

# A Retrospective Comparison of Patient Outcome Studies Following ORIF Distal Radius Fracture Repair Between Orthopaedics- and Plastic Surgery-Trained Hand Surgeons

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Disclosures: None

**INTRODUCTION:** Distal radius open reduction internal fixation (ORIF) is one of the most frequently performed procedures in hand surgery and may be performed by a diverse group of qualified surgeons. Prior studies have investigated the variability in training and specific procedures with their associated post-operative outcomes, yet few studies directly compare long term outcomes following common hand procedures, such as a distal radius ORIF. Our objective is to characterize the long-term patient-reported outcomes following primary distal radius fracture surgical treatment performed by either a hand-trained orthopedic surgeon, hand-trained plastic surgeon, and non-hand-trained orthopedic surgeon.

**METHODS:** We conducted a single-center study of 213 patients who had undergone a primary distal radius open reduction internal fixation (ORIF) procedure with one of three types of surgeons: hand-trained orthopedic surgeon, hand-trained plastic surgeon, non-hand-trained orthopedic surgeon in the last five years. Approval was obtained by an Institutional Review Board. Exclusions included patients in the prison system, pediatric patients (<18 years old), and patients with polytrauma injuries. Included patients were contacted to collect current QuickDASH data. A chart review of the patient population was also performed to obtain demographic information and data surrounding the initial injury that warranted the ORIF.

**RESULTS.** Of 213 patients, 71 patients responded with self-reported QuickDASH data. There were 20 patients who received surgery from a hand-trained orthopedic surgeon ( $\bar{x}$  = 53.15 years, 60% male and 40% female), 10 patients who received surgery from a hand-trained plastic surgeon ( $\bar{x}$  = 63.7, 70% male and 30% female), and 41 patients who received surgery from a non-hand-trained orthopedic surgeon ( $\bar{x}$  = 56.2, 73% male and 27% female). The hand group, plastic group, and non-hand group had an average QuickDASH score of 14.06, 10, and 6.37, respectively, with no significant difference between the three by ANOVA ( $p=0.12$ ).

**DISCUSSION:** Our findings suggest that training background may not significantly influence patient reported outcomes following a primary distal radius ORIF. While there are many considerations within an institution and personal factors that may contribute to what provider a patient sees, these results showing non-significant differences in outcomes across specialties is reassuring for both patient populations and physicians. Limitations of our study include its retrospective nature and potential influence of patient comorbidities.

**SIGNIFICANCE/CLINICAL RELEVANCE:** This study may contribute to the growing conversation around surgical training standardization and help guide future hand surgery education. The expanding opportunities of training pathways aids in meeting clinical demand for specialized areas of orthopedics and related specialties, but identifying potential strengths and weaknesses among different surgical backgrounds in patient outcomes is essential to develop a standardized and effective training curriculum for focused hand fellowships.

FIGURES:

		Hand-Trained Orthopedic Surgery	Plastic Surgery	Non-hand Orthopedic Surgery	
<b>Total Number of Patients (Following Exclusion)</b>		67	42	104	
<b>Number of Patients with Reported QuickDASH Scores</b>		20	10	41	
<b>Sex</b>	Male	8	3	11	
	Female	12	7	30	
<b>Age, Years</b>		20-80	43-75	24-79	
<b>Race</b>	White	18	10	39	
	Black	2	0	1	
	Native American	0	0	0	
	Asian	0	0	1	
<b>Ethnicity</b>	Hispanic	6	1	5	
	Not Hispanic	14	9	36	
<b>Mechanism of Injury</b>	FOOSH	7	8	9	
	Fall	8	2	29	
	Trauma	3	0	3	
	Not otherwise specified	2	0	0	
<b>Comorbidities</b>	Diabetes	5	1	4	
	Hypertension	7	5	18	
	Osteoporosis	1	0	7	
	Congestive Heart Failure	0	0	0	
	Obesity	9	5	11	
	Tobacco Use	Never	8	5	26
		Current	2	2	6
		Former	9	3	9

Specialty	Hand-Trained Orthopedic Surgery		Plastic Surgery		Non-hand Orthopedic Surgery		p-value
	Mean	SD	Mean	SD	Mean	SD	
Age	53.15	15.23	63.7	8.73	56.2	13.2	0.046479
QuickDASH Score	14.06	14.43	10	15	6.37	9.66	0.121298