OSMC
MUSCULOSKELETAL HEALTH NEWS

A hip *replacement* procedure? More like a hip *creation* procedure.

Jaime Santiago (left) and Mark Klaassen, MD

Remember the "Dem Bones" song we sang as kids. Remember? "… the leg bone connected to the . . . hip bone," etc. For many of us, that was our first lesson in skeletal anatomy. It explained what held us together and made it possible to walk and run. But the tune didn't apply to Jaime Santiago. He never had the benefit of that "leg bone connected to the hip bone" verse, because those bones were never connected in the first place.

Jaime's life began at the age of five, which is to say that he has no memory of anything earlier. Abandoned by his parents, he was left to fend for himself on the streets of Sevilla, Colombia. For the next few years he bounced from orphanage to orphanage until he finally landed at a decent facility where the in-house physician noticed his waddle-like walk. X-rays were taken and severe hip dysplasia was diagnosed.

"Hip dysplasia means the ball at the top of the femur – the thigh bone – isn't properly seated into the socket that's naturally built into the pelvis," said Mark Klaassen, MD, FACS board certified orthopedic surgeon with the Elkhart General Hospital Center for Joint Replacement. "With early diagnosis, dysplasia can usually be treated with relatively simple non-surgical techniques. But in Jaime's case, all those years without treatment created a whole different situation – and a major challenge from a surgical standpoint."

In fact, it was such a challenge that none of the dozen or so physicians Jaime saw over the next several years were willing to even try. As Jaime explained it, "Whenever a doctor saw how badly dislocated my hips were, the conclusion was always the same: 'There is nothing to be done. It's too risky.'" Even after Jaime was adopted by a couple from Chicago and moved to the United States at age ten, the physicians here continued the bleak refrain, "You'll just have to live with it."

And live with it he did. "I was actually quite mobile," said Jaime. "Doctors told me I'd probably be in a wheelchair by my mid-twenties, but I was determined to put that off by staying as active as possible. But as time went on, the pain caused by the constant grinding of bone against bone became unbearable. I'd try to tough it out – probably a carryover from my days as a street kid in Colombia – but there were days when I could hardly get out of bed."

That's when Jaime, by now 30 years old, met Dr. Klaassen. "I've never seen a case as severe as Jaime's," said Dr. Klaassen who coincidently was also raised in Colombia, the son of missionaries. "My first reaction when I saw the X-rays was to agree with all the other physicians. There just wasn't a safe solution. On both sides, the top of the femur was several inches higher than it would need to be to join the hip socket. Bringing the whole leg down would surely damage or sever the sciatic nerve and Jaime would be paralyzed. Plus, the socket itself was virtually nonexistent. Instead of a nicely formed cup it looked like a wilted flower. There was no way it would serve as a stable receiver for the ball."

But Dr. Klaassen didn't give up. After talking with his colleagues, meeting with three different orthopedic equipment companies, and consulting with a number of other top orthopedic surgeons around the country – none of whom were willing to tackle such a severe case – he devised a surgical approach he thought just might work.

Rather than lower the entire leg, Dr. Klaassen and his surgical team removed a three-inch section from the middle area of the femur. This allowed the top portion to be lowered so it could join the remaining section of the bone, a step that was accomplished with minimal effect to the sciatic nerve. Then, to ensure the two parts of the femur were securely joined, the section of bone that had been removed was cut into smaller pieces and secured around the joint. "Over time, all of these

components will fuse into one solid, stable bone," said Dr. Klaassen. Next, a new cup had to be built into the pelvis to replace the withered version. That called for implanting yet another piece of the original femur into the pelvic cavity, creating a stable wall to which the new artificial socket could be attached.

"Dr. Klaassen made sure I knew this had never been done before," said Jaime. "He laid out the whole plan, emphasized the risks involved, and made it clear there were no guarantees. My response: Let's go for it!"

The surgeries were performed last summer at Elkhart General. "Things went pretty much as planned," said Dr. Klaassen, "thanks in large measure to the extensive preparations our team undertook. We even did an in-the-OR rehearsal in advance to make sure everyone was prepared for every step. After the first operation we let Jaime recover for a couple of months before moving on to the second. It's to everyone's credit that both procedures went exceptionally well."

Jaime concurred. "I can't thank everyone enough for what they did for me. For one thing, I'm finally able to walk without looking like a penguin. But most importantly, I am free from the everyday pain. For the first time in my life, I know what normal feels like."