Dayton Children's is one of the few hospitals in the world that offers patients a gait and motion analysis laboratory. The gait lab’s state-of-the-art computer technology can identify problems that are not always detectable in a typical clinical exam and offer children more specific treatment options for movement issues with often better results.

A child or teen is typically referred to the gait lab for pain or fatigue when walking. These issues are generally caused by conditions like cerebral palsy, spina bifida, scoliosis, other neurological or muscular diseases or injuries.

In a gait lab study, motion-capture cameras record a child as they step, walk and run on a pressure-sensor mat while wearing reflective markers. The captured data is then rendered into 3D imagery which provides an in-depth look at a child’s movements, walking patterns and muscle activity.

“This data, along with a physical examination gauging a child’s strength, range of motion, spasticity and balance, can help the team identify specific ways to help improve the child’s or teen’s ability to walk, step and run,” says Claire Beimesch, MD, pediatric orthopedic surgeon.

“Beyond its typical use, our gait lab is also collecting data for research on patients who have had an ACL reconstruction and for those who are about to have spine surgery using the ApiFix® system.”

Dayton Children’s has applied to become one of the few children’s hospitals with gait lab accreditation through the Commission for Motion Laboratory Accreditation (CMLA). Only 14 other labs in the world have received this prestigious recognition.

to help alleviate the crushing volumes Dayton Children’s saw at its main and south campus Emergency Departments in early fall due to COVID-19 and RSV patients, the hospital launched an educational campaign around fracture care. The campaign was designed to push appropriate fracture care patients to the orthopedics clinic versus going to the emergency department.

For patients that don’t have an urgent need, like an open fracture or obvious deformity, they are encouraged to make an appointment online with a pediatric orthopedics provider or visit the hospital’s after-hours orthopedics clinic. Learn more