

Robotic device helps straighten bone in pediatric first for Mississippi

Special to Pelahatchie News

While Paul Sykes goes about a day at Bettye Mae Jack Middle School in Morton, spends time with friends or is at home with family, a robotic device is making tiny adjustments to reshape his shin bone.

He is the first pediatric patient in Mississippi to use the Maxframe Autostrut multiplanar correction system. Approved by the U.S. Food and Drug Administration in 2022, the device was installed for the first time in Mississippi on March 21. It is the first fully automated orthopaedic implant in the world.

Sykes' orthopaedic surgeon at Children's of Mississippi, Dr. Kellie Leitch, professor and chief of pediatric orthopaedics and rehabilitation at the University of Mississippi Medical Center, was among a handful of surgeons around the country to train with Johnson & Johnson on the robotics device, which was created by DePuy Synthes, one of the companies that make up Johnson & Johnson Medical Devices Group.

Leitch surgically placed the frame around Sykes' tibia during spring break in March. A week later, Sykes was back

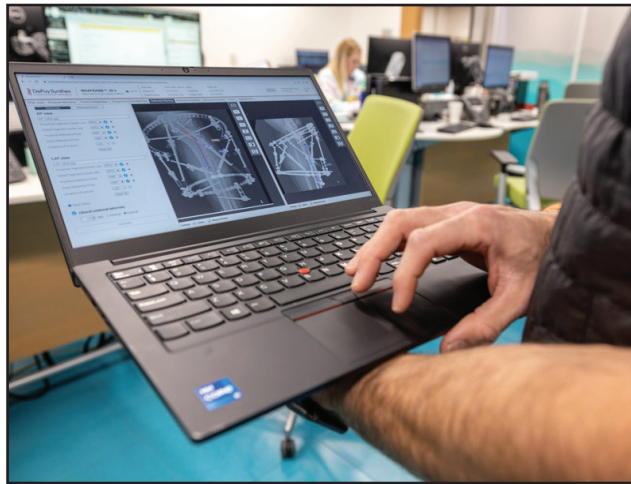
at Children's of Mississippi's Kathy and Joe Sanderson Tower for the Autostrut to be placed for treatment of Blount's disease.

A genetic growth disorder of the shin bone at the knee, Blount's disease causes the growth plate at the inside of the knee to make less bone or stop growing. Since the growth plate at the outside of the knee keeps growing, this can leave children with one or both legs bowed.

When left untreated, the condition can result in chronic knee pain and the need for knee replacements at an early age.

"We thought at first that his growth was normal," said his father, Paul Sykes Jr. While many young children have bowed legs, bowing worsens for children with Blount's disease as they grow. Adolescent Blount's disease occurs in children ten years and older.

"Attachment of the robot allows us to relieve the family of the responsibility of managing a complicated spatial



By courtesy of Jay Ferchaud/ UMMC Communications

X-ray images of Paul Sykes III's leg are shown on the Maxframe Autostrut platform.

frame prescription," Leitch said. "This improves the opportunity for an excellent deformity correction, resulting in a straight leg."

The smaller adjustments are less painful than the larger adjustments that would be made by a parent, caregiver or patient two or three times a day under the former treatment plan.

Once a care plan is set, information on the adjustments needed are downloaded into the Maxframe Autostrut software.

The device is then placed along the framework, where it can make up to twenty microadjustments throughout the day.

"This is easier for parents. They have full schedules with work and family. It's also better for patients," Leitch said. "Studies have shown that these microadjustments also help the new bone grow significantly better."

The lightweight device works quietly, and patients can wear the device even when showering or doing hydrotherapy, said Zach Wade, a Johnson & Johnson consultant who traveled to Children's of Mississippi for the device's installation.

A Wi-Fi connection is needed for a care plan to be loaded into the Autostrut, but, after that, internet service isn't required. The device is armed with enough battery power for the duration of treatment.

A seventh-grader, Sykes is going through forty days of treatment with the Maxframe Autostrut device, as well as physical therapy and gait training this spring. A guard on the Panthers football team at school, he hopes to be back on the football field in the fall.

"Treatment will be done before I start eighth grade," he said.



Methodist
Senior Services
Celebration. Innovation. Hope.

Riggs Manor
Retirement Community

**62 and
BOLDER?**



Our campus offers senior living with your choice of

- Apartments & Garden Homes for Independent Lifestyles
- Assisted Living Studios & Apartments
- Memory Support Living in Green House® Homes

Call today for your personal tour!

(601) 857-5011

2300 Seven Springs Road • Raymond, MS 39154






Crooked Creek Animal Hospital, Inc.



Charles M. Edwards II, DVM
Staci L. Rhodes, DVM

123 Pleasant Pace Dr.
Pelahatchie, MS
www.crookedcreekanimal.com
Phone: 601-854-7808
Fax: 601-854-7810

Crooked Creek Lodge
601-812-7012
ccahlodge@gmail.com

Follow us on:

 www.facebook.com/CrookedCreekAH

 www.instagram.com/ccanimalhospital

 www.facebook.com/CrookedCreekLodge