

NON-OPERATIVE TREATMENTS FOR ADOLESCENT IDIOPATHIC SCOLIOSIS

Children's Mercy and the Science of Modern Bracing

Adolescent idiopathic scoliosis, or AIS, affects approximately 4% of children ages 10-18. Untreated large curves can lead to functional and quality of life concerns. Although surgery is sometimes indicated for the treatment of this condition, particularly if the curve is greater than 50 degrees on the Cobb angle, nonsurgical treatments continue to evolve, and Children's Mercy Kansas City is leading the way.

Nigel Price, MD, Spine Surgery Section Chief at Children's Mercy, is focused on helping kids avoid spinal fusion surgery through the use of effective bracing. Dr. Price, along with Drs. Schwend and Anderson at Children's Mercy and their collaborative nurse practitioners, are investigating and implementing new non-operative bracing techniques to provide patients with the best treatments available.

Children's Mercy is offering a Rigo Cheneau-trained surgeon and orthotist on-site, and partners with certified Schroth method physical therapists. Its team members have traveled internationally to train with the leading

experts in these nonsurgical treatments for scoliosis. Then they work closely with each patient to create a brace and exercise plan that is optimized for them.



Children's Mercy is investigating and implementing new non-operative bracing techniques, such as 3D Rigo Cheneau, to provide patients with the best treatments available for adolescent idiopathic scoliosis.

ADVANCES IN BRACING OUTCOMES

In the past six years, the body of knowledge related to bracing outcomes in AIS was significantly expanded when an NIH-funded study was published in the *New England Journal of Medicine*. Called the BrAIST study, it was conducted in 25 centers across the U.S. and Canada. Dr. Price was a principal investigator in the study, and Children's Mercy was the largest contributor, with nearly 10% of the patients studied.

The study reviewed differences in outcomes in bracing versus observation. The rate of treatment success was approximately 75% with bracing, as compared to 42% with observation. It was the first study of its kind, randomizing patients into two groups. Over time, the study design was modified as patients began to express treatment preferences.

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A TEAM APPROACH IMPROVES COMPLIANCE

The spine center at Children's Mercy has always offered strong bracing competency. In recent years, the approach has further evolved. Patients experience a multidisciplinary approach, where their care team includes a spine surgeon, brace maker and a Schroth-trained physical therapist who is specially trained in scoliosis.

A TEAM APPROACH IMPROVES COMPLIANCE

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Patients make frequent visits to the clinic for brace adjustments and expert fittings using 3D images captured via EOS low-dose, full-body imaging technology. This expert fitting, along with a body sock made from COOLMAX fabric that is worn under the brace, significantly increases patient comfort – and, therefore, compliance. Patients also learn about the importance of wearing the brace full time. To help, a compliance monitor is incorporated into every brace, tracking usage between visits.



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Dr. Price is currently collecting data from the brace monitors to analyze compliance rates. Initial findings suggest compliance rates at Children's Mercy are very high, in part because of the team's approach to care. Data analysis will continue over the next six months, and

results from several hundred patients will be available by spring 2020.

or the curve is too significant. Surgeons at Children's Mercy offer endoscopic-assisted or open VBT treatment. Patients experience an immediate partial curve correction, with further correction over time. Recovery is quick, with patients returning to sports and other activities within three months. With ApiFix, a device is affixed to the spine on the concave side of the major curve using two or three screws. The procedure is minimally invasive, ensuring a shorter hospital stay and quicker recovery. Both techniques show promise for curve correction while helping patients avoid spine fusion surgery.

LEADERSHIP ROLE FOR DR. PRICE

Dr. Price was recently named chair of the Non-operative Committee for the Scoliosis Research Society. The committee's focus is on developing educational materials for clinicians and families on non-operative or conservative care of children and adults with spine deformity.

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TWO EMERGING TECHNIQUES FOR TREATING AIS

Two new nonfusion therapies, vertebral body tethering (VBT) and ApiFix, were recently approved by the FDA for treating AIS where bracing has failed

In academic affiliation with



LEARN MORE ABOUT BRACING TECHNIQUES FOR SCOLIOSIS.

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