Abstract—Prosthetic limbs are obsolete. The introduction of active prosthetic limbs replicate most, if not all, functions of that missing limb. The Bionic Touch I-Limb™ is commercially available to any patient in need.

I. INTRODUCTION

Many who live with a missing limb can tell you of the difficulties they face each day. Imagine doing your daily morning routine. It’s early, it’s dark, and it’s cold. However, you manage to get dressed and run out the door. Now imagine doing your routine with one arm behind your back. Although this hardly touches upon the hardships amputees face, it is enough to realize that life is greatly affected by a loss of a limb.

II. METHODS

The I-Limb is almost a perfect replica of hand. It features a full sized hand, with an ability to grab objects… with your mind. The patient uses his brain to send electrical impulses to a sensor. The sensor picks up the data and sends it to a microprocessor located in the palm. The microprocessor converts the data to a functional system. It activates the many small motors in the prosthetic and mimics your intended action.

The many small motors are capable of twisting and turning the hand to grasp an object. However, weight is an issue. A patient is not able to immediately become an Olympic power-lifter. But many improvements are currently in progress (such as an improved frame) that allows the user to lift heavy bags or tying shoelaces tightly.

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III. RESULTS

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IV. DISCUSSION

Active prosthetics can alleviate many difficulties faced by amputees. Not only does it behave like a hand, it is also made to look like one as well (unlike the hook prosthetic attachments). It comes with a lifelike skin covering that fits over the AP like a glove.

Cost is another issue. Unfortunately, the current price is close to $50,000. Hopefully, in the future, mass production will sweep this product to those who need it with a more affordable price.

REFERENCES