Introduction
The Morel-Lavallée Lesion (MLL) was first described by the French Surgeon Victor Morel-Lavallée in 1863. The MLL is a closed degloving injury resulting when the skin and subcutaneous fat sheet away from the underlying fascia. A hollow space is created which often fills with blood and lymph fluid from the perforating vessels and severed lymphatic channels. The clinical features of MLL include soft tissue swelling, palpable bulge and/or contour deformity. Due to the underlying fluid collection, the presence of a fluctuant area is a hallmark sign. The diagnosis is often made by history of trauma, clinical exam and radiologic evaluation. MLL often occurs as a result of a high impact pelvic fracture. Lesions are best visualized on MRI however can be diagnosed by CT or US. Treatment options include conservative management with compression, complete bed rest and non-steroidal medications. Surgical options include percutaneous drainage, sclero-therapy or open debridement and NPWT. Therapy failure can result in areas of necrosis. MLL is rare in the pediatric population.

Case Study
- One month old infant was transferred to Level 1 Pediatric Trauma Center for a non-accidental trauma evaluation.
- Patient presented to Pediatric Emergency Department pale with poor capillary refill, multiple areas of ecchymosis over her buttocks and left flank.
- Initial hemoglobin of 5.3.
- Parents reported infant was being carried down a flight of stairs by her 275lb father who slipped and fell, landing directly on his infant daughter.
- Radiology (Figure 3) revealed CT chest/abdomen/pelvis with contrast shows large left subcutaneous hematoma extending from superior left chest into the left gluteus, likely explaining patient's acute anemia.
- Bladder contrast study to evaluate any trauma to bladder and urethra. Results were normal (Figure 4).
- She was taken to the OR on hospital day 1 for incision and drainage of the hematoma, wound debridement and (NPWT) placement.
- Open wound was 5x2cm tunneling in multiple directions near the spine (Figure 1).
- NPWT was changed weekly with dressing placed thin and lightly into wound as a wick, avoiding any probing or excessive pressure to prevent further injury to wound bed (Figure 2).
- Pain team followed closely for adequate pain management during dressing changes.
- Child protection team consult was obtained and the injuries were deemed consistent with the story.
- Patient was transferred to a rehabilitation center on hospital day 14 for continued wound care.
- Wound size decreased over the next several weeks with routine NPWT.
- NPWT discontinued after 60 days when the subcutaneous tissue and muscle were fused together (Figure 5).
- No current concerns for delayed gross motor development. PCP will monitor developmental milestones.
- Scar management with massage and silicone gel sheeting.

Imaging
- Figure 3: CT with contrast- chest, abdomen, pelvis - showing large left subcutaneous hematoma extending from superior left chest into the left gluteus.
- Figure 4: Pelvic Xray - Pelvic ring fractures involving the bilateral superior and inferior pubic rami.

Discussion
- Although rare, pediatric cases of MLL deserve special attention.
- MLL occurs predominantly in patients in their 30s-40s with only a few cases reported in children, with the youngest report of 28 months.
- A number of treatment modalities, ranging from surgical to conservative, can be attempted.
- MLL is more common in patients with peri-pelvic fracture resulting from high-impact trauma.
- MLL in children may pose a diagnostic challenge in children, especially without associated pelvic fracture, therefore causing a delay in diagnoses.

References

Figure 1: Morel-Lavallée injury post op day 1

Figure 2: Negative Pressure Wound Therapy (NPWT )

Figure 3: CT with contrast- chest, abdomen, pelvis - showing large left subcutaneous hematoma extending from superior left chest into the left gluteus.

Figure 4: Pelvic Xray - Pelvic ring fractures involving the bilateral superior and inferior pubic rami.