

Social Support Predicts Pain and Disability Following Distal Radius Fracture



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INTRODUCTION

- The most common fracture is the distal radius fracture
- Biomedical variables explain less than 30% of pain and disability outcomes.
- Social support has been a mediator of outcome in other health disorders.
- The Medical Outcomes Study (MOS) contributed a brief, multidimensional, self-administered, social support survey. It has 4 subscales: emotional/informational, tangible, affectionate, and positive social interaction.

PURPOSE

To determine if baseline social support predicts post-operative pain and functional outcome after DRF.

STUDY PROCEDURES

- Prospective cohort study
- Patients were measured at baseline (within 7 days of fracture) and at 1 year post fracture
- Measures were performed by an independent evaluator
- An unacceptable reduction on the final radiograph was defined as a radial inclination of < 15 degrees, radial shortening of > 3mm, and/or > 20 degrees of volar tilt or > 10 degrees of dorsal tilt.
- Pearson correlations and backward regression were used to identify predictors of patient-rated pain and disability according to the PRWE.
- Models were built sequentially to look at the effects of social support, health status, and biomedical variables.

PARTICIPANTS

- 290 patients met the eligibility criteria
- Age: 18-84 years, mean age of 56.1 \pm 15.5 years
- 68% were female
- 46% injured their dominant hand
- 24% fell on ice/snow, 57% fell from standing height
- 68% were low energy,11% high energy

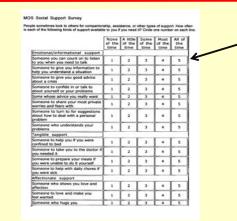


Figure 1: The MOS Social Support Form contains 18 items across 4 subscales. A total score can also be calculated out of 100

PATIENT RATED WRIST EVALUATION

scale of 0-10. Please provide an answer for A please ESTIMATE the pain or difficulty you we activity, you may leave it blank.	ould expect.										
1. PAIN											
Rate the average amount of pain in your wrist ov your pain on a scale from 0-10. A zero (0) means that had the worst pain you have ever experienced or that	unu did not ha	vo o	nv i	nain	and	106	en f	100	me	and I	that you
RATE YOUR PAIN: Sample Scale A	No Pain	1	2	3	4	5	6	7	8		10 irst Ever
At rest	0	1	2	3	4	5	6	7	8	9	10
When doing a task with a repeated wrist movement	0	1	2	3	4	5	6	7	8	9	10
When lifting a heavy object	0	1	2	3	4	5	6	7	8	9	10
When it is at its worst	0	1	2	3	4	5	6	7	8	9	10
How often do you have pain?	0 Never	1	2	3	4	5	6 :	7	8		10 Iways
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Figure 1: The Patient Rated Wrist Evaluation has subscales for pain and disability. A total score can also be calculated out of 100.

MEASURES

- Social support score independent variable (1).
- Dependent variable= Pain and disability at 1vear post DRF: Patient-rated wrist evaluation (PRWE) (2).
- Health status was measured with the SF-12 (3).
- Range of motion (wrist/forearm), grip strength, and alignment on X-ray were measured impairments (4.5).





RESULTS

- 34% of patients had at least 1 unacceptable radiographic parameter; 17% of patients had 2 or more unacceptable radiographic parameters.
- Intrinsic patient characteristics, including age, baseline heart problems, diabetes, or other medical co-morbidities, smoking history, and highest level of education attained, did not predict 1-year PRWE score.
- The emotional support subscale predicted 4.7% the 1-year PRWE scores.
- The SF-12 physical and mental scores, in addition to the MOS emotional support subscale, explained 38% of the variability of the 1-year PRWE.
- Of the fracture variables, pre-reduction radial inclination (injury severity) and complications predicted 28% of the variability of the 1-year PRWF score

DISCUSSION

- Baseline social support has a small significant impact on 1-year pain and disability outcomes. Emotional support was the most relevant type.
- · Pre-injury physical and mental health status, fracture severity, and treatment complications also contribute to 1-year outcomes.
- Biopsychosocial models need further exploration.

CLINICAL RELEVANCE

- Clinicians should inquire about social support when managing patients with DRF.
- Patients should be informed that emotional support might be beneficial in their recovery and encouraged to communicate with their meaningful social contacts.
- Since recovery is difficult to predict, ongoing attention to multiple aspects of the biopsychosocial model and individualization of treatment are needed.

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