

GRAND ROUNDS

Jan 13

Self-repair after brain injury

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Childhood Acute Lymphoblastic Leukemia: Getting Closer

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Advances in MR Spectroscopy for Research in Pediatrics

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MEDICAL UPDATE: Pediatric Lower Extremity Reconstruction

Pediatric lower extremity injuries commonly occur from sporting injuries, motor vehicle collisions, and ATV accidents. The orthopedic injuries sustained often involve both fractures and significant soft tissue defects.

Comprehensive patient care involves a multidisciplinary approach to effectively treat these difficult injuries. The services combined in the care of these patients include: trauma surgery, vascular surgery, orthopedic surgery and plastic surgery, as well as general pediatrics, acute pain specialists, and physical and occupational therapy.

Treatment involves the initial medical stabilization of the patient by trauma surgery. The orthopedic surgery service will acutely assess the injury and perform initial surgical management including fracture stabilization and soft tissue debridement. Intramedullary rods, external fixators, and plates with screws are the most commonly used forms of fixation in the pediatric orthopedic trauma patient. We routinely consult the physical therapy department to help improve the mobility of patients and prepare families for the transition to home.

Plastic surgery may be needed 2 to 7 days after the injury, although nerve and arterial injuries may necessitate the microsurgical repair in the acute setting. Options for soft tissue closure include skin grafts, local, and distant soft tissue flap options. Distant options include free flaps, which use expendable muscles from other sites such as the back and

upper leg that are harvested with their blood vessels and then anastomosed to the local blood vessels using the microscope and then inset to cover the lower extremity wound.

The perioperative care for the pediatric lower extremity patient usually requires immobilization with a splint, cast, or brace, which may necessitate crutches or a wheel chair for mobilization. The immobilization period is variable depending on the injury with only 5 days for a skin graft versus more than 6 weeks with some fractures. Long-term care is continued after hospital discharge with coordinated follow-up visits in the plastic surgery and orthopedic surgery clinics.

Commonly, the physical and occupational therapy departments become more involved after discharge to facilitate patient recovery. During this time a home range-of-motion and weight-bearing plan is prescribed, as well as any orthotic and prosthetic needs. The transition to return to activities is coordinated by all services and generally is permitted whenever strength, range of motion, wound care, and fracture healing goals have been met.

For more information, please contact Lane Wimberly, MD, Assistant Professor of Orthopaedic Surgery, UT Southwestern, at lane.wimberly@childrens.com, or Andrew Trussler, MD, Assistant Professor of Plastic Surgery, UT Southwestern, at andrew.trussler@childrens.com.

SERVICE UPDATE: Collaborative Autism Program Now Available

The Crystal Charity Ball Autism Project at Children's connects families and providers to a range of coordinated services for children who have been diagnosed with or show signs of an Autism Spectrum Disorder (ASD).

Made possible by the Crystal Charity Ball Foundation, the program incorporates the expertise of clinicians and researchers from UT Southwestern, Children's Medical Center, UT Dallas Center for BrainHealth and Callier Center for Communication Disorders.

Coordinated aspects of the project include:

comprehensive autism evaluation (early childhood and school-aged), medication management, family care coordination, classroom-based preschool programming, innovative social skills interventions, parent-child music group, individual behavioral therapy and community education. The project is also committed to the training of future professionals in the area of autism and clinical and basic science research.

For more information, please call 214-456-7700.

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