in the United States who die with a still-functioning device -- some 19 percent of the deceased, according to one survey of morticians in the states of Michigan and Illinois.

The large majority of those are buried with the body or, if removed, thrown away as medical waste. But a small percentage are donated to developing nations through charities.

"Implantation of donated permanent pacemakers can not only save lives but also improve quality of life of needy poor patients," wrote study leader Bharat Kantharia, of the University of Texas Health Science Center, in the American Journal of Cardiology.

Kantharia and his team collected 122 pacemakers, half of which had enough battery life left -- more than three years -- to be used again. They were partially sterilized, then sent to a hospital in Mumbai, India, where they were sterilized again and implanted in 53 heart patients.

New pacemakers in India cost $2,200 to $6,600, not including doctor and hospital fees or the cost of the wires connected to the pacemaker.

All of the patients survived the surgery and fared well immediately afterwards, with no cases of infection or pacemaker malfunctions over an average follow-up of nearly two years.

While a quarter of the patients lived in areas so remote they could not be followed up after the surgery, the rest did well, Kantharia said.

All but two of the 40 patients reported a marked improvement in their symptoms and quality of life. Four died, but their deaths were not linked to the pacemakers.

"All we are saying is, there are people who need a pacemaker and would not otherwise get one," Kantharia said.

"Maybe this will help them live a normal life."

A number of significant hurdles remain. One of the biggest is simply getting pacemakers from the United States to impoverished patients who need them.

Another is the need for further safety studies. The U.S. Food and Drug Administration (FDA) only approves pacemakers for one-time use in the United States, but researchers are trying to get FDA approval to study the effectiveness of the recycled pacemakers overseas.

"This study is suggestive that it's safe," said Thomas Crawford, an assistant professor of cardiovascular medicine at the University of Michigan in Ann Arbor, who is working on getting pacemakers to the developing world on a wider scale.

"But definitive data is not available yet." SOURCE: bit.ly/rP1nVQ [1]

(Reporting from New York by Amy Norton at Reuters Health; Editing by Elaine Lies [2] and Robert Birsel [3])

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