

## POST-OPERATIVE INFECTIONS AFTER CUTANEOUS REDUCTION AND PERCUTANEOUS PINNING IN TYPE II AND TYPE III PEDIATRIC SUPRACONDYLAR HUMERUS FRACTURES

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**Background:** Supracondylar humerus fractures (SCHF) are the most common elbow fracture type in children, and the second most common type of fracture overall. Excellent outcomes are generally reported with closed reduction and pinning (CRPP), but the technique involves leaving the pins outside the skin. External pins can act as a nidus for infection. We characterize the infection complications from SCHF treatment at a single center tertiary children's hospital over 10 years. This is the largest series on infectious outcomes after SCHF reported to date.

**Materials/Methods:** Pediatric patients undergoing surgery for a type II or type III SCHF from 2011 to 2021 with post-surgical infections were identified. Demographic and clinical data were retrieved from medical records. All patients were treated with CRPP and followed for 90 days.

**Results:** 18 patients met inclusion criteria, 10 and 8 with type II and III SCHF respectively. The average age at diagnosis of fracture was 4.7 (2-9) years. The average operating time for the index surgery was 29 minutes (12-42). The average number of post-operative days until pin removal was 29.8 (18-52), and the average number of post-operative days until readmission or visit with symptoms was 38.9 (18-77). There was a documented history of a wet cast in 6 patients (33%). 10 (56%) patients presented with fever, and the most common positive culture was methicillin sensitive *Staphylococcus aureus* (9, 50%). 13 (72%) patients returned to the operating room (OR) for incision and drainage.

**Conclusions:** Infection after CRPP of SCHF is a rare but potential adverse event. In our series, it was most often associated with common pathogens and wet casts. Necessity of return to the OR will vary with presentation, but if efficaciously treated afterwards with oral antibiotics, there is a low chance of recurrence or long-term complications afterwards.

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