

The Philadelphia Inquirer

Health & Science

BREAKING A LEG FOR SCIENCE TWO SUBMIT TO PAINFUL EXPERIMENT

As arthritis sufferers, Jim Henion and Barry Cooper know all about pain, pain so excruciating that walking, bending, climbing, and even standing can be intolerable

To relieve the pain, they voluntarily subjected themselves to more. Henion and Cooper recently allowed a doctor to break their shin bones and then insert pins that the patients twisted day by day, widening the break a millimeter at a time.

The procedure -- hemicallotaxis -- was developed in Europe, and some doctors in this country consider it experimental and risky.

But neither Henion, 51, nor Cooper, 50, were concerned about the risk. "I had to soak in the tub in the morning just to get mobility to start the day off," said Henion, a football coach at a high school in Delran.

Arthritic knees usually occur when cartilage wears away between bones, causing the bones to rub against each other. And if the cartilage has worn away on the part of the knee that bears the brunt of the person's weight, the pain is even worse.

It was such pain that persuaded Cooper, a disabled longshoreman from Philadelphia, to seek relief through the surgery, in which a device made by a northern New Jersey company is inserted in the knee.

Cooper returned home from the 2 1/2 hour operation with an assignment: During the next two to three weeks, he would finish what Dr. John Kelly started.

During the surgery, Kelly took a mallet and fractured Cooper's left shin. He then inserted screws into the bone on each side of the fracture and connected the screws with a rod.

Cooper's job was to turn a wrench, expanding the rod and pulling the fracture apart one millimeter a day. As the fracture grew wider, Cooper's bone grew in the crack, filling it in. After 10 to 12 weeks, when the correction is complete, the pins will be

removed in the doctor's office.

"Think of it as jacking your car up," said Kelly, who has done the procedure nearly two dozen times in two years. "When you jack up your car, the weight of the car is placed on the two tires opposite the side of the jack." The goal is to shift Cooper's weight from the area in the knee where cartilage has worn away. While the principal of shifting the weight to the good side of the joint has been around for years, doctors said this specific procedure, done first in Italy in the late 1980's, deserves more research in this country.

Even Kelly, one of two Temple doctors performing the operation, admits to seeing very little study on the subject. He said he learned of the procedure after taking a course offered by EBI Medical Systems, the Parsippany company that manufactures and markets the pin-and-rod device, called a standard fixator.

EBI said about 500 of the operations have been performed nationwide. "Outside of bone-lengthening procedures, I don't know of any other where patients actually did their own correction," Kelly said.

Dr. Jacob Rozbruch, former chief of orthopedic surgery at Beth Israel Medical Center in New York, said the operation remains relatively unpopular in the United States because more study is needed. "The major disadvantage is there can be some scar tissue that will form inside the knee and limit motion," **Rozbruch** said, adding that a risk of joint infection also exists.

Kelly said patients limit scarring by moving the joint and he has experienced little problem with infection. "I'm very, very happy with the results so far," he said. Henion swears by the operation. He has undergone the surgery on both legs. "The first time I really didn't know what I was in for," he said. "Pulling apart your own fracture ...it wasn't fun."