

MEDICAL BREAKTHROUGHS

RESEARCH SUMMARY

TOPIC: LESS RADIATION FOR PEDIATRIC SPINE SURGERY
REPORT: MB #4975

BACKGROUND: Most spinal conditions are found in children during a school screening or by their parent. When an issue is detected, doctors will use medical and family history, physical exams, and diagnostics to determine the severity of the spinal issue. These tests can include, x-rays, computerized tomography scan (CT or CAT scan), magnetic resonance imaging (MRI), blood tests, ultrasound (sonogram), bone scans, bone density scans (dual-energy x-ray absorptiometry, DEXA, DXA), and pulmonary function tests. Treatments can include bracing the back, observation and monitoring, physical therapy, and casting. If severe, treatment could involve spinal surgery.

(Source: <https://www.childrenshospital.org/conditions-and-treatments/conditions/s/spine-problems/diagnosis-and-treatment>)

TYPES OF PEDIATRIC BACK SURGERY: Spinal fusion surgery is performed to help children or teens with scoliosis or other spinal issues. The term “fusion” comes from the act of allowing two or more bones in the spine to fuse together into one solid bone, through growing together. This will help the spine become straighter as well as relieve pain in the back. This is performed when a brace is not enough to correct the bone placement, or the child is too old for bracing. The surgeon will make cuts in the bone to put it in a straighter position, then the surgeon will put in rods and screws to hold the bone in the straighter position. The metal around the spine can't be felt after surgery and is placed deep under the muscle. Surgeons graft bone where the rods and screws are and will eventually fuse the spine bones together.

(Source: <https://kidshealth.org/en/parents/spinal-fusion.html>)

NEW TECHNOLOGY: The FDA recently approved a device for anterior vertebral body tethering to treat kids with idiopathic scoliosis. The device allows for the gradual correction of a spinal deformity through the natural growth of the spine, leading to improvements in spinal alignment while maintaining spinal flexibility. The device is attached to the spine during a minimally invasive thoracoscopic procedure. The “tether” has the opportunity to improve pediatric surgical outcomes as well as improve the quality of life for children and adolescents with significant spinal deformities. The most common type of scoliosis is called idiopathic scoliosis and can occur in children between the ages of ten and 18, or until they are fully grown. Spinal fusion surgery is the most common treatment for severe cases of spinal curvatures. It takes three months for an adolescent to recover fully from this procedure. In clinical trials, the spinal tether was shown to shorten recovery time and increase their range of motion. To determine which treatment is more beneficial for your child, early diagnosis is critical.

(Source: <https://childrensnational.org/news-and-events/childrens-newsroom/2021/childrens-national-hospital-performs-first-minimally-invasive-spinal-tether-surgery-in-region>)

FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com