

The Primary Determinants of Radiation Use During Fixation of Proximal Femur Fractures

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Objectives: To establish the primary determinants of operative radiation use during fixation of proximal femur fractures.

Design: Retrospective cohort study

Setting: Level I trauma center

Cohort: 205 patients treated surgically for subtrochanteric and intertrochanteric femoral fractures.

Main Outcome Measures: Fluoroscopy time, dose-area-product (DAP)

Results: Longer fluoroscopy time was correlated with higher body mass index ($p = 0.04$), subtrochanteric fracture ($p < 0.001$), attending surgeon ($p = 0.001$), and implant type ($p < 0.001$). Increased DAP was associated with higher body mass index ($p < 0.001$), subtrochanteric fracture ($p = 0.002$), attending surgeon ($p = 0.003$), lateral body position ($p < 0.001$), and implant type ($p = 0.05$).

Conclusion: The strongest predictors of radiation use during surgical fixation of intertrochanteric and subtrochanteric femur fractures were location of fracture, patient body position, patient body mass index, and the use of long cephalomedullary devices. Surgeon style, presumably as it relates to teaching efforts, seems to strongly influence radiation use.