



Medical device | Photo source Pixabay

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## BATTERY-FREE IMPLANTABLE MEDICAL DEVICE DRAWS ENERGY FROM HUMAN BODY

 SPORT & FITNESS

**The technology created by US university researchers could remove the need for potentially harmful batteries in devices such as pacemakers.**

Researchers from the Universities of [California](#) and [Connecticut](#) have created a battery-free medical device that can be implanted in the body and charged using the body's fluids. Despite advances in technology, batteries are still used within medical devices such as pacemakers, which are potentially harmful and need to be replaced throughout a person's lifetime via surgery.

The researchers have designed a bio-friendly supercapacitor system that charges up using electrolytes from biological fluids, such as blood and urine. It comprises of a carbon nanomaterial called graphene layered with modified human proteins as an electrode. The system works in tandem with an energy harvester that can convert heat and motion into electricity that is stored in the supercapacitor. Its creators hope this will eliminate the need for batteries within lifelong medical implants, making them safer and more durable.

Innovative medical creations have been at the forefront of technology news of late, including the [bra that helps detect breast cancer](#) and the [laser-free 3D scanner that could help with medical rehabilitation](#). What medical innovation do you hope to see on the market next?

15th June 2017

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