# New surgery and 'snap-on' prosthesis allows man with amputated limb to move freely without pain

A metal bar is anchored into the bone and attaches to a high-tech artificial limb

The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute

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NEWS PACKAGE	
SUGGESTED TEASE	A NEW SURGERY AND RE-IMAGINED ARTIFICIAL LIMB HELPS AMPUTEES GET MOVING IN A "SNAP." DETAILS ON A NEW SURGERY THAT'S REDUCING PAIN AND IMPROVING THE LIVES OF THOSE WHO HAVE LOST A LIMB, COMING UP.
(PACKAGE START)	FOR THOSE WHO LOSE A LIMB, LIVING DAILY LIFE AND DOING SIMPLE TASKS IS OFTEN NOT AS SIMPLE AS ATTACHING A PROSTHESIS.  MANY WHO UNDERGO AMPUTATIONS CAN'T USE ARTIFICIAL LIMBS DUE TO DETERIORATING TISSUE, WHILE OTHERS WHO DO USE ARTIFICIAL LIMBS STRUGGLE WITH CONSTANT PAIN AND PRESSURE THAT MAKE EVERY MOVEMENT DIFFICULT.  NOW, A NEW CONCEPT AND GROUNDBREAKING SURGERY IS REMOVING LIMITATIONS ASSOCIATED WITH TRADITIONAL PROSTHETIC LIMBS, ALLOWING THOSE WITH AMPUTATIONS TO MOVE MORE FREELY AND GET BACK TO THEIR LIVES.  BARB CONSIGLIO HAS THE DETAILS.
CG: Courtesy: The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute :00 - :03  Shots of Broc with Dr. Mayerson	(Nats - Sound) :02  AFTER BEING DIAGNOSED WITH BONE CANCER AT THE AGE OF TWELVE, BROC POTTS' RIGHT LEG WAS AMPUTATED ABOVE THE KNEE.  AND WHILE HE'S NOW CANCER FREE, GROWING UP WITH A PROSTHESIS WAS A CHALLENGE. :07  "Just having all those blisters wrapped around the
CG: Broc Potts Right leg was amputated	whole leg. Some days you just can't help it, you just grit your teeth, and fight the pain, but you got to do what you got to do.":12

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Shots of amputee putting on socket prosthetic and standing

IT'S A COMMON ISSUE FOR AMPUTEES. THE PRESSURE AND FRICTION OF BEARING BODY WEIGHT ON THEIR RESIDUAL LIMB MAKES EVERY STEP PAINFUL.

Shots of osseointegration surgery

NOW, A NEW PROCEDURE OFFERED BY SURGEONS AT THE OHIO STATE UNIVERSITY COMPREHENSIVE CANCER CENTER – JAMES CANCER HOSPITAL AND SOLOVE RESEARCH INSTITUTE THAT INVOLVES A TECHNOLOGICALLY ADVANCED PROSTHETIC LIMB IS ADDRESSING THESE ISSUES AND ALLOWING FOR MUCH GREATER MOBILITY BY IMPLANTING A METAL ROD INTO THE BONE AND ALLOWING THE BODY TO HEAL AROUND IT. :21

### CG: Dr. Joel Mayerson

The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute

Shots of snapping on prosthetic

Shots of Broc's physical therapy session

Shots of TMR surgery

Dr. Mayerson (CG'd earlier)

Shots of Broc walking on his new prosthetic

**Broc Potts (CG'd earlier)** 

Shots of Broc walking on his new prosthetic

"As the bone becomes strong enough to walk, they then can feel it moving and it integrates very similar to the normal leg." :09

ONCE HEALED, USING THE PROSTHETIC IS AS EASY AS SNAPPING IT INTO PLACE. :04

(NATS - Snapping on prosthetic):01

THIS NOT ONLY REMOVES PRESSURE AND PREVENTS PAIN, BUT PROVIDES MUCH MORE NATURAL MOVEMENT WHEN COMBINED WITH A PROCEDURE CALLED TARGETED MUSCLE REINNERVATION, WHICH REATTACHES SEVERED NERVES TO THE REMAINING MUSCLE.

REROUTING THOSE NERVES PREPARES THE LIMB TO INTEGRATE WITH ELECTRODES THAT ALLOW PATIENTS TO CONTROL THEIR ARTIFICIAL LIMB WITH THEIR BRAIN. :17

"So really, we're creating sort of the Luke Skywalker effect in Star Wars of the brain trying to move a body part the way it normally would. And it actually does move the prosthesis because the nerve is firing in this similar way." :14

FOR BROC, IT'S HELPED HIM TO THINK ABOUT HIS LEG LESS AND ENJOY LIFE MORE. :04

"I can actually enjoy going to the zoo with my family, and go places that require long walking and not have to worry that I'm going to be in pain." :11

AT THE OHIO STATE UNIVERSITY
COMPREHENSIVE CANCER CENTER – JAMES

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# (PACKAGE END) -----

CANCER HOSPITAL AND SOLOVE RESEARCH INSTITUTE, THIS IS BARB CONSIGLIO REPORTING.:05

WHILE ONLY A FEW OF THESE PROCEDURES
HAVE BEEN DONE IN THE U-S, EXPERTS ARE
HOPING TO EXPAND THIS TO MORE AMPUTEES AND
EVENTUALLY MAKE THIS A SOLUTION THAT IS
IMPLEMENTED AT THE TIME OF AMPUTATION.

#### **SOCIAL MEDIA**

Share it! Suggested tweet:

A new surgery at <u>@OSUCCC\_James</u> and reimagined, high-tech prosthetic limb makes it a "snap" for amputees to move more freely and with less pain. https://bit.ly/3JIGqvY

Suggested post:

Many amputees deal with constant pain and pressure while trying to get around on prosthetic limbs. But now, a new surgery at OSUCCC-James Cancer Hospital and Solove Research Institute that works with a "snap on" prosthesis is helping amputees move more freely with less pain. https://bit.ly/3JIGgvY

#### **EXTRA BITES**

Mayerson says osseointegration prevents issues caused by traditional prosthetics:

"It's outside the skin to the patient's body; and allows it to function better. And to not have to wear a socket outside their body that can get sweaty and cause skin problems, can pinch, can be painful, and can wear actual defects into the skin from rubbing and cause blisters."

# CG: Dr. Joel Mayerson

The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute

Mayerson says they plan to combine new advancements to offer a limb that functions as normal:

"We hope that we'll be able to utilize the new technology, combining an osseointegration prosthesis, targeted muscle reinnervation, and some electrodes connecting the two to be able to have a limb function nearly normally, without even having to think about it."

Mayerson says the new prosthetic easily snaps on: "He will be able to wake up in the morning, snap on his prosthesis the same way you would click on a key on a key chain, and be able to start walking right away."

Broc says he no longer suffers with painful blisters and bone spurs:

"No more blisters. That is the main thing I struggled with was blisters, then it was a bone spur I had too. Like, if I would have to land on my leg at all for like jumping, it would jab my muscle, and that could knock me off my feet."

CG: Broc Potts
Right leg was amputated

Broc explains the technological capabilities of his prosthetic: "It's programmed to walk with me. This leg right here. It has three speeds: one slow walk, medium and fast, and it's programmed to go down to the speed for me to go down steps, as well."

Broc says Mayerson offered osseointegration when his prosthetic affected his ability to work:

"I asked him if there was anything that he could help me because of the blisters and that my job's at stake because I can't miss anymore work. And he offered me osseointegration."

#### References

<sup>1</sup>Osseointegration, **Hospital for Special Surgery, 2020.** Online:

https://www.hss.edu/condition-list\_osseointegration.asp

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