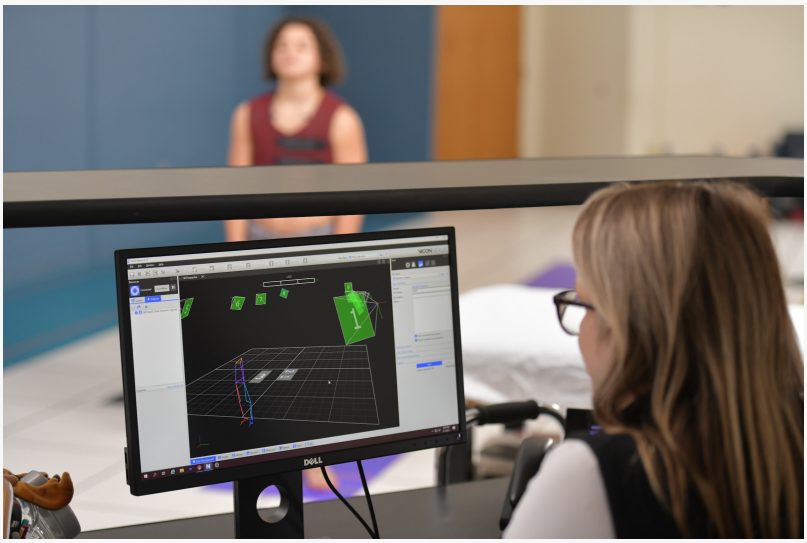
Shriners Children’s Becomes Largest Pediatric Motion Analysis Center in the World

Nonprofit Healthcare System Revolutionizing Care with Integrated Motion Analysis Centers



Shriners Children's System Physical Therapist Joanna Ferreri, PT, DPT., conducting gait analysis on a patient.

TAMPA, FL, UNITED STATES, March 11, 2025 /EINPresswire.com/ -- For more than 40 years, Shriners Children’s has been utilizing motion analysis technology, similar to what you might find in a Hollywood movie, in each of its 14 state-of-the-art Motion Analysis Centers (MACs). Motion analysis helps physicians determine the best treatment methods for children with movement differences caused by conditions such as cerebral palsy, scoliosis, brachial plexus or sports injuries. Now, the nonprofit healthcare system is making a change that it hopes will lead to even better patient outcomes and research advances.

Shriners Children’s is digitally integrating all 14 of its motion analysis labs across the country, making it the largest unified pediatric motion analysis center in the world. To help unify this change, Shriners Children’s published a paper on its new Shriners Children’s Gait Model (SCGM) this year in the Journal of Gait and Posture, which creates a standardized model to compare and interpret data across all facilities. Shriners Children’s Vice President of Research Programs Dr. Marc Lalande said the revolutionary change will make it easier for doctors across their entire healthcare system to share data, learn from past patient experiences, inform future care decisions and perform cutting-edge research.

> “This is the type of change that will eventually open the doors for more innovative research and discoveries. It will truly improve the lives of our patients.””
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> *Shriners Children’s Vice President of Research Programs Dr. Marc Lalande*

“This is truly a groundbreaking advancement for Shriners Children’s because it means that patients, doctors, physical therapists, engineers and other Shriners Children’s staff can now

analyze thousands of new data points and previous pediatric cases to make the most informed decisions on how they treat children, regardless of which hospital they were treated at," said Dr. Lalande. "While that may have been possible before, it was a more cumbersome process and we didn't have a unified, overarching system for how we process all of that data and qualify it. This is the type of change that will eventually open the doors for more innovative research and discoveries. It will truly improve the lives of our patients so we're very excited about what's in store."

Motion analysis is a technology that uses data to help analyze how a child walks and moves. Shriners Children's uses high-speed cameras, reflective markers, force platforms and muscle sensors to record a child's movement patterns. The data is then analyzed using computer-generated imagery (CGI) similar to what you might see in a video game, to model the child's gait and allow doctors to compare it to a patient without a gait difference. Shriners Children's Corporate Director of Motion Analysis Centers Dr. Ross Chafetz said the technology allows doctors to pinpoint exactly where the problem is and more accurately determine the best course of treatment.

"With our new integrated system, when a patient comes in needing knee surgery, the doctor will be able to access data from all 14 MAC labs across our system, look at similar cases, and gain knowledge about what treatment option might be best for that child," Dr. Chafetz said. "The MACs also allow us to tell patients the surgeries we would recommend, and equally as important, when we wouldn't recommend surgery at all. Sometimes the data tells us the patient just needs time to grow, and it's not as bad as we thought. Motion labs are a service many healthcare systems aren't able to offer because it can be a timely and cost-prohibitive process, but Shriners Children's has been a leader in this area for a long time, so we felt like this was an important step forward in how we continue delivering the most innovative care."

Dr. Chafetz said, as this technology continues to improve, we envision a future where developments in its MACs can be spread to all corners of the world, helping millions of children in different countries. Using artificial intelligence, Shriners Children's is actively leading research on the use of cell phone cameras to evaluate movement in children with disabilities. This allows us to remotely evaluate children, providing them access to a powerful tool that otherwise would not be available.

Dr. Vedant Kulkarni, Shriners Children's Northern California Orthopedic Surgeon and Assistant Chief of Orthopedics, said he considers the data provided by motion analysis to be a crucial part of his care plan for children.

"I think it's the ultimate precision medicine," Dr. Kulkarni said. "In a clinical setting, it's hard to grasp all the possibilities of the gait, and you're not able to see all the problems that are occurring with just the eyes. We're doing things at the highest level possible, and access to sources like Motion Analysis Centers is what sets Shriners Children's apart. The MACs truly feed into Shriners Children's mission."

About Shriners Children’s
Shriners Children’s improves the lives of children by providing pediatric specialty care, conducting innovative research, and offering outstanding education programs for medical professionals. Children with orthopedic conditions, burns, spinal cord injuries, and cleft lip and palate are eligible for care, regardless of the families’ ability to pay, and receive all care and services in a compassionate, family-centered environment. For more information, please visit shrinerschildrens.org.

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