

## Usefulness of Traction View Radiographs in Basicervical-Type Hip Fractures for Experienced Orthopaedic Surgeons

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**Purpose:** Optimal hip fracture treatment requires accurate fracture characterization. However, basicervical-type hip fractures can be challenging to characterize because of femoral neck anteversion paired with the displacement of the fracture. Traction view radiographs have been shown to improve hip fracture classification for junior-level trainees and radiologists. However, obtaining traction views is highly variable across trauma centers, and the extent to which traction view radiographs actually impact treatment remains unknown. The purpose of this study was to determine the usefulness of traction-view radiographs for experienced orthopaedic surgeons.

**Methods:** This was a single-institution surgeon survey of 10 surgeons who take call at a Level I trauma center. De-identified hip fracture radiographs and their respective traction view were collected for 10 basicervical-type hip fracture cases. All orthopaedic surgeons who take trauma call at a single Level I trauma hospital were invited to participate in a REDCap survey. Each surgeon was presented with non-traction AP and cross-table lateral radiographs and asked a set of questions about the diagnosis, implant choice, and reduction strategy. Then, in a different and randomized order, they were presented the same cases with the corresponding traction view and asked to answer the same questions. They were also asked whether the traction view was helpful or changed the confidence in the preoperative plan.

**Results:** All ten surgeons were surveyed with a 100% response rate and had at least 5 years of experience. More than half of the respondents completed a trauma fellowship. Traction views changed the diagnosis 24% of the time and the implant choice 27% of the time. When applicable, the reduction strategy changed 37% of the time. From 1–10, the average confidence in surgical planning increased by approximately 1 point (CI 0.5 to 1.4). The traction view was rated to be helpful 44% of the time.

**Conclusion:** We found that traction view radiographs in basicervical-type hip fractures can change the diagnosis, implant choice, and reduction strategy in experienced orthopaedic surgeons. Further work should validate these findings with larger case numbers and at other institutions.