

R. J. ROSENBERG



# PROSTHETIC UPDATE

## Happiness Is Being Able To Balance

When Odessa Gill, 66, was asked what her goals were if she were to obtain a C-Leg®, she didn't have to think about her answers — "My goals were to learn balance, and throw away my cane," she says.

It was with a feeling of great relief and liberation then, when Odessa stood unassisted for the first time with her C-Leg® Compact. "I was overwhelmed," she says.

Odessa was fitted with the C-Leg Compact in the fall of 2005, and she is brimming with enthusiasm on how it improved her life. "After my C-Leg, I walked down our driveway to the mailbox for the first time in six years," she said. "If I drop something, I can bend over to pick it up."

Prior to having her leg amputated, Odessa, of West Chester, was working in a manufacturing plant and enjoying leisure time with her retired husband. "I was busy, I wasn't ready to retire, and we just bought a new home. Then, the best time of my life ended overnight," she recalls. Odessa referred to what happened after a weekend doing yard work with her husband. "We had friends over that night, but then my leg started hurting. I thought it was a bad cramp. The next day I was in the emergency room scheduled for surgery." Odessa had a vascular blockage, which surgeons twice tried to relieve. The third surgery meant above-the-knee amputation.

"My life was full, and to have the amputation and loss of activity was a shock initially," she says. "But, I didn't let it get me down. I knew my life had to go on. Nothing can replace a natural leg, of course, but you learn to cope."

"Rich Rosenberg from R.J. Rosenberg Orthopedic Lab came to see me right away, and fitted me with a prosthesis," she continues. "He was wonderful, and treated me with respect."

But having an artificial limb proved tiring for Odessa, who is a very tiny five foot, two inches and 110 pounds. "The prosthesis seemed very heavy to me and took all my energy. I would watch people in rehab, and wondered how could they do it," she says. "I could do the stairs, but I didn't have any flexibility in bending the knee. I was



*Odessa Gill works with Darrell Hewko, Physical Therapist, to demonstrate her ability to balance on her new C-Leg® Compact.*

unsure of myself, and I didn't want to walk without my cane, or walk across any surface that was bumpy or uneven."

Then one day while in the Rosenberg office waiting for an appointment, Odessa read an article on the C-Leg. "Rich noticed I was interested and asked me if it was something I would like. I knew right away that was what I wanted," she says.

Rich met Odessa at Ft. Hamilton Hospital with her physician. "They said I was a good candidate because I am ambitious," Odessa recalls.

"She had the potential to achieve a high activity level, which made her a good candidate for the C-Leg," explains Rich Rosenberg. "She is ambulatory enough to take advantage of the high level of mobility the C-Leg offers."

As her physical therapist began preparing Odessa for the new leg, he focused on the strengthening of her residual limb by putting weights on it. "It was hard and I would get tired. But I knew if I wanted to get up and walk I had to do it for myself," Odessa says. "It took me 20 sessions to get the freedom I needed."

When the day came for the leg to be actually fitted, Odessa was ready for it. "I put it on and mentally, it was freedom," she says. "The first time I picked up my foot to take a step, it was

so light, almost like it wasn't there. I felt stronger, but lighter at the same time."

"I couldn't believe how it looked on me," she continues. "I could stand up straight and put my hands over my head, and not lose my balance."

What makes the C-Leg unique is a microprocessor-controlled knee that adapts to varying walking speeds and terrain, providing knee stability as needed.

"The C-Leg gave her balance and right away she was able to stand on a platform without holding on," Rich says. "Odessa did pretty well with her earlier prosthesis, but she lacked stability and confidence.

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With the C-Leg, she can relax and let the knee do its job."

After Rich crafted the C-Leg to Odessa's specifications, he followed her as she moved around the physical therapy room, analyzed her gait, and observed her use on varying terrains and on stairs. He programmed the microprocessor with a PC and special software. The sensors monitor Odessa's movement 50 times per second, analyzes it based on gait and biomechanical studies, and sends the information to a hydraulic damper that controls stance and swing phase movements. This results in a smooth, harmonious movement of the prosthetic limb, similar to that of the sound leg.

"Before the C-Leg I would walk very stiff-legged. Now, I have a lighter step, and a more natural walk," she says.

Odessa also is fitted with an Otto Bock LuXon® Max foot, which moves in four different directions, for increased flexibility. The LuXon also helps keep Odessa's energy level high with



Odessa Gill (above, right) works on building strength, conditioning, and balance with elastic resistance bands.



its cushioning and expanded range of motion.

Coupled with the prosthetic skin that covers her C-Leg, Odessa has not only a "natural walk," but a "natural" appearance. That's important to her because she is anxious to be able to wear a skirt again without having people staring at her "mechanical" leg. "I don't mind answering questions," Odessa says, "but people don't ask, they just look." She also is very excited about wearing sandals during warm weather months, and giving her "new toe nails" a coat of polish.



Odessa is happy to be able to return to her previous level of activity. "Now, I can climb steps, do the laundry, and vacuum. In fact, I don't need my cleaning lady anymore because I can do it all myself. This year I decorated our Christmas tree, and I can do shopping trips to the mall because I can walk without fear of falling," she says. "I have confidence I can walk anywhere."

Odessa already is looking forward to spring time and getting back to working on her yard. "Come spring, I hope to be able to do much, much more because I can walk across the yard now, even when the

grass is lumpy," she says.

"I can't say enough about it. If I got it in the beginning I'd be running now," Odessa laughs. "It would make anyone's life so much easier."

## Iceross Seal-In Liners Removes Need For Sleeve

The Iceross Seal-In Liner is a new suction suspension liner that incorporates a hypobaric sealing membrane (HSM™) around the liner, providing a firm, comfortable suspension without an external sleeve.

According to Rich Rosenberg, CPO, "It gives us a new option for suction suspension. The traditional suction socket was reserved for someone who was a bit more active or in better shape because it required more effort to apply. But the Seal-In Liner rolls onto the limb with very little effort and easily creates a seal within the socket. People who may not have been able to use traditional suction may be able to use this sleeve."

Rich said it also makes volume management much easier by allowing the user to make adjustments by using socks.

Iceross Seal-In Liners are available in two durometers:

- Iceross Dermo® Seal-In, made of DermoGel silicone, for extra cushioning and comfort for sensitive tissue. They are designed for low to moderately active users and for those with highly sensitive tissue structure.



- Iceross Stabulo™ Seal-In is made of DermoSil silicone, for exceptional stability, control, and comfort. They provide a stable fit for an active lifestyle.

According to Ossur, Iceross Seal-In liners use a Hypobaric Sealing Membrane (HSM™) that conforms to the shape of the internal socket wall and provides an airtight seal. When the liner is put on and the socket is stepped into, air is expelled through a valve, creating suction below the seal. The proprietary matrix supports the HSM during donning by preventing elongation of the distal tissue. A release button on the valve allows equalization of air pressure for easy removal of the prosthesis. Additionally, the matrix minimizes pistoning above and below the seal when suspension is required.

With the HSM, according to Ossur, the hypobaric pressure will always be in direct proportion to the suspension force needed, ensuring superior stability, comfort, and control.

The Seal-In Liners come in a variety of sizes to fit any AK amputee.

Both liners feature Ossur's Active Skin Care, a blend of Aloe Vera and Vaseline® to help maintain healthy, strong skin. Contact R. J. Rosenberg Orthopedic Lab for more information.

# 9<sup>th</sup> Annual Golf Clinic A Success!

The popular R. J. Rosenberg Orthopedic Lab free instructional golf clinic for people with disabilities was held Friday, May 26<sup>th</sup>, at Meadow Links Golf Course & Academy at Winton Woods in Cincinnati. The event drew an enthusiastic turnout, with golf pros trained in adaptive techniques demonstrating golf to people with amputations and other disabilities.

National Amputee Golf Association tournament winner Dan Cox of College Park Industries and Gary Hooks from Otto Bock Health Care were among the experts participating.

Golf is one of the most adaptable sports available, and almost everyone, regardless of disability can participate and enjoy the benefits it has to offer: increased flexibility, improved balance, fresh-air exercise, camaraderie. It was a great day and lots of fun for all.

Thanks to Meadow Links Golf Course for hosting the outing.



## Amputee Coalition of America Announces Free Membership Program for Patients

The Amputee Coalition of America (ACA) is offering a free one-year membership for patients of ACA member facilities. By offering this pilot program, ACA is hoping to increase its individual patient membership, resulting in increased awareness of its organization to amputees. As an ACA member facility, R. J. Rosenberg Orthopedic Lab, is pleased to offer its patients an ACA membership.

Amputees benefit from ACA through peer support, healthcare education, and physical fitness and rehabilitation training. ACA provides resources and information about new technologies, increases awareness

of consumer issues, and helps to improve communications between providers and end users. For more information on attaining your free one-year ACA membership, contact our office at 513-221-7200.

Founded in 1986, The Amputee Coalition of America is a national 501 (c) (3) nonprofit organization headquartered in Knoxville, Tennessee. Through an agreement with the Centers for Disease Control and Prevention (CDC), the ACA maintains the National Limb Loss Information Center (NLLIC), the most comprehensive source of information for people living with limb differences.



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### Adaptive Cycling: Set the Wheels in Motion

Adaptive cycling is an excellent way for people with disabilities to enjoy the outdoors while getting some exercise. It provides a vigorous cardiovascular workout for major muscle groups while helping to improve strength, balance and coordination. It's a fun way to keep healthy and an activity that can be done with family and friends.

A wide variety of cycling adaptations are available to the outdoor rider. From amputees to paraplegics, quadriplegics to hemiplegics, sight-impaired to cerebral palsy conditions, cycles are available with all sorts of modifications. Recumbents, tandems, and handcycles are a few of the many adaptation choices out there. Four-wheeled, dual recumbents keep riders in a relaxed seated position, and are best for lower extremity cycling. A side-by-side tandem tricycle allows two individuals to cycle simultaneously or at different rates.

The most popular adaptive cycle is the handcycle. Handcycling development has exploded to become a widely practiced form of outdoor adaptive cycling for riders with lower limb mobility impairments. Handcycling allows cyclists to propel a three-wheeled cycle using their arms. The handcycle was originally built for leisure, but evolved into a racing version, taking adaptive cycling to a new level. In 2004, handcycling was added to the Paralympic Games.



New riders should start by attending a new rider clinic or by gathering information from a local cycling group. The Adaptive Adventure Sports Coalition (TAASC) chapter of Disabled Sports USA, located in Columbus, Ohio, offers summer cycling workshops and outings, as well as cycle rentals. For more information on adaptive cycling, contact TAASC at (614) 293-4963 or [www.taasc.org](http://www.taasc.org) or Disabled Sports USA at [www.dsusa.org](http://www.dsusa.org).

### Good Hygiene Protects Limb

Washing the residual limb at least daily with mild soap and warm water is the first line of defense for healthy skin. A thorough scrubbing, however, can be difficult for amputees with balance problems since the surfaces of both shower and bathtub are generally slippery. To avoid falling, many amputees skip a daily bath or shower in favor of a "sponge bath," an option which isn't always fully effective in meeting hygienic goals. If a full body wash isn't possible daily, amputees must at least make sure the residual limb receives a complete cleaning. Failure to maintain good residual limb hygiene can cause build-up of sweat residue, as well as odor, bacteria growth, and skin rashes.

Careful hygiene in regard to materials that come into contact with the residual limb is also important. The interface worn between the residual limb and the prosthesis — whether it's a wool sock, a gel liner, or some other insert—also needs daily cleaning with a mild soap and water. Avoid harsh or strong detergents which can damage the surface; instead, contact your prosthetist if you have questions about properly cleaning an interface. Failure to maintain good interface hygiene can lead to the same problems as those due to poor limb hygiene.

