

Evaluating the effect of a standardized language protocol for intraoperative c-arm fluoroscopy on perceived communication quality and operating room efficiency

Purpose: To investigate the in vivo effect of the implementation of a standardized language for intraoperative C-arm fluoroscopy on the general perception of the quality of communication between the surgeon and radiology technologist.

Methods: Our study intervention was the implementation of a common C-arm fluoroscopy terminology education protocol. To evaluate the efficacy of this protocol, a survey was administered to orthopaedic surgeons and radiology technologists after procedures involving the use of C-arm fluoroscopy. Study endpoints were measured utilizing a 5-point Likert scale. This survey was administered before and after the study intervention.

Results: Study intervention resulted in a statistically significant improvement in the mean perceived quality of intraoperative communication between the surgeon and the radiology technologist (0.398 [0.072, 0.725], $p=0.017$). There was also a reported decrease in confusion in the OR (-0.572 [-0.880, -0.263], $p<0.001$), movement correction of the C-arm fluoroscope (-0.592 [-0.936, -0.248], $p=0.001$), and need for repeat radiographs (-0.782 [-1.158, -0.406], $p<0.001$) after the implementation of a standardized fluoroscopy language.

Conclusion: A standardized fluoroscopy language protocol has the potential to improve intraoperative communication between orthopaedic surgeons and radiology technologists and decrease radiation exposure to the patient and care team.