Physician Guided Clinical Forum: Case Request

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Brenner Children's
WAKE FOREST BAPTIST HEALTH

Case Study

Brief History

Patient is an 11 year old male with a history of unilateral PFFD. He underwent a syme amputation around age 5. Given expected femoral length discrepancy, family has been prepared for knee fusion and shortening with functional AK outcome. They present to clinic noting that knee height difference has become increasingly challenging.

The patient can no longer sit in the back seat of their vehicle without prosthesis removal. School desk seating is challenging. They would like to proceed with surgery prior to entry into middle school to limit social and educational impacts.

Brief History

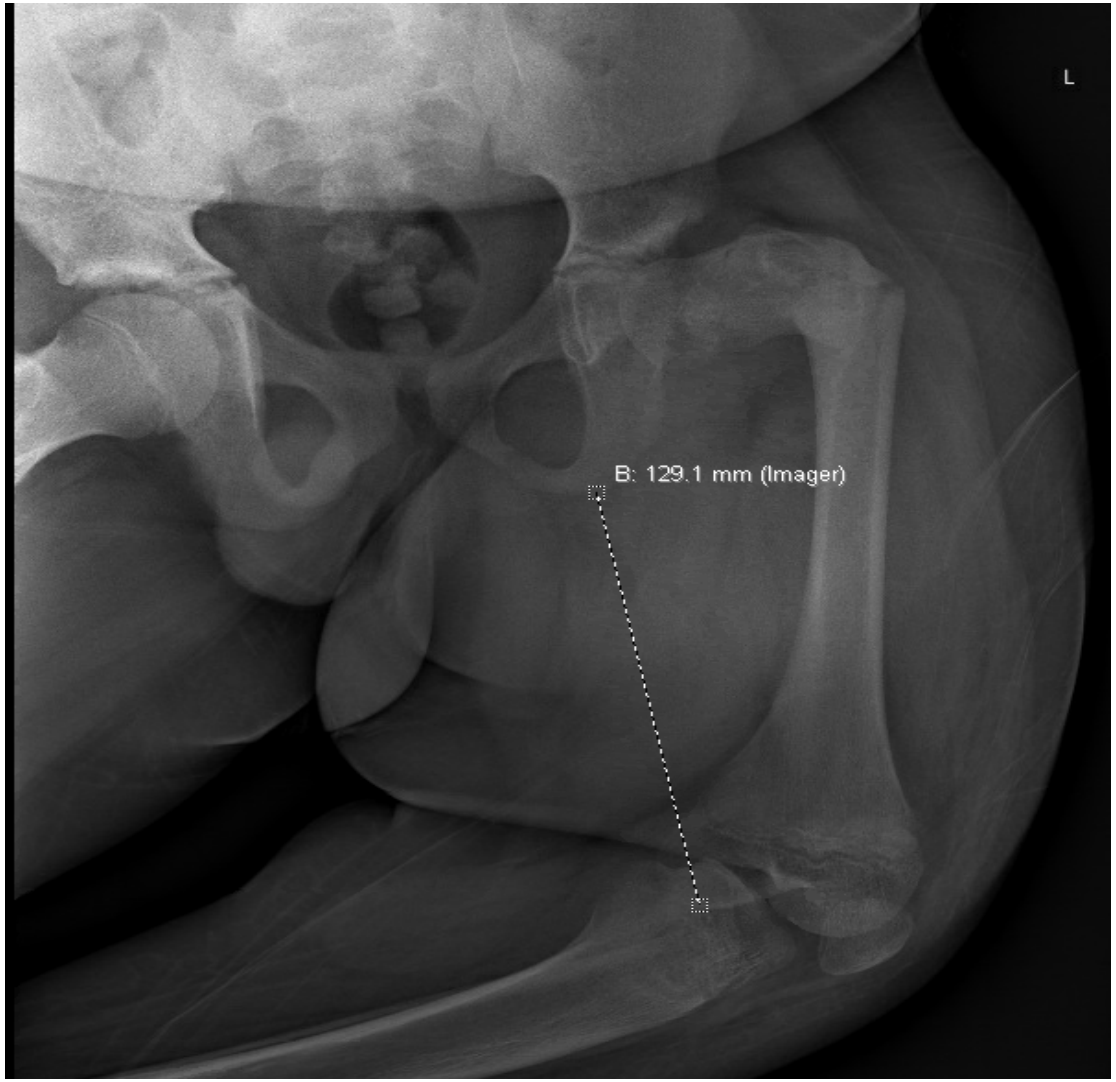
12 months prior he sustained an acute non-displaced subtrochanteric femur fracture through previous non-union site. As he was high functioning with no limitations or pain from coxa vara deformity, he was treated with an in situ ORIF.

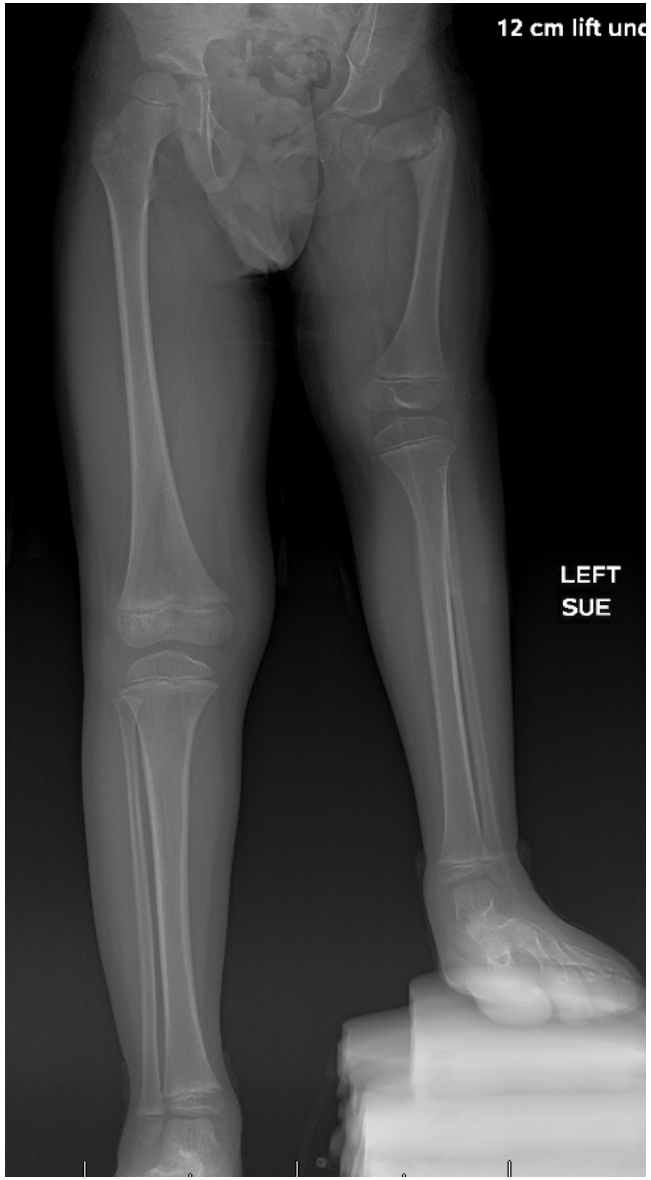
Despite a well healed fracture, his activities have been limited due to fear and anxiety per mom. He has had significant weight gain over the year and she is concerned how surgery will impact his return to normal childhood activities.

Imaging

- Xrays taken 1 year prior to visit (after acute injury) show femoral length of 13 cm from the ischial tuberosity and 18 cm from the femoral head
- New full leg length films pending follow up apt, previous leg lengths demonstrate left femoral termination at approx 50% contralateral femoral length.

Imaging





Clinical Presentation

Constitutional:	Well nourished, no acute distress, appropriate for age.	
HEENT:	Head: Atraumatic.	
	Eyes: Conjunctivae an lids normal.	
Chest/Respiratory:	Chest appearance symmetric. No increased work of breathing or respiratory distress	
Heart/Vascular:	extremities warm and well perfused to all distal extremities.	
Gastrointestinal:	Abdomen soft, non-tender, no masses.	
Skin:	No rashes, lesions, or ulcerations.	
Neurologic	Reflexes: 2+ symmetric, no pathological reflexes.	
	Sensation: intact to touch	
Lymphatic:	No lymphadenopathy.	
Gait & Station:	Heel toe gait with mild circumduction of the LLE and lurch in gait	
Orthopedic Location	Knee alignment mild valgus. Knee stable to stress.	
Specific Exam:	Full ROM of hip and knees without pain. Significant offset of knee heights with residual limb terminating several inches past contralateral limb. Well formed healed pad without skin breakdown Prosthetic well fitting at this time.	

Challenge

Surgical and Prosthetist Review

- While the congenital short femur can present many challenges in sufficient limb length for prosthetic fitting, have new socket technologies changed the way that we surgically approach these patients?
- Would knee disarticulation vs knee fusion with shortening be more appropriate if there is sufficient femoral length of AK fitting? If so what is the ideal/minimum femur length at skeletal maturity?
- If knee fusion is preferred, why and what techniques are used to address conical limb shapes from redundant thigh tissue in PFFD?

Thanks