

**NEXT GENERATION OF THE POWER KNEE™ IN EARLY RELEASE AT  
WALTER REED ARMY MEDICAL CENTER**  
***LTC Greg Gadson is the first to receive world's most advanced Prosthetic Legs***

**ALISO VIEJO, California (April 21, 2009)** – Ossur, a global leader in non-invasive orthopaedics, announced today that LTC Greg Gadson was fit last week at Walter Reed Army Medical Center with the second generation of the **POWER KNEE by Ossur**, the first technology to actually use sensors, power, artificial intelligence and actuators to provide amputees with the ability to walk naturally and safely without even thinking about it.

Ossur is the world leader in bringing the most innovative prosthetic solutions to market. In 2006, working in partnership with Victhom Human Bionics, Ossur introduced the POWER KNEE, representing the most advanced technology of its kind with the ability to replace lost muscle function and provide increased safety. Used mostly within the Department of Defense and the Veterans Healthcare Administration, the POWER KNEE marked a new milestone in amputee mobility, safety and advancing natural motion through a powered gait process.

Just three years later, working closely with Walter Reed Army Medical Center (WRAMC) and in collaboration with partner Victhom Human Bionics, the next generation of the **POWER KNEE** has been developed. "The second generation is smaller, sleeker, quieter, lighter and is expected to become widely used by both unilateral and dual amputees," stated Lt. Col. (Dr.) Paul F. Pasquina, chief, Integrated Department of Orthopaedics and Rehabilitation at Walter Reed and the National Naval Medical Center, according to *Inside Nova*.

Lieutenant Colonel Greg Gadson is the first in the world to receive the commercially ready prosthetic knees and will soon be followed by other patients at WRAMC. LTC Gadson was serving in Baghdad in May of 2007 when the truck he was riding was struck by a bomb, leaving him on the side of the road bleeding and in and out of consciousness. Ten days later, he was at Walter Reed Army Medical Center with first his left leg amputated, then his right. His undoubting spirit and triumph over tragedy has made him a role model and leader among champions. Notwithstanding the 2008 Super Bowl Champions, the New York Giants, who credit Gadson with giving them the motivation they needed in what became a legendary season. "LTC Gadson was a leader on the football field at West Point. He was a leader to his battalion in combat. And he's been a leader in our rehabilitation environment," added Pasquina.

"It's sort of like driving a school bus and then someone puts you in a sports car," Gadson explained. "You still know how to drive, but it's quite a different feeling. I just hope this is a path for people to really expand their lives," Gadson said.

"Ossur is committed to providing these men and women with the most advanced technology available. Their sacrifice and dedication to their country has inspired us to work even harder to optimize their mobility," said Jon Sigurdsson, President and CEO for Ossur. "The result will be that the entire amputee population will eventually realize a more natural and safe form of walking," he added.

"Victhom is very proud that its collaboration with Ossur has produced such an exceptional product that will significantly improve the quality of life for above-the-knee amputees. Using state of the art technologies and the latest scientific development in artificial intelligence, the new design of the second generation of the **POWER KNEE** delivers significant improvements in terms of weight, height and noise reduction as well as in power autonomy and ease of use" stated M. Stéphane Bédard, COO of the Biotronix business unit for Victhom and inventor of the Power Knee.

The second generation of the **POWER KNEE** is the world's first and only motor-powered, artificially intelligent prosthesis for above-knee amputees that restores lost muscle function and enables amputees to perform normal daily functions without even thinking about their next movement. This breakthrough provides unprecedented stability, safety and confidence for any above knee amputee.

**HOW DOES IT WORK?**

**Advanced Torque and Accelerometer Sensors:** Through advanced sensor technology, optimized safety is realized as Ground Contact Sensors allow the user to control and manage the action of walking naturally without thinking about it. The **POWER KNEE** will provide maximum support in any given angle of flexion as soon as contact with the ground is established. This is essential for amputees who feel unstable or need to walk with canes. A free and natural gait is now realized!

**Artificial intelligence:** The artificial intelligence of the **POWER KNEE** operates on high and low-level layers in order to continuously observe the whole state of the respective human-system interface. The improved intelligence allows the prosthesis to focus, even more than before, on user safety, system stability and system adaptability. The user just walks, the prosthesis does the rest.

**Actuator Technology:** Powered knee motion through actuator technology is possible simply by lifting the thigh muscle. It generates power according to the patients needs to adequately endure different portions of locomotion. Portions requiring specific power management are level ground walking, stair- and incline a- or descending, sitting down and standing up. In other words, the amputee can now call upon muscles to actively lift and stimulate simultaneous muscle activity of the stump and the **POWER KNEE** to walk up stairs, inclines and ramps. It also allows amputees to naturally move from a sit to stand movement with ease and without negative impact on the sound side.

The second generation of the POWER KNEE is now in early commercial release at Walter Reed Army Medical Center where Ossur will work with the rehabilitation team to provide the units to other patients as they become available. A full commercial release is expected by 2010.

#### **About Ossur**

Ossur ([ISX: OSSR](http://ISX:OSSR)) is a global leader in non-invasive orthopaedics that help people live a *life without limitations*. Its business is focused on improving people's mobility through the delivery of innovative technologies within the fields of braces, supports, prosthetic limbs and compression therapies. A recognized "Technology Pioneer," Ossur invests significantly in research and product development; its award-winning designs ensuring a consistently strong position in the market. Successful patient and clinical outcomes are further empowered via Ossur's educational programs and business solutions. Headquartered in Iceland, Ossur has major operations in the Americas, Europe and Asia, with additional distributors worldwide. Website: [www.ossur.com](http://www.ossur.com)

#### **About Victhom Human Bionics**

Victhom (TSX: VHB) discovers, develops and manufactures bionic devices involved in the treatment of a variety of physical and physiological dysfunctions. Victhom's Neurobionix division focuses on the development and commercialization of technologies and products involving implantable devices that feature neurosensing and neurostimulation components, integrated with artificial intelligence. Victhom's Biotronix division develops biomechatronic products to support or replace peripheral limbs in what is known as the orthotics and prosthetics market. Website: [www.victhom.com](http://www.victhom.com)

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