Is this brain-controlled prosthetic arm—with the sensation of touch—the future of prosthetics?

[T]hree years ago, [electrician Rickard] Normark received a new kind of brain-controlled prosthetic that was surgically attached to the bone, muscles, and nerves of his upper arm, allowing him to not only grip objects intuitively with his hand but feel the sensation of touching them.

"You cannot even compare how things have changed for me," Normark, 47, told STAT from his home in Sweden.

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This advanced prosthetic, <u>described in a paper</u> published [April 29] in the New England Journal of Medicine, represents an advance over other mind-controlled prosthetic limbs under development, the researchers said.

For one, all electronics are contained within the prosthesis, which removes the need for external equipment, such as wires, electrodes, or batteries. The prosthetic hand is controlled using electrodes implanted in the muscles of the upper arm, to which nerves involved in opening and closing the hand have been rerouted. Second, force sensors embedded in the thumb of the hand provide sensory feedback while grasping objects. Those signals are relayed through wires connected to nerves in the upper arm, and then to the brain, where they are perceived as pressure against the hand.

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