

Revolutionary back surgery technique for children with scoliosis

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The Sainte-Justine University Hospital Center (CHU Sainte-Justine) affiliated to Université de Montréal is now the first institution in Québec, the second in Canada and among the world's top ten to perform a revolutionary back surgery technique in children with scoliosis. The number of such surgeries performed worldwide so far is less than a hundred. Unlike any other technique, this one enables children of seven years of age and up to 14 years old to gain a straight spine, with no limitation of movement. The intervention is performed at CHU Sainte-Justine by orthopedic surgeon Dr. Stefan Parent, who also carries research with the aim of identifying those children at-risk of major curvature progression who are likely to benefit from the new surgical technique. Straightening the spine by leveraging the child's growth

The technique consists in installing implants along the spine while relying on the child's growth over years to straighten the spine. Unlike to the conventional technique which leaves a large scar in the back in addition to fusing the vertebrae and restraining movements, the use of cutting-edge equipment provides children with a non-invasive surgery, as implants are very precisely positioned along the spine through thoracoscopy, intraoperative navigation and an O-Arm imaging mobile view station. Surgery duration is four to six hours, patient's stay in the hospital is four to five days, and return to sports is quite rapid, normally in three to four months following the surgery. Therefore, the technique represents a major improvement in the lives of adolescents with scoliosis.

Identifying more children who might benefit from the surgery technique

In addition to performing surgeries, Dr. Parent conducts research aimed at predicting, in three dimensions, how a child's idiopathic [scoliosis](#) might progress. He recently published papers in the

Journal of Pediatric Orthopedics and Spine Deformity, which demonstrate that identifying whether a patient is at high risk of progression is possible at his first visit. He is currently leading a multicentre study in eight different hospitals located in Asia, Europe and North America in order to validate his conclusions. Ultimately, his predictive model is expected to grow the number of [children](#) with [idiopathic scoliosis](#) likely to benefit from the new surgical technique, which draws from the child's growth potential to straighten the [spine](#).

Provided by University of Montreal

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