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## Functional and patient reported outcomes of partial wrist denervation versus the Mannerfelt wrist arthrodesis in the rheumatoid wrist

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**Statement of the problem:** Wrist arthrodesis offers high success rates in patients with rheumatoid arthritis; however, loss of residual mobility may cause unnecessary disability. This makes wrist denervation an appealing alternative. However, there is a distinct lack of patient-reported outcome measure studies comparing these two procedures. The aim of this study was to report any change in function, pain and satisfaction following wrist arthrodesis compared to denervation in a single surgeon series of rheumatoid patients.

**Methodology & Theoretical Orientation:** The results of 16 wrist arthrodesis in 15 patients and 14 partial (PIN) wrist denervation's in 13 patients were compared with a mean follow-up period of 39 and 22 months, respectively. The primary outcome measures were the same for both groups and included the validated patient-rated wrist evaluation questionnaire and a satisfaction questionnaire.

**Findings:** Wrist arthrodesis significantly improved the mean total pain and functional outcome scores by 54 and 36%, respectively, at the time of follow-up. Wrist denervation patients also reported significant improvements of 44 and 42% in total pain and functional outcomes, respectively; 87% reported being very satisfied with their wrist arthrodesis procedure compared to 78% in the denervation group.

**Conclusion & Significance:** Compared to arthrodesis, PIN denervation is a simple and fast intervention which offers comparable pain relief and functional benefit without the requirement for postoperative immobilisation, thus resulting in a rapid recovery. No statistically significant difference in response between the groups was observed in this series of patients.

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