# Surgical Decision Making in Median Neuropathy Associated With Distal Radius Fractures

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**ABSTRACT**  
Should include background information and a description of methods, programs, or practices. *  

**Introduction:**  
A lack of conclusive evidence on the treatment of Acute Carpal Tunnel Syndrome (ACTS) in patients with distal radius fractures has led to inconsistent surgical guidelines and recommendations regarding ACTS in distal radius fractures. There is a wide variation in surgical decision making. We aimed to evaluate international differences between surgical considerations and practices related to carpal tunnel release (CTR) in the setting of distal radius fractures. We tested the primary null hypothesis that there are no differences in the risk assessment of fracture displacement on the development of ACTS in patients with a distal radius fracture between trauma surgeons from the Netherlands and trauma surgeons from the USA.  

**Methods:**  
We approached surgeons who were a member of the Orthopaedic Trauma Association (USA) or of the Dutch Trauma Society (the Netherlands) and asked them to provide sociodemographic information and information on their surgical practice regarding carpal tunnel release in the setting of distal radius fractures. After applying our exclusion criteria, our final cohort consisted of 127 respondents (Table 1). We presented categorical data as frequencies with percentages and continuous data as means with their standard deviations. The demographic differences, differences in surgical practice and risk assessment, and differences in surgical decision making regarding CTR in the setting of distal radius fractures were all assessed through bivariate analysis.  

**Results:**  
Compared to Dutch surgeons, surgeons from the USA are more of the opinion that displaced distal radius fractures are at risk of developing ACTS (P < 0.001) and consider persistent paresthesia in the median nerve distribution after closed reduction to be a surgical emergency less often (P = 0.007; table 2). Based on the mean summative scores that were assigned to the surgeon’s decision making, surgeons from the USA are more likely to perform a CTR at the same time as distal radius ORIF (mean: 1.8 (SD 1.6), range: −3 to 6) when compared to surgeons from the Netherlands (mean: 0.96 (SD 2.4), range: −6 to 4; P = 0.044).  

**Conclusion:**  
A lack of conclusive evidence has led to international differences in surgical practice regarding the treatment of ACTS in the setting of distal radius fractures.  

Future research should guide surgeons in making appropriate evidence-based decisions when performing CTR in the setting of distal radius fractures.

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