

New battery technology powers for 12 years

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University of Wisconsin-Madison scientists say they are developing super-charged tiny lithium batteries to help treat nervous system and other disorders.

Designed to be extraordinarily reliable and work continuously for years, the tiny batteries are indispensable in everything from pacemakers to the electronic stimulators that help restore function in the brains of Parkinson's patients.

However, lithium batteries don't last forever and new surgery to maintain many devices seeded into the body is required, as well as to replace batteries and devices at the end of their lives.

But Professor Emeritus of Chemistry Robert West and colleagues say the new lithium battery technology is capable of making batteries smaller, last longer and, soon, accept a charge from outside the body without the need for surgery.

Using organosilicon compounds, West's team has developed a generation of rechargeable lithium ion batteries with lifetimes more than twice as long as current medical device batteries.

A critical advantage of the new battery technology is lifespan: "If you're going to implant these things, you want a (battery) lifetime of at least 10 years," said West, whose organosilicon batteries are projected to power tiny implantable devices for more than 12 years.

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