



JPNN|The unit works by harvesting electrical energy

from the patient's minute body movements to stimulate the heart. A team of Korean scientists have invented a self-powered semi-permanent cardiac pacemaker using advanced nanotechnology. The pacemaker designed by a research team from Korea Advanced Institute of Science and Technology (KAIST) operates semi-permanently by utilizing a flexible piezoelectric nanogenerator. The new pacemaker runs by harvesting electrical energy from the patient's minute body movements to stimulate the heart. This technological advance could ease the use of self-powered flexible energy harvesters, not only extending the lifetime of cardiac pacemakers but also realizing real-time heart monitoring. "For clinical purposes, the current achievement will benefit the development of self-powered cardiac pacemakers as well as prevent heart attacks via the real-time diagnosis of heart arrhythmia," says Professor Keon Jae Lee of the Department of Materials Science and Engineering at KAIST. An artificial cardiac pacemaker is generally a piece of medical equipment which is implanted in to the human body to regulate the heartbeat of people suffering from arrhythmia. As a pacemaker's batteries last an average of seven years, it requires frequent replacements, which may expose patients to a potential risk involved in medical procedures. Agency/PT