Specialised Services

NHS England

70 YEARS OF THE NHS 1948 - 2018

Spotlight on Scoliosis

Scoliosis is where the spine twists and curves to the side. Treatment is provided in specialist centres and usually includes surgery and a hospital stay of around seven days. It is life changing, providing pain relief, sometimes helping lower limbs to function better and improving appearance and self-esteem.

It hasn't always been this way. Earliest treatments in the 1920s were traction and plaster casting, which then progressed in the 1930s to surgery. This fused the spine with the patient's bone and was followed by 6-12 months in a bed made of plaster. Many children suffered from scoliosis as a result of tuberculosis or polio, and hospitals had schools and other services for these long stay patients. When the NHS was founded in 1948, only patients with the most severe spinal deformities received treatment, which often went on for many years.

In the 1950's vaccines for polio and tuberculosis were introduced, reducing the number of patients dramatically. Also at this time, the UK and the NHS began to pioneer the treatment of scoliosis through the work of a number of internationally renowned orthopaedic surgeons. They led new methods of treatment and set up specialist centres across the country. In the meantime, the first spinal implants to reduce curvature and support the spine appeared, including rods and screws attached to each vertebra. New technology in the 1980s began to allow surgeons to monitor the motor and sensory nerves during surgery to prevent damage to the spinal cord. In the 1990s, rods which allow the spine to continue growing were introduced, but these had to be extended every six months, meaning children had to have multiple operations. Most recently, rods with a magnetically controlled motor have been developed, which allow the surgeon to extend the rod using a strong magnetic field, preventing the need for operations.

1920s	First specialised hospitals for scoliosis
1930s	Fusion surgery begins
1948	NHS is founded
1950s	Vaccines introduced for polio and tuberculosis
1953	Harrington rod developed: first spinal implant treatment for scoliosis
1976	British scoliosis group formed, later to become the British Scoliosis Society.
1980s	Spinal cord monitoring during surgery begins
1990s	Rods for children which allow spinal growth used
2008	Magnetically controlled rods which allow for spinal growth introduced

Sue Pearson, 52:

"Both my daughter Sophie and I have had spinal fusions Royal National Orthopedic Hospital, me in 1979 and my Sophie in 2016. Treatment has changed so much. After my operation I spent six weeks in bed, three months in plaster and wore a brace for nine months. My daughter had two rods and screws and was in hospital for five days. She was doing ballet within 4 months. I used to have trouble walking, now I do Zumba and short hikes. The treatment changed our lives - without the NHS we wouldn't be the women we are today."

The future

Treatment of scoliosis is likely to change significantly over the next 30 years. We're learning more about minimally invasive surgery, which can mean less post-operative pain and less time in hospital. Evidence is being gathered for new techniques like vertebral body tethering, which aims to correct scoliosis while allowing the spine to grow. Robotic surgery is likely to be used in future. New studies of chromosomes have shown that there are genetic markers which predispose a person to scoliosis, meaning it may be possible in the future to use genetic engineering to treat the condition without surgery - or prevent it altogether.