

by Laurie Entrekin

Limb Lengthening: A Life-Changing Procedure

“Limb lengthening.” What do these two words bring to mind? Have you ever known someone who had a difference in the lengths of his or her arms or legs? Ever known someone who was knock-kneed or bow-legged? Would you believe it if a highly trained orthopaedic surgeon told you he could correct these problems—straighten legs and lengthen bones—in a year or less?

Upon first hearing it, you may think the idea sounds far-fetched, but it's true. Limb lengthening and deformity correction is possible and has been performed successfully for over 50 years. A Russian surgeon, Gavriil A. Ilizarov, developed the concept in 1951 after observing the number of Russian soldiers who had been wounded in WWII and had leg fractures that had not healed. Ilizarov's limb lengthening process is based on the biological principle that slow distraction (pulling apart) induces regeneration of bone.

Through the use of a unique mechanical apparatus called a fixator—a scaffold-like frame made up of rings, screws and metal pins and attached to the bone—orthopaedic surgeons are able to “distract” or exert tension on a cracked bone. The tension, applied when a dial on the fixator is turned, gradually pulls apart the cracked bone while simultaneously stimulating the growth of new bone and soft tissue in between. Thus, new bone “fills in” the gradually enlarging gap, and over time, the bone lengthens. The rate of lengthening is approximately one millimeter a day, or one inch per month.

For patients who have worn built-up shoes for years, had constant pain in their joints from bone problems or have had difficulty socially or functionally because of bone deformity or length, news of Ilizarov's technique may seem like a gift from heaven. What's even better? Patients don't need to travel to Russia for the surgery.



There are many types of external fixators. Dr. William Terrell says the type of fixator used depends upon the patient's individual case.



This patient's bowed legs were causing her severe pain. Fixators were used to straighten the patient's legs.

Dr. William Terrell, who has been at The Hughston Clinic in Columbus for the last five years, is an expert in limb lengthening. He received specialized training in the Ilizarov technique for restorative traumatology and orthopaedics in Kurgan, Russia and has been performing the technique since 1997, with high patient satisfaction rates. Terrell, who recently moved to Marietta to join Pinnacle Orthopaedics, hopes to spread the word about the procedure and its life-changing effects.

"I think there's a lot of this out there," says Terrell. "I see patients who have one leg

that's two inches shorter than the other one, and crooked, and I ask, 'Where've you been?' and the patient says, 'I didn't know anything could be done.'"

Many patients don't know that the option is available—and that's the first obstacle Terrell realizes he must combat. His decision to move to the Atlanta area was primarily based on his desire to provide education to patients about limb lengthening. "There are 4.8 million people in Atlanta," Terrell says. "I want to get the word out that I'm here, and I'm ready when they are. I tell my patients I may not make them perfect, but I may make them better."

Terrell, who is friendly and truly interested in his patients' lives, is inspired by the challenging nature of the process, which requires extensive planning on the part of the surgeon before a unique fixator is built for each patient. Though he, like other orthopaedic surgeons, does total joint replacements and ACL repairs, limb lengthening is truly his passion. "This is why I get up in the morning. This is what I go to bed thinking about," he says. "It's

so much fun to help people who don't have any other options." He adds, "My goal is to get to where this (limb lengthening) is all I do."

Limb lengthening can be done on children and adults to correct fractures, congenital deformities, bowed legs, knock knees, arm or leg length differences or a foot that is turned in or out. Terrell has performed the technique on a child as young as 11 months as well as a woman in her 80s.

Patients who wear a fixator can walk, play golf, swim, bathe—basically anything they want. "It's not like a cast," Terrell says. "Patients can get on with their lives. In fact, I tell them to get out of the house, go back to work. They'll do better and won't get depressed. Patients with a good attitude heal better."

For more information about limb lengthening and deformity correction, call Dr. William Terrell at Pinnacle Orthopaedics at 770-427-5717.

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