

Back to normal

Spine surgery corrects scoliosis, removes limits



By | Margaret Siu

As orthopedic surgeon Daniel Sucato, MD, slapped the X-ray film on the light box, Jan Williams stared in disbelief.

The spine on this X-ray swerved in a perfect 'S' curve, clearly the wrong child's X-ray.

"So I said to Dr. Sucato, 'I'm pretty sure you have someone else's back,'" Mrs. Williams said. "To which he said, 'No, I don't. This is Sam's.'"

Days earlier, Mrs. Williams watched her son, a five-year-old Sam, clamber excitedly to the pool. As he bent down to get in the water, his uncle, David Williams, also a physician, took a closer look at the child's spine before asking his nephew to repeat the action.

"He said to me, 'I think maybe we should have Sam's back checked for scoliosis,'" Mrs. Williams said. "My eyes popped open."

Though skeptical, she brought Sam to the Texas Scottish Rite Children's Hospital for an examination of his spine. Her fears were confirmed. In 2004, Sam was diagnosed with scoliosis and Marfan's Syndrome.

Scoliosis is a three-dimensional curvature of the spine, not only bending right and left, but also spinning on its axis. According to Brown University's 'Scoliosis of the Spine' study, in the United States, approximately two to three percent of the population has scoliosis. Those diagnosed have an uneven waist, uneven shoulders and a leaning figure.

"It was hard to hear that this child needed a back brace for

about 10 years," Mrs. Williams said.

Sucato notes because Sam was also diagnosed with Marfan's Syndrome, his scoliosis was especially dangerous and possibly life-threatening.

"Marfan's Syndrome is a collagen vascular disease, essentially it makes your tissues more pliable, more flexible," Sucato said.

Back to the film, Sucato measured William's spine at 40 degrees, only 10 degrees short of the 50-degree requirement for surgery at five years old. Sam was measured and fitted for a back brace, a hard, plastic shell stretching from underneath his armpits to the top of his hips. Doctors recommended Sam wear the brace 20 hours a day until he finished pubescent growth.

Rigid as it was, the brace did not limit Sam's active life.

"When he was little, he played baseball, basketball," father Dan Williams said. "He played all the sports except for football, he couldn't play football because of Marfan's."

During school days, Sam continuously wore the brace, slowly adjusting, suffering uncomfortable nights. At Good Shepard Episco-

pal School, when Sam went to PE, his sister, Katie, helped remove and replace the brace.

Though braces aren't intended to correct a spine, through the years, his back straightened to 14 degrees.

"And the doctors at Scottish Rite were getting amazed," Mrs. Williams said. "They said this has never happened. Every time we went in; five or six people would check Sam out."

After Sam's unexpected improvement, physicians allowed him to wear the brace less often. However, the improvement proved short-lived, especially after his growth spurts during freshman year.

"Sometime in 9th grade, Sam really started hitting a growth spurt," Mrs. Williams said. "Sam's always been really tall for his age. We have an appointment every six months to take X-rays of Sam's back. Now he's back at about a 40-degree angle. Things had gone backwards."

Another six months passed before a June visit. This time, the X-ray revealed Sam's spine curving at a 67-degree angle, well over the requirement for surgery.

"The goal of surgery increased two fold," Sucato said. "One is to

prevent it from getting any bigger. And the second is to correct the curve a certain amount."

Initially scared by the prospect of surgery, during preparation Sam said he was relieved it would all be over.

"I wouldn't have to deal with the brace anymore," Sam said. "The day before the surgery, they gave me some medicine and I wasn't allowed to drink after 10."

His parents also had their share of fears.

"There were a lot of doctors, nurses and people involved, and they were going to cut his back open," Mr. Williams said. "The surgery took about eight and a half hours, so as a parent, all you can do is pray and worry."

Fortunately, Sam's surgery was at Texas Scottish Rite Children's Hospital, highly ranked by US World News & World Report. William's parents were reassured by a nurse she would give them continuous updates during the operation.

After creating an incision from the small of Sam's neck down his back, a 28-inch-long line, Sucato and his team attached anchor points with pedicle screws to his spine. Screws then attached twin titanium rods to either side of Sam's spine.

The rods held in place to correct the spine and hold it in a straightened position. The operated segments would then fuse into one bone.

At the end of surgery, nurses called Mr. and Mrs. Williams, notifying them of the successful finish. When Sam exited the surgical suite, he had gained two and a half

inches in height.

Despite feeling sleepy and disoriented by his sudden rise in stature, Sam immediately began rehabilitation the day after surgery. Beginning with simple steps, sitting up and sitting down, to walking short to long distances, Sam endured the exercise, only needing occasional help.

"That next day he's sitting up in a chair," Sucato said. "That evening of the first day after surgery, he's doing some walking to the restroom. The second day he's walking a lot more. The third day he's home from surgery."

Though Sam was not in much pain because of medication, walking proved to be the most challenging movement.

"I was just dizzy and didn't feel well," Sam said. "When I first stood up I was kind of scared because I was two and a half inches taller. That was really different. Everything was so much lower. It was weird. My balance was off."

Both parents continued on standby during Sam's recovery.

"If he wanted to get back into bed, he would work his way backwards and sit down at the edge of his bed," Mr. Williams said. "We had to help him move around."

With support of friends visiting him in the hospital's In-Patient Unit, he was further motivated during his recovery. In the future, to William's excitement, he will gradually rejoin the sports program, playing tennis.

"I'm happy that I will be allowed to continue sports and other activities," Williams said. "I look forward to getting back into the swing of things."



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—Sam Williams ['17]

Standing tall

Juniors Sam Williams and Paxton Marks walk to class. As soon as cleared to do so, Williams looks forward to joining classmates in team sports like tennis.

MICHAEL PATTERSON
| staff photographer

Smoothing out the curves

Before and after X-rays of Williams' spine display radical improvement after June surgery at Texas Scottish Rite's Children Hospital.

Photo courtesy of Jan Williams.