

Ossur to announce clinical trials for implanted myoelectric sensors for brain-controlled prosthetics

May 21 2015, by Bob Yirka

Ossur, an Icelandic based prosthetics development company is set to announce the beginning of clinical trials for its Proprio foot, a new kind of brain controlled prosthetic ankle and foot. Instead of trying to connect the device to nerves, the robotic limb uses sensors to detect nerve signals in muscles near the point where the limb was removed. The limb then analyses those signals and converts them to movement in real time,

which is reportedly very close to that of natural limbs.

To develop the [robotic limbs](#), the company has been working with two volunteer amputees for several years—each has had a progression of prosthetic devices which they have used to carry on with their daily lives. The most recent incarnation of the Proprio, they have reported to the press, allows for both conscious and unconscious control of the [artificial limb](#), a first for such a device, and represents a significant step forward in the development of more human-like [prosthetic devices](#). They note also that the robot limb has allowed them to walk more naturally which has led to new muscle growth because there is less reliance on the natural leg—it is a feedback situation. As more muscle develops, the gait becomes ever more natural. For each device, two sensors are implanted into the leg (which is described as minimally invasive) above the site of the amputation. The wearer is then immediately able to use the prosthetic

Unique to the program has been the testing and use of the device in the real world, both volunteers have been using the Proprio for over a year—out of the lab. And, they actually own their devices, another departure from most prosthetic testing programs.

The sensors are small, come courtesy of the Alfred Mann Foundation and are just 80x3 millimeters in size, and can be implanted via a one centimeter long incision—and it only takes fifteen minutes to put them in. What's more, the robot limbs do not require batteries—they get their power from magnetic coils in the socket. That means, the company claims, that the [sensors](#) should be good for the rest of the person's life.

After the [clinical trials](#) are completed, the team hopes to be able to market the Proprio—they believe that could come as soon as two or three years from now.

More information: www.ossur.com/prosthetic-solutions/proprio-foot

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