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An Energy-Emitting . . . Backpack?

By THE NEW YORK TIMES

Just strap on your little power plant and go.

That is what scientists are hoping soldiers, emergency workers and others will soon be able to do, eliminating their need to carry pounds of extra batteries for devices like flashlights and global positioning equipment. A group at the University of Pennsylvania has developed a backpack that emits an electric current through the bouncing motion of the pack. The power produced is enough to run a cell-phone, a flashlight, an MP3 player, a handheld G.P.S. device and other gadgets.

"The concept only took about 15 minutes to come up with," said Larry Rome, the backpack’s creator.

Details like finding volunteers to test the pack — which involved walking on a treadmill for up to an hour, carrying as much as 80 pounds — proved more difficult.

"I realized if you pay them, they will come," said Mr. Rome.

The tests involved keeping track of the carrier’s metabolic indicators to make sure the act of wearing the moving pack did not negate the benefits of carrying less weight. Researchers also measured the energy output of the backpack’s one-pound generator.

Mr. Rome said the next step would be deciding how to harness the energy. Possibilities include using devices in real time or storing the energy in batteries with extra-high capacity.