Surgical Approach Algorithm for Transverse + Posterior Wall Fractures of the Acetabulum
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CONCLUSIONS

- With regard to the primary question of its effectiveness, the algorithmic approach allowed for a 6.7 mm reduction in all patients. 83% of patients had no visible fracture line.
- The average final joint space narrowing was 0.87 mm, with no statistical difference between the two approaches.
- The rate of utilization for the posterior approach was similar to that seen in other studies.
- Merle D’Aubigne clinical scores, incidence of radiographic arthritis, infection, arthropathy, and AVN were similar to those seen in other studies.
- The rate of clinically significant heterotopic ossification was much lower in comparable studies that saw a rate of up to 57%.
- Overall, our algorithm proved to greatly parallel the surgical decisions made in the existing literature.
- The surgeon chose a sequential method of reducing the transverse component from the front and then the posterior wall from the back with a confirmation of the transverse reduction instead of an IF approach.
- Reductions were as accurate, and the approaches less morbid.
- The choice of approach should not depend entirely on an algorithm.
  - Best used as a guide to understand factors involved in treating rare, complex injuries, and help make appropriate choice for individual patient.

METHODS & RESULTS

- Population: A single surgeon’s operatively treated transverse + posterior wall (TR+PW) fractures from 1999-2014
- Inclusion/exclusion criteria: Included if treated by open reduction and internal fixation (ORIF) and had adequate imaging (x-rays, CT scans) available; excluded if lack of adequate imaging, or if treated conservatively or percutaneously.
- Data sources: Electronic medical records, physical patient records, phone surveys.
- Variables of interest:
  - Age, sex, baseline ambulatory status
  - Surgical approach
  - Quality of reduction and subsequent union
  - Joint space narrowing, heterotopic ossification, radiographic arthritis
  - Long-term clinical outcome: Merle-D’Aubigne score

OBJECTIVES

- To determine the efficacy of a novel surgical approach algorithm with regard to accuracy of reduction and stabilization of union
- To compare the functional outcomes, rates of early radiographic arthritis, and other complications with existing series

REFERENCES