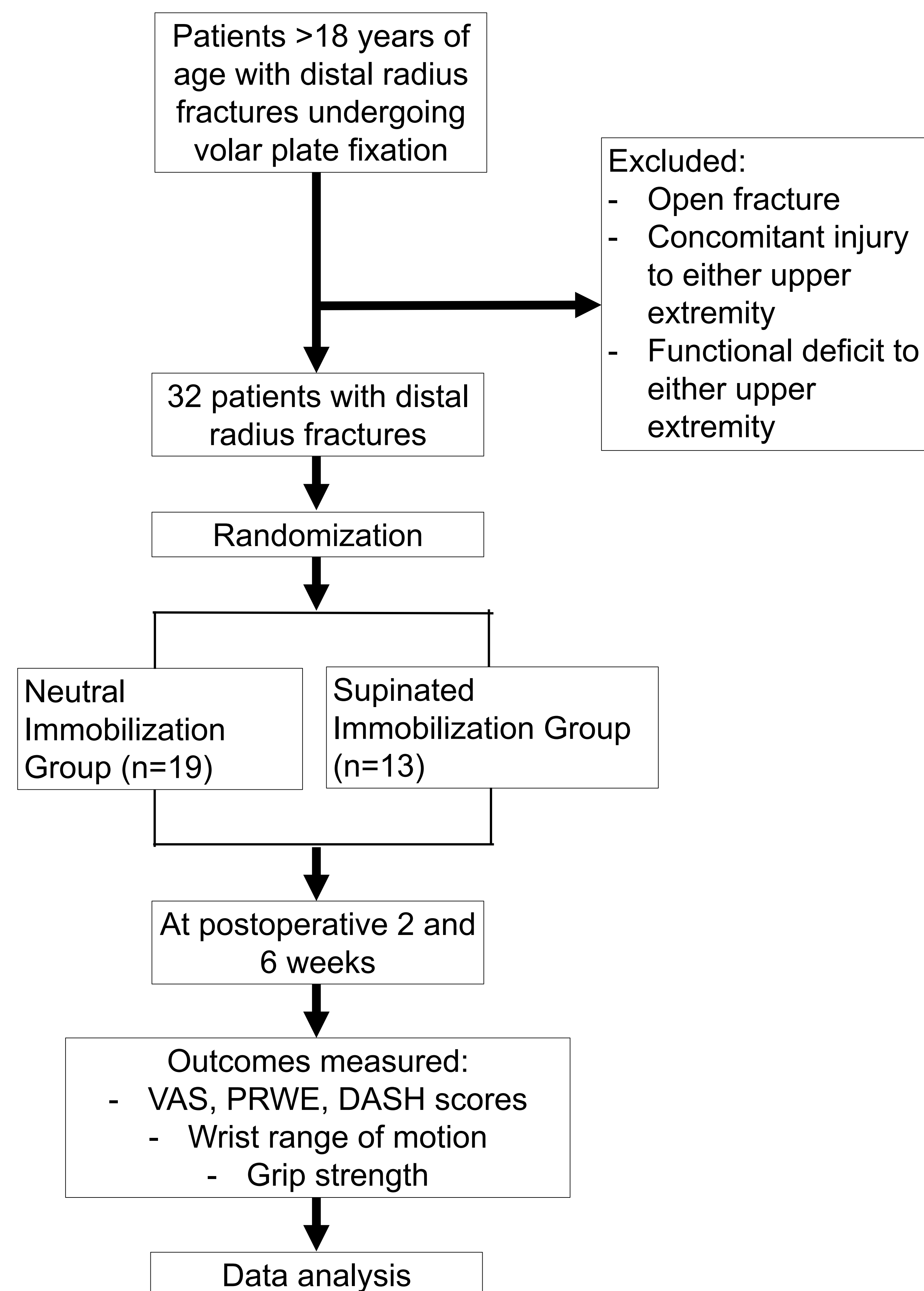


Introduction

- No consensus exists regarding the optimal postoperative splinting position following volar plate fixation of distal radius fractures.
- The purpose of this study was to determine whether immobilization in supination would result in superior clinical outcomes compared to immobilization with no restriction of forearm range of motion.

Methods

- A prospective, randomized trial was conducted.



Methods Cont.

- Range of motion and grip strength were assessed as a percentage of the contralateral extremity

Results

- There were no statistically significant differences in range of motion and grip strength (Table 1) or VAS, PRWE, and DASH scores between the study groups at two or six weeks postoperatively (Table 2).

	Volar Slab (n=19)	Sugar-tong (n=13)	p-value
2-Weeks Postoperative			
Flexion (%)*	33.4% ± 16.4%	26.9% ± 22.7%	0.355
Extension (%)*	19.5% ± 14.7%	23.9% ± 20.3%	0.475
Pronation (%)*	45.4% ± 35.3%	48.8% ± 31.8%	0.782
Supination (%)*	40.8% ± 23.2%	41.4% ± 36.2%	0.955
Grip Strength (%)*	12.5% ± 13.4%	7.4% ± 5.3%	0.210
6-Weeks Postoperative			
Flexion (%)*	40.0% ± 23.6%	50.1% ± 18.5%	0.209
Extension (%)*	44.5% ± 26.2%	50.2% ± 21.0%	0.521
Pronation (%)*	68.8% ± 35.3%	72.1% ± 22.0%	0.765
Supination (%)*	59.2% ± 33.9%	63.3% ± 24.4%	0.716
Grip Strength (%)*	31.3% ± 22.3%	25.4% ± 16.0%	0.425

* % = injured/uninjured

Table 1. Wrist range of motion (mean % ± standard deviation)

Discussion

- There has been a continuing shift towards operative fixation of displaced distal radius fractures using the volar approach.
- There is a wide variability in postoperative immobilization for distal radius fracture without any standard protocols
- The primary limitation to this study was patient non-compliance with follow-up visits.

Clinical Significance

- Range of motion, grip strength, and patient-rated subjective outcomes measures were similar regardless of immobilization technique.
- Surgeons can elect to use the standard-of-care postoperative immobilization modality of their preference following volar plate fixation without compromising short-term return to function.

	Volar Slab (n=19)	Sugar-tong (n=13)	p-value
Preoperative			
VAS	4.3 ± 3.3	3.8 ± 3.2	0.675
PRWE	73.5 ± 18.7	78.7 ± 78.7	0.456
DASH	72.7 ± 19.1	82.6 ± 17.5	0.148
2-Week Postoperative			
VAS	3.9 ± 2.9	3.9 ± 2.8	0.978
PRWE	67.8 ± 25.2	71.0 ± 14.1	0.677
DASH	65.9 ± 24.4	79.4 ± 10.6	0.070
6-Week Postoperative			
VAS	2.6 ± 2.8	1.6 ± 2.0	0.288
PRWE	46.5 ± 26.3	46.5 ± 23.7	0.997
DASH	43.4 ± 24.8	53.5 ± 21.7	0.244

Table 2. Comparing outcome measures (mean ± standard deviation)