

Patient Success Story: Chloe's Early Onset Scoliosis

CHLOE was 5 years old when her pediatrician first spotted a spinal curve. "I was at the pediatrician for a routine exam and he spotted the curve, and then did X-rays that confirmed it," Chloe remembers. "He explained to my mom that it was rare for a child to have a curve at such a young age. At first they thought it was another type of deformity, rather than scoliosis, but ultimately, they concluded that it was scoliosis."

Chloe was referred to a pediatric orthopedic surgeon, and after a MRI revealed an abnormality at the level of her brainstem called a Chiari malformation, she was also referred to a pediatric neurosurgeon, Dr. Timothy George.

Her curve progressed despite bracing, which is not uncommon in the case of a Chiari malformation. At the age of 6 years old, she underwent a Chiari decompression surgery, or suboccipital craniotomy with a duraplasty, with Dr. George. Despite a small spinal fluid leak and the need for another repair, she did well after the surgery.

The hope is always that fixing the Chiari issue will lead to resolution or improvement of the scoliosis. This is because the neurogenic "driver" of the scoliosis has been removed.

Chloe's parents brought her to Dr. Geck when her curve kept progressing despite the Chiari decompression and brace wear.

"I was about 9 years old when I first saw Dr. Geck. He again recommended a brace as a non-surgical option to hopefully stop the curve from worsening."

Chloe's brace was carefully refitted, and she wore it as much as she could. Ultimately, Chloe wore a brace from age 6 to age 15, usually 22 hours a day, including sleeping.

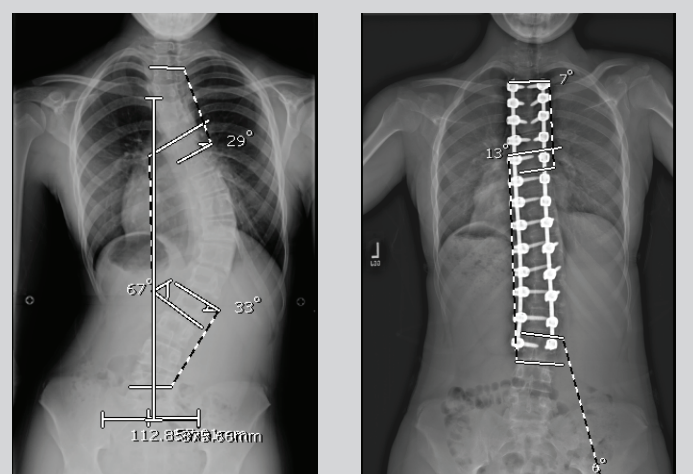
Even so her spinal curve had progressed to over 60 degrees by the time she was 15 years old, and it kept getting worse.

"Ultimately, Dr. Geck noted that the surgery would be necessary to stop the progression of the curve." Chloe recalls. "I remember that the curve was really starting to pressure my lungs and breathing. Also, I had constant back pain all the time, both sitting or standing, 24 hours a day. I always participated in activities and the curve had interrupted that."

Dr. Geck remembers the decision process for the parents and child. "It is heartbreaking when a neurogenic curve like Chloe's keeps progressing despite Dr. George fixing the Chiari and despite her constant brace wear," remembers Dr. Geck.

Ultimately, the parents recognized corrective surgery would be necessary to avoid lifelong complications. "In December of 2018, I had scoliosis surgery with Dr. Geck to arrest the curve," remembers Chloe.

Dr. Geck implanted rods and screws to derotate and correct the curve, reducing the curve to 14 degrees. After scoliosis surgery, she spent four days in the hospital recovering. "Neurogenic curves can be challenging in terms of stiffness, and level choice," notes Dr. Geck. "I am



Chloe's thoracic curve had worsened to 60° (left) making surgical correction necessary. The curve was starting to pressure her lungs and affect her lungs, causing difficulty breathing. Also, Chloe had constant back pain, both sitting and standing. Through surgical correction, her scoliotic curve was reduced to 14° (right).

glad the surgery went perfectly and we were able to get her a great result.”

It has now been about two years since the corrective surgery and Chloe has a straight spine, has added another 2 inches from the surgery and is back to the life of a normal 17 year old.



PHYSICIAN BIO

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Matthew J. Geck MD is a board-certified, fellowship-trained spine and scoliosis surgeon. Dr. Geck's practice is exclusively focused on the niche of spine and scoliosis surgery. This includes patients with adult and pediatric scoliosis, kyphosis, failed surgeries, spinal cord compression, flatback syndrome from Harrington Rods and other complex spinal problems. His specialty spine practice has been based in Austin since 2002. Over the past 20 years, Dr. Geck has performed over 2,500 spine surgeries. His scoliosis practice receives patients from across Texas, surrounding patients and Mexico. He also performs surgeries in South America through his non-profit foundation SpineHope.

Dr. Geck's focus is on pediatric and adult patients with scoliosis, kyphosis, spinal cord compression, failed previous surgeries, and other complex spinal problems. He is experienced in minimally invasive scoliosis surgery, spinal stapling and tethering (fusionless scoliosis surgery), complex spinal reconstruction, osteotomy surgery, and revision surgeries.

Dr. Geck was raised in Wisconsin. He performed his undergraduate work at the University of Wisconsin in the Medical Scholars program and graduated Phi Beta Kappa. He attended medical school at the University of Wisconsin School of Medicine and graduated Alpha Omega Alpha. Dr. Geck performed his orthopedic surgery residency at UCLA Medical Center. He then performed two spine fellowships in adult and pediatric spine surgery, the first at Jackson Memorial Hospital and a second in pediatric scoliosis and kyphosis surgery at Miami Children's Hospital. He moved to Austin, Texas in 2002 where he started his spine deformity practice.

Dr. Geck has authored more than 80 scientific papers, book chapters, and abstracts for the journals Spine, The Journal of Spinal Disorders, Orthopedic Clinics in North America, The Spine Journal, and the Journal of the Scoliosis Research Society: Spinal Deformity, and presentations at the Scoliosis Research Society, International Meeting for Advanced Spinal Techniques, North American Spine Society, Cervical Spine Research Society, the Society for Minimally Invasive Surgery of the Spine, and the American Academy of Orthopaedic Surgeons.

Dr. Geck was certified by the American Board of Orthopaedic Surgery in 2004 and is a Fellow of the American Orthopedic Association, the Scoliosis Research Society, North American Spine Society, and the American Academy of Orthopedic Surgeons, the Society for Minimally Invasive Surgery of the Spine, and the Cervical Spine Research Society.

Dr. Geck also contributes his time as Medical Director for SpineHope which performs free spine surgery for children in poverty-stricken countries across South America and elsewhere. Dr. Geck has traveled to more than 20 international locations, performing spinal deformity surgeries at various hospitals across South America. He has supervised or performed over 200 spine surgeries in these locales, and has seen over 1,000 children with severe or neglected spinal deformities. Through SpineHope, Dr. Geck provides advanced training to local spine surgeons at these hospitals in the specialty of spinal deformity and scoliosis. To learn more about this foundation, visit SpineHope.org.