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Myths of childhood fractures



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Breaking the myths of childhood fractures

Childhood bone breaks are relatively common, especially when kids participate in sports or other physical activities. But what do you do when a child breaks the same bone three times in 18 months?

Tyler Bornstein, an active 10-year-old, suffered an arm injury during a February 2001 school wrestling meet.

While “posting” his arm on the mat – placing weight on his wrist and stiffening his elbow for leverage – his opponent hit his elbow.

After a night of pain and swelling, his parents Shelly and Travis Bornstein,

took him to the emergency room at Children’s Hospital.

X-rays revealed a hairline fracture on his elbow. He was placed in a splint for six weeks.

Six months later, Tyler fell on his skateboard, posted his arm to break his fall and broke his elbow again.

“I knew immediately that I broke it again,” says Tyler. “It hurt in the same place and in the same way. My parents took me to the hospital the same day.”

X-rays validated Tyler’s suspicions: Same break, same place, same treatment.

When another skateboarding accident in May 2002 caused a similar injury, Shelly was exasperated.

“We couldn’t believe it,” she says. “It was extremely frustrating for us as parents and for the family as a whole. It seemed that just as every sports season started – wrestling, football, baseball or



Tyler Bornstein, now 13, has full range of motion in his elbow thanks to a successful surgery.

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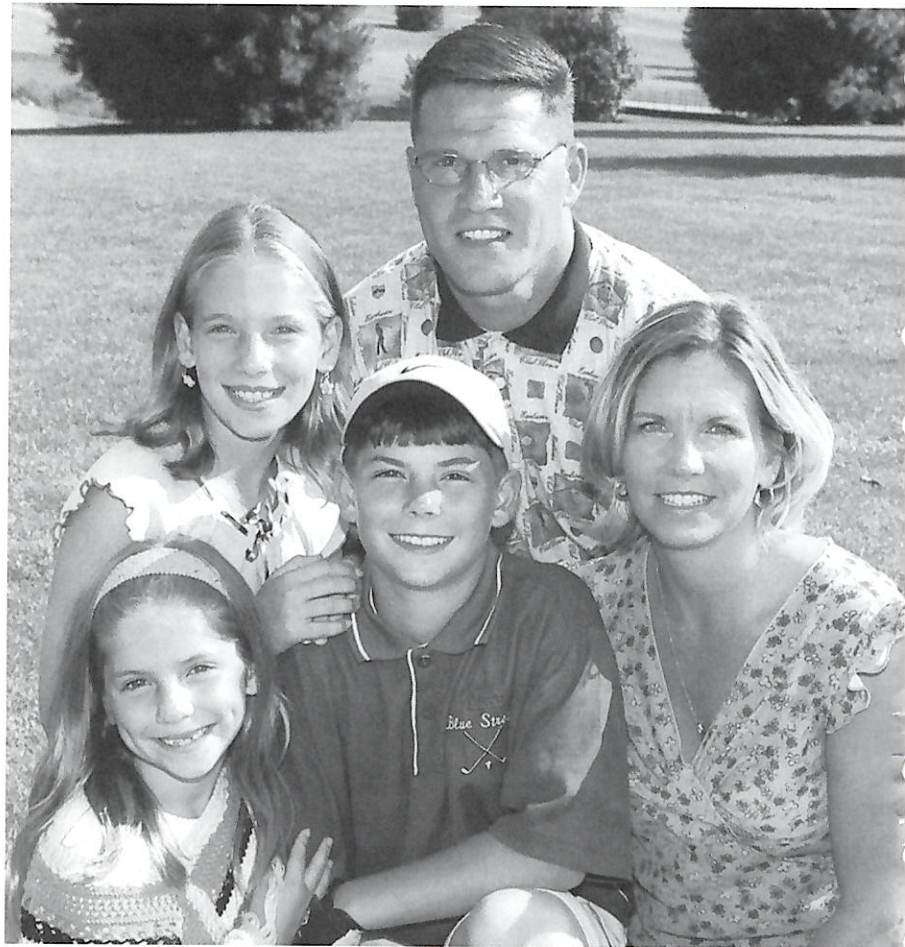
soccer – Tyler sustained an injury. This issue was huge for a boy who loves sports.”

With the third break, the emergency room placed him in a cast. The next day, Tyler saw Dr. Kerwyn Jones, a pediatric orthopedic surgeon with Children’s Orthopedic Surgery Associates. He ordered magnetic resonance imaging (MRI).

“Tyler’s x-rays appeared almost normal but there was swelling in the joint, which can indicate a break. MRIs allow us to look at bone, ligament and cartilage – features we cannot clearly assess on x-rays alone,” said Dr. Jones. “The MRI clearly showed that a potato-chip-thin piece of cartilage had sheared from the joint. This type of injury would not heal or would heal abnormally if not reattached surgically.”

Correcting the issue, restoring mobility

Tyler’s injury is rare in children and is more often seen in adults who experience repetitive motion damage, like those in professional baseball. Dr. Jones decided to apply some contemporary, somewhat controversial surgery and treatment to help Tyler return to full mobility.



Tyler’s family, which includes sisters Taylor and Tana and parents Travis and Shelly, provide him support on and off the golf course.



First, within a day of the MRI scan, Dr. Jones performed surgery to reattach the cartilage to the bone. Using two titanium pins, not those made of stainless steel, he successfully secured the cartilage to its proper location. These pins are specially designed without a “head” and are contoured to remain secure while providing a smooth surface on the top of the cartilage.

“Titanium maintains similar bending characteristics as bone – it will give a certain degree before breaking,” said Dr. Jones. “These pins also do not damage MRI clarity, which will be important if future scans need to be completed.”

As an eighth grader, Tyler practiced with the Lake High School golf team this year.

And because the pins were not inserted into growth plates, they should not have to be replaced in the future, no matter how much Tyler grows.

After the two-hour surgery, Tyler’s arm was placed in a continuous passive motion (CPM) apparatus, which slowly bends and straightens the elbow.

“Traditionally, damaged joints like these are immobilized after surgery. I believe that with injuries like Tyler’s, the sooner the joint is moving, the better. The CPM machine only works well on knees and elbows – the two joints that primarily move in one direction – and only has been used on a few patients since Tyler. Wrist and ankle joints move in multiple directions and must be treated differently,” explained Dr. Jones.

"It was strange to see Tyler's arm moving so soon after surgery, but I believe it really made the difference in his recovery," said Travis, Tyler's father. "The strength and flexibility exercises that he received through the post-surgery physical therapy visits helped him become stronger and more flexible."

Fully recovered

Now at 13, eighth-grade Tyler has a nearly 100 percent range of motion. He is now an avid golfer, playing nearly every day in preparation for joining the Lake High School golf team next fall. His low rounds include a 37 on nine holes and 79 on 18.

His elbow has not bothered him. In fact, Tyler says his scar is the only reminder of his ordeal. Dr. Jones' workmanship has been put to the test during the last two years – in addition to playing a lot of golf, Tyler broke his upper arm in a snowboarding accident in February 2003. The elbow was not damaged and this fracture was a clean break that healed normally.

Shelly says that care offered by Children's Hospital and Dr. Jones was the reason her son is healthy today. "During a very emotional time, the staff not only gave Tyler the attention he needed, but they provided the ongoing communication that we needed to remain calm and work out his care at home," she said.

"Understanding the emotional and psychological aspects of childhood injuries

is one of the strengths of our organization," said Dr. Jones. "From a treatment perspective, our physicians and staff are specially trained to spot growth-plate injuries and other child-related issues that may be overlooked by practitioners who treat adults. In many cases, fractures in children tend to heal better than adults, so they must be treated differently than adults."

"We are thrilled with Tyler's recovery and so pleased that he can continue to play sports as he grows," said Travis. "We encourage parents to listen to their kids when they complain about an injury. It could be more serious than it appears."



What to do if you suspect a break

Dr. Kerwyn Jones, a pediatric orthopedic surgeon, says that bone fractures often are ignored, especially in active children or those with high pain tolerances. He recommends seeing a physician or going to an emergency room when:

- A child begins limping or cannot bear weight after a leg, ankle or foot injury. "It is a myth that it is not broken if they can walk on it," he explained. "Children do not want to be kept down and will often run and play on a broken bone just to remain active."
- Swelling occurs. "Arm breaks are harder to detect than legs because bruising may or may not occur and children automatically accommodate tasks with their other arm," he noted. "Swelling is often the only indicator of breaks, especially tiny fractures."

About 15 to 30 percent of all fractures in children occur in the area of the growth plate, which may interfere with or inhibit bone growth. Growth plate fractures are twice as common in boys as in girls. The Children's Hospital orthopedic team is specially trained to spot and treat growth plate fractures.

Healthy eating habits, with balanced meals and calcium-rich food and drinks can promote strong bone development. According to a Harvard study, teenage girls who drink soda pop have three times the risk of bone fractures as those who do not drink carbonated beverages. Encourage your children to eat well, play safely and share their aches and pains freely with you.