CTSI Pilot Study awardee working on battery-free pacemaker

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Like conventional pacemakers, tiny new leadless pacemakers are designed to work for about 12 years.

But because these devices are placed inside the heart — as opposed to a cavity in the chest — tissue grows around them. As a result, retrieving these devices for a battery replacement might not always be possible. Instead, doctors may allow old pacemakers to pile up inside the heart while inserting new devices as needed.

There is no known danger associated with this practice, but Hooman Ansari, a PhD candidate at the University at Buffalo's School of Engineering and Applied Sciences, is working on a tidy solution.

Working under the supervision of M. Amin Karami, assistant professor in UB's Department of Mechanical and Aerospace Engineering and director of the Intelligent Dynamic Energy and Sensing Systems Lab (IDEAS Lab), Ansari and colleagues are developing a piezoelectric system that converts the heart's vibrational energy into electricity to power pacemakers.

Read more here.

Ansari was the recipient of a CTSI Pilot Studies Program award in the 2015-16 cycle of funding.