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Authors

Bernthal, Nicholas M
Mitchell, Scott
Bales, Joshua G
et al.

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Variation in practice habits in the treatment of pediatric distal radius fractures

[Nicholas M Bernthal](#)¹, [Scott Mitchell](#), [Joshua G Bales](#), [Prosper Benhaim](#), [Mauricio Silva](#)

Affiliations expand

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Abstract

Distal radius fractures are widespread in the pediatric population. Standardized treatment protocols have not been well defined. We sought to examine the diversity of current practice patterns in the treatment of these fractures by surveying hand, pediatric, and general orthopedic surgeons. Hand, pediatric, and general orthopedic surgeons were surveyed using an internet-based questionnaire on the management of pediatric distal radius fractures. Each surgeon was asked to select a criterion from among choices of 'acceptable' alignment criteria at the onset of the survey. Ten cases were then provided to represent a broad spectrum of injuries from minimally angulated torus fractures to complete, displaced fractures. In addition to the variation in injury pattern, the patients in the survey differed in age at the time of injury (3-15 years of age). For each case, surgeons were asked to select a preferred treatment, first on the basis of injury films, and then again after reviewing 1-week follow-up radiographs. A total of 781 surgeons completed the survey. In patients younger than 9 years of age, a residual sagittal angulation of 20° or less, coronal angulation of 10° or less, and 1 cm or less of bayonet apposition was deemed 'acceptable' by 88, 90, and 69% of respondents, respectively. In older patients, these percentages were 58, 64, and 29%, respectively. When specific cases were reviewed, 20.3% of surgeons recommended treatment different from their own theoretical 'acceptable' criteria. When subspecialty training was analyzed, hand surgeons and general orthopedic surgeons were 2.9 and 1.6 times more likely to recommend surgery, respectively, as compared with pediatric surgeons after viewing the initial radiograph. Private practice surgeons were 1.5 times more likely to recommend surgery compared with academic surgeons based on the initial injury radiographs. Our survey highlights the discordance between theoretical acceptable criteria of surgeons and their practice habits, as well as the substantial disparities in treatment recommendations based on subspecialty training. Further study is warranted to determine whether these variations in treatment affect patient outcomes. This survey is a level IV observational study.