

# CLINICAL UPDATE

SPRING  
2011

CUTTING EDGE TECHNOLOGY INFORMATION IN THE PROSTHETIC ORTHOTIC WORLD

## Sampson's Expertise Puts Erica Back on Two Feet with Unique Socket Design

Bill Sampson, CP, has been elevated to "prosthetic god" status, at least according to amputee Erica K. who used those words, albeit chuckling, to describe how good she felt after being fit with the Marlo Anatomical Socket, better known as MAS.

It's easy to understand her elation. After nearly two decades of using crutches as her primary means of mobility, 31-year-old Erica has found she can stand and walk on her own again.

The MAS offers increased function and comfort to transfemoral amputees with its uniquely designed lower trim lines. The lowered posterior wall (no plastic beneath the gluteus) and the reduced rigid support material of the socket frame means amputees can sit comfortably and ambulate with greater range of motion and stability.

"Whether a patient has a long or short residual limb, is a new amputee or has been one for years, this socket design generally has a great outcome," said Bill, who became trained in the technology in 2005.

### Childhood Cancer Led to Amputation

Erica's story began when she was stricken with childhood osteosarcoma. Although cancer-free since 1992, Erica experienced a staph infection in the donor bone graft, which encompassed the top third of her tibia and was used to replace the cancerous bone in her right leg. "I was in college and the infection was bad," Erica said. "I begged for the amputation but my mom and doctor wanted to save my leg."

A joint specialist ordered an MRI and showed Erica and her family

how the bone graft had become "Swiss cheese."

The amputation was necessary to stop the infection and maintain Erica's quality of life. "Saving the grafted leg would have made it useless," she stated.

Erica was fit for her first prosthesis almost immediately after her above-knee amputation surgery. "It never fit right," she said. A second try at the socket was made, and even then, it was not comfortable.

"I have a very long residual limb and the scar on it healed irregularly," Erica stated. "I was wearing a total contact suction socket and the way it was donned, it was exhausting! The scar irregularity compromised the suction fit of this type of socket, too." After a year, she stopped wearing it altogether.

"I have been on and off of crutches for almost 20 years," she said. "I was really good at using them and can do anything: carry two drinks, hold a baby... My old (prosthetic) leg slowed me down! And I was not motivated to use it."

Still, the idea of being able to ambulate without the aid of crutches



31-year-old Erica has found she can stand on her own again with the help of Bill Sampson and the MAS socket.

was enticing. And after discussing her situation with Bill, Erica agreed to give it another chance.

### Finding Bill Sampson – By Way of the West Coast

Erica's route to Bill was a circuitous one, beginning in California where a friend of her mother's introduced her to a prosthetist familiar with the MAS. Because Erica lives in New Hampshire, the prosthetist recommended she visit Bill Sampson, who is certified to fit the MAS and has been an instructor in the technology for the past five years.

Before making the three-and-a-half hour drive to Sampson's Schenectady office, Bill and Erica discussed her condition over the phone. She explained to him her past experiences with a prosthesis.

At their first meeting, Bill watched Erica don the old socket and realized how exhausting a process it really was for her. Bill evaluated the fit of the previous device and developed a plan to fit her with the MAS. He determined that a roll-on Ossur "Seal-in" liner made the most sense for Erica. "The two-way suction suspension would give her the best performance," Bill said. "And it would be donned by expending a low amount of energy."

### Bill Accommodates Erica's Long Travel

When it was time to start fitting the MAS, Erica set aside five days and traveled with her mom to Sampson's Schenectady facility. Because of the distance Erica traveled, Bill condensed the typical four-week fitting and fabrication process into four days. Monday was for casting her residual limb. Tuesday was for fitting the test socket and a couple of adjustments that day. Wednesday was for fabrication and a final fitting. On Thursday, fine-tuning and final alignment adjustments occurred. Then, "I left with my new leg!" Erica proclaimed!

The new MAS was retrofitted to Erica's original hydraulic cadence knee

and dynamic response foot. The MAS features a wide range of advantages for amputees: more comfortable sitting, full range of motion, better functional gait and stability, and a nearly invisible cosmesis. It is also very skin friendly. Suction is achieved with silicone liners and a suction valve. Bill served as an instructor in MAS technology and his years of experience with the device make him especially skilled at adjusting the socket to the patient who wears it.

"I have found that wearing this new leg is liberating," Erica said. "It's so easy to put on and take off, sort of like putting on your glasses."

Bill explained the challenges for someone to learn to walk wearing a

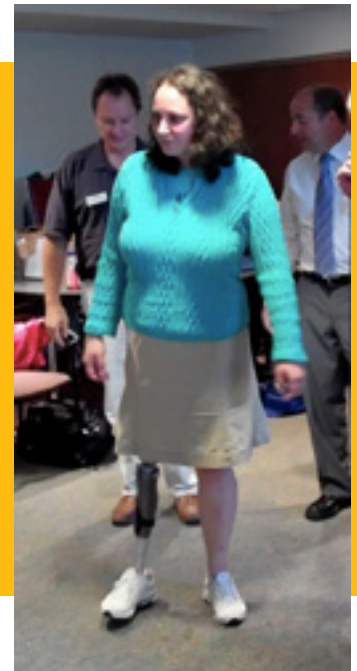
amazing!" (See photo above)

She was also introduced to the second-generation microprocessor knee, which will be available in mid-2011. And true to adventurous spirit, Erica is hoping to be fit for a microprocessor knee sometime in the future.

"Bill really digs deep to get to the bottom of his patient's situation, then he uses his knowledge to test various options to find the best solution for the individual," she added. "He keeps up with new technology and is constantly learning more to find what's best for his patients."

"Erica is a healthy, confident person. She is calm and collected, determined. She proved it by getting up and going."

- Bill Sampson, CP



prosthesis. He marveled at how Erica "was a very good walker by the time she left my office that day."

"Erica is a healthy, confident person. She is calm and collected, determined. She proved it by getting up and going," Bill added.

### Perhaps a C-Leg® in the Future

Recently, Erica participated in an Otto Bock's C-Leg Road Show. "I approached it like a test drive of a new car," she stated. "I tried it out to get a feel for what it could do. It was

"I can do so much more by myself now: carrying, cleaning, moving. It has increased my mobility, strength, and independence," she said. "I'm looking forward to doing so much more!"

Bill said, "Our goal is always to return our patients to their pre-injury activity level. Erica is getting there!"



### Patient Care Centers:

1737 State Street, Schenectady, NY 12304

5010 State Highway 30, Suite 104, Amsterdam, NY 12010

17 Main Street, Queensbury, NY 12804

290 Church Street, Saratoga Springs, NY 12866

400 Patroon Creek Blvd., Suite 106, Albany, NY 12203