

## The Tansen Technique: A New, Easy, Reliable, Safe, Cost-Effective and Useful Technique in Closed Reduction and Percutaneous Fixation in Type-III Supracondylar Fracture of the Humerus in Children

*Bhim Bahadur Shreemal MBBS; Tul Bahadur Pun MS*

United Mission Hospital Tansen, Tansen, Nepal

**Purpose:** Closed reduction and internal fixation with Kirschner wires is the standard of care for Gartland type-III supracondylar fractures of children since they are too unstable for nonoperative treatment. Occasionally closed reduction of these fractures could be difficult using standard technique warranting open reduction, which is associated with additional complications. We report a new intrafocal reduction technique and its results, which can be used to reduce difficult supracondylar fractures reliably thus avoiding open reduction and its complications in most instances.

**Methods:** Consecutive series of 21 patients who were treated successfully using intrafocal reduction (Tansen) technique from January 2014 to December 2015 were followed for minimum of 6 months. Duration of operation, any intraoperative technique-related complication, and number of intraoperative image-intensifier images were reviewed. Children were followed up at 3 weeks, 6 weeks, 3 months, and 6 months for the adequacy of reduction, for loss of reduction of fixation, and fracture healing as well as range of motion, complications, and functional outcome using Flynn's criteria.

**Results:** The average operation time was  $30.5 \pm 10.5$  minutes. The average number of intraoperative images were  $15 \pm 5$ . The average time and number of intraoperative images were not affected by the experience of the surgeon. Average healing was  $6.1 \pm 2$  weeks. All patients achieved a satisfactory cosmetic and functional result. There was no significant loss of initial reduction on follow-up. The minor complication rate was 16%. There was no technique-specific complication.

**Conclusion:** Our simple intrafocal technique using artery forceps, the "Tansen Technique," gives an acceptable reduction in difficult supracondylar fractures that would otherwise require open reduction. It is cost-effective, consistent, has a short learning curve, and is a safe technique with potential use in day-to-day practice.

