

Sparing limbs and saving lives after sarcoma

Becky Greenway had 15 surgeries on her left knee in the last 12 years, but if she'd been diagnosed with sarcoma in her grandfather's day, she would have lost her leg.

"I was 17 and a senior in high school and had severe pain in my left leg just below my knee. It was worse at night and the only way it felt better was to soak in hot water – where I'd often fall asleep," Becky says.

After several misdiagnoses and unsuccessful treatments, Becky took her X-rays to an orthopaedic physician who immediately spotted a tumor and referred her to **Dr. Ernest "Chappie" Conrad**, UW professor and director of orthopaedic services at UW Medical Center.

Dr. Conrad hoped Becky's tumor was a benign growth, but a biopsy confirmed she had a sarcoma, cancer of connective tissues (bone, cartilage, or muscle).

It can appear in any part of the body, but frequently appears just below or above the knee.

"I was young and had no clue as to what was going on," Becky says. "I remember hearing that I had a 65 percent chance of survival after five years, but I was never afraid or concerned. My parents would say something totally different, of course."

As part of the Limb Sparing Program at UW Medical Center, Becky immediately began in-patient chemotherapy at Children's Hospital and Regional Medical Center to kill as many cancer cells as possible and to reduce the tumor's size. After three months, chemo was stopped and Dr. Conrad surgically removed her tumor, as well as the knee just above the tumor. He replaced her knee with a bone transplant, and Becky had nine more months of chemotherapy.

"Good surgery, good imaging, and



At 17, Becky Greenway was diagnosed with sarcoma, a life-threatening form of cancer in her leg. Today, 12 years later, she is thrilled to have beaten it and can keep up with her daughters, Madisen, 3, and Kylar.



Dr. "Chappie" Conrad

oncologic pathology equals a good outcome," says Dr. Conrad. "A tumor registry that we began, called SarcoBase, enables us to capture all high- and low-grade sarcoma patients for chemotherapy studies. It is a valuable tool for patient education and clinical research; it's a resource unlike anything in the region."

Becky required so many surgeries (13 at Children's and two at UW Medical Center) because her body rejected the initial bone transplant and long-term chemotherapy made her susceptible to infections. But Becky's grandfather, who had bone cancer in his leg as a young man, was treated with the only option then available, an amputation. Becky is thrilled that she has beaten cancer for over 12 years and still has a working leg.

Total knee replacements are now highly engineered biomechanical/biological units. "You need a good mechanical knee so the implant won't break, and a stem that fits firmly into the surrounding bone," Dr. Conrad says. "We can now coat implants with a patient's own bone or bone-growing products, and they've got it made."

"I was able to go to Disneyland with my daughters and could walk the entire park this year without a wheelchair," Becky says.

For more information, please see the Orthopaedic Department's Web site at www.orthop.washington.edu/tumors_onco or the Seattle Cancer Care Alliance's Web site at www.seattlecca.org.

The Limb Sparing Program is a multidisciplinary service featuring Dr. Conrad as well as Dr. James Bruckner, UW associate professor of orthopaedics and sports medicine, and Dr. Scott Schuetze, UW assistant professor of medicine dedicated to sarcoma treatment. Bone and Joint Center 206-598-4288



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