Are First Postoperative Radiographs After Pinning of Pediatric Distal Radius Fractures Necessary?

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Objectives:
The purpose of this study was to characterize the extent to which first postoperative radiographs obtained within 14 days after closed reduction and percutaneous pinning (CRPP) for pediatric distal radius fractures (DRFs) resulted in a clinically meaningful change in management.

Methods:
A retrospective review was performed to identify pediatric patients (<18 years) who underwent CRPP for a DRF over 18 years (2008 to 2026). Patients were excluded if they did not return for a postoperative radiograph within 14 days of surgery. Loss of reduction was defined as any change in alignment that warranted a change in management, such as a re-reduction in clinic or additional surgery. Data collected included patient demographics, timing of follow-up radiographs, and complications identified on follow-up radiographs. Outcomes were assessed using descriptive statistical analysis and a 95% confidence interval using the exact (Clopper-Pearson) binomial method.

Results:
A total of 304 wrists (303 patients) were identified, with a median age of 9.8 years (IQR=7.55-12.45). One patient (0.33%; 95% CI, 0.008% to 1.82%) demonstrated postoperative loss of reduction on the first radiograph due to pin migration and was re-reduced in clinic. No further complications were identified on first or later postoperative radiographs.

Conclusion:
Initial postoperative radiographs obtained within 14 days after CRPP for pediatric DRFs demonstrated limited clinical utility. Given the low rate of change in management, selective use of the first postoperative radiographs warrants prospective evaluation, as it may reduce radiation exposure and cost of care with minimal impact on patient management.