

Motorized knee can make you run faster

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(PhysOrg.com) -- Scientists at the Tsukuba University in Japan have come up with a motorized knee you can attach to your leg to make you run faster and use less muscle power.

The motorized knee comes in a 5 kg kit, part of which straps to your leg, and part of which (the control unit and battery) is worn as a backpack. The device is not designed to help people who are physically handicapped, but is designed to support the flex of the knee for people who just want to run more efficiently. The strap-on knee assistant allows runners to jog steadily at 7.5 km/h, but using 30% less muscle power than they would use for unassisted running. The researchers do not say how much of the saving in muscle power is offset by carrying the 5 kg weight of the gadget.

The research team who developed the device is confident it will be

commercialized within the next three years, and that there is a market for it. There are similar devices that help the physically handicapped walk, but the new gadget will be much smaller and lighter by the time it comes to market, and is intended for healthy people who just want to run more efficiently.



The motorized knee has a small motor that helps flex the knee, a sensor that detects the degree of flexing of the knee, and a safety lever.

One apparent flaw in the idea seems to be that most joggers seem to jog precisely because they want to build up muscle power and get fit, and so the device would in effect mean they would have to jog for longer to get the same benefit to their [fitness](#) level. This may make the gadget a contender for next year's ["Ignobel" awards](#) . It might possibly be useful for people recovering from a [knee replacement](#) or other knee operation, but if so, the researchers don't mention the possibility, and have not designed it for rehabilitation or other medical purposes.

Tsukuba University also developed the [Robot Suit HAL](#), (Hybrid Assistive Limb) which is a cyborg-type [robot](#) that can help paralysed people learn to walk. It is also responsible for the [Yotaro baby simulator](#).

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