

Pediatric Pelvic Fracture Reconstruction Enhances Cincinnati Children's Polytrauma Services

The full spectrum of pediatric polytrauma care is now available at Cincinnati Children's with the added surgical expertise of pediatric orthopaedic traumatologist Wendy Ramalingam, MD. Ramalingam specializes in reconstructing a child's shattered pelvis and acetabulum following a car accident, fall or other severe trauma.

Ramalingam is one of a small number of pediatric orthopaedic traumatologists in the country with expertise in performing this rare pelvic reconstruction surgery. Pelvic/acetabular surgery is highly complex, as the surgeon works around vital organs and blood vessels inside and around the pelvis. Evaluating whether a child needs surgery and what surgical approach to take are keys to successful treatment.

"Our goal with pelvic reconstruction is to get kids back to where they were before the injury, with a stable pelvic ring or hip socket, and without lifelong arthritis or pain," Ramalingam says.

During a polytrauma case, she works closely with pediatric specialists in other fields – emergency, cardiology, pulmonology, general surgery, nephrology, neurosurgery – to preserve life and restore the child to full function.

Ramalingam has completed six pelvic reconstruction surgeries at Cincinnati Children's, with excellent results. She also performs other orthopaedic trauma surgeries, including knee and ankle trauma with closed growth plates.

Ramalingam completed her orthopaedic surgery residency at the University of Cincinnati and her pediatric orthopaedic residency rotations at Cincinnati Children's followed by her pediatric orthopaedic fellowship at the University of Colorado. She has been supplementing her trauma training on adult patients at the University of Cincinnati since returning to Cincinnati in 2018, and has joined Cincinnati Children's full time, effective fall 2020.

Improving Clinical Outcomes for Trauma and Fracture Care

With a focus on improving clinical outcomes, Ramalingam and the pediatric orthopaedic surgical team published more than 40 papers in 2019 on fracture/trauma care.

Director of Musculoskeletal Outcomes Research Charles Mehlman, DO, MPH, recently published a series of papers on evaluating forearm fractures for surgery to promote maximum healing and prevent growth disturbance.

He also has published research on ankle fractures involving growth plates, proving lower long-term complication rates of surgery versus casting in many cases. From 2017 to 2019, he published a series of 14 papers titled "Pearls and Pitfalls in Pediatric Trauma" in the *Journal of Orthopaedic Trauma* as a resource for non-pediatric surgeons providing fracture care outside children's hospitals.

These efforts build upon Cincinnati Children's long-standing tradition of advancing trauma and fracture care across the world. Past breakthrough achievements have included:

- Bringing a minimally invasive surgery technique to the region for femoral fractures to the U.S. in the 1990s that is now a worldwide standard of care. The surgery replaced a months-long process of pinning, traction and body cast for young patients.
- Proving in 2001 the safety and effectiveness of optimizing the timing of surgical care of supracondylar fractures (the most common pediatric elbow fracture). While pediatric surgeons used to routinely mobilize immediately to perform emergency surgery (which is still necessary at times), pediatric surgeons can now treat these patients in a more controlled urgent fashion.