

Two-Track Skiing Not Just for BK's Anymore

'Tis the season for winter sports fans to head for the hills and trails to ski, board, and shoe their hearts out. Through the years amputees and other physically challenged individuals are an increasing presence on the ski slopes, thanks to monoskis, outriggers, and sit-skis.

While it's common for transtibial amputees to ski standing up, either with or without their prosthesis, transfemoral amputees commonly use a sit-ski or three-track to schuss down a mountain. But more recently, advances in socket fit and high-tech knees have enabled transfemoral amputees to ski two-track.

Greg Mannino, champion Paralympic skier and a former three-tracker, is one of them. Mannino was a member of the U.S. Disabled Ski Team from 1986-2001 and a five-time Paralympic team member. He medaled 22 times in Paralympic and World Championship Alpine events.

SON INSPIRED GREG

His interest in going two-track peaked when his young son began learning how to downhill ski. Mannino now has been a two-tracker for three years. Due to his extensive alpine skiing experience, the adjustment to two-track was easy for him. "I knew where my body needed to be," he said.

"The techniques for a transfemoral two-track skier are the same as for an able-bodied skier," he said. "Some AKs start with two outriggers and graduate to a regular ski pole. Sometimes a ski-bra is initially used for control. Those who do great have a solid background in skiing, but it is just as accessible for the beginner.

"Amputee alpine skiers have been around since post-World War II, but the old prosthetic systems didn't allow for performance and comfort. Advances in technology and socket fit give options to the AK amputees who want to ski on two legs," he said. "Carbon fiber, durable systems and sockets, and improved suspension, make it possible."

Not every knee can withstand

the forces of alpine skiing, so skiers are urged to consult with their prosthetist first to determine the best type of prosthesis for the intended activity. Many prosthetic manufacturers include in their product line a high-activity knee that can withstand the rigors of downhill skiing, snowboarding, rock climbing, and other high intensity sports and recreational pursuits.

Mannino, who is a National Product Specialist for Endolite North America, prefers his Endolite Mercury Hi-Activity Knee, but other knees include the XT9, Rheo Knee®, Otto Bock's 3R90, and Freedom Innovations' Plie™ MPC Knee.

STIFFNESS IS KEY

"A high-activity knee that provides swing and stance is important for stability as a skier rolls his knees in a turn," he said. "A skier also doesn't want his leg falling off during a run, so a quality pin-lock or full-suction suspension system is necessary. Some additional suspension is recommended, such as a power belt or sleeve system. To keep the foot from collapsing, choose one that has a higher category of deflection and stiffness. I use a Category 8 because I angulate (putting foot in front of knee) on turns. Invest in a comfortable set of boots."

Skiing two-track with the prosthesis also benefits the AK skier as it improves residual limb strength. Adaptive skiing overall builds physical strength, builds self-esteem and self-confidence, and provides freedom of movement and feelings of accomplishment.

Prior to trying skiing, Mannino



Greg Mannino won 22 medals as a three-track skier (bottom photo), but now enjoys two-tracking, made possible by high-tech knees.

recommends building up strength with cycling, walking, and weight training.

For a demonstration on how fast and expertly an AK amputee travels down a mountain, Mannino suggests going to youtube.com and watching E.J. Poplowski negotiate moguls and jumps on a downhill run in Utah. Poplowski was an expert telemark skier until an accident during a competition resulted in amputation. Two years later, Poplowski, who uses an XT9, carves snow with the best of them.

"My advice for anyone who wants to ski is to first find a good instructor. There are programs all across America," said Mannino who also teaches at Vail's Adaptive Ski Snowsports School.

For questions or more information on two-track or adaptive skiing, contact Mannino at gmannino@endolite.com.