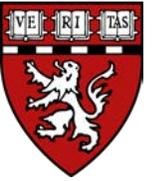




# Variation in Non-operative Treatment Recommendations for Common Upper Extremity Conditions



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## Aim

In orthopedic surgery, there is known surgeon-to-surgeon variation in recommendations for surgery; variation in recommendations for non-operative treatment of common upper extremity conditions for which surgery is discretionary and preference sensitive remains unclear.

We hypothesized that there is no surgeon-to-surgeon variation in non-operative treatment recommendations for common conditions of the upper extremity and measured the influence of reading a short summary of best evidence before making treatment recommendations for carpal tunnel syndrome.

## Methods

One-hundred-eighty-three surgeons were included after completing the following 6 questions for 6 scenarios of upper extremity conditions:

- (1) Would they recommend rest? (2) Or immobilization?
- (3) Would they allow the patient to return to sport? (4) Or work?
- (5) Will surgery be necessary in more than 10% of the patients with this specific problem?
- (6) How many months of non-operative treatment they would provide before offering surgery?

For the scenario of carpal tunnel syndrome participants were randomized in two groups, of which one group received a short summary of best evidence before answering the questions.

Descriptive statistics treatment recommendation for different conditions (n=183)

n (%)	CTS	eECRB	Trigger finger	De Quervain	TMC	RTC
Recommend rest						
Yes	82 (45)	141 (77)	48 (26)	150 (82)	114 (62)	134 (73)
Recommend Immobilization						
Yes	132 (72)	44 (24)	23 (13)	146 (80)	127 (69)	7 (3.8)
Allow to Return to Sport						
Yes	158 (86)	87 (48)	160 (87)	114 (62)	144 (79)	87 (48)
Allow to Return to Work						
Yes	166 (91)	171 (93)	177 (97)	172 (94)	175 (96)	176 (96)
Surgery is necessary > 10% of these patients						
Yes	143 (78)	18 (9.8)	133 (73)	62 (34)	83 (45)	41 (22)

CTS = carpal tunnel syndrome; eECRB = enthesopathy of the origin of the extensor carpi radialis brevis (so-called tennis elbow);

TMC = trapeziometacarpal arthrosis; RTC = rotator cuff tendinopathy

## Results

There was notable variation in non-operative treatment recommendations between surgeons and between different upper extremity conditions.

Surgeons were more consistent on recommendations for return to work (varying from 91% in the carpal tunnel syndrome scenario to 97% in the trigger finger scenario) than for immobilization (from 3.8% to 80%) and return to sports (48% to 87%).

When provided with a short summary of best evidence for the scenario of carpal tunnel syndrome, surgeons thought surgery would be necessary in more than 10% of these patients more often than surgeons who were not provided with this summary.

Bivariate analysis: summary of preferred practice in carpal tunnel syndrome

Carpal tunnel syndrome	No summary n=98 (54%)	Summary of evidence n=85 (46%)	p-value
	n (%)	n (%)	
Recommend rest			
Yes	46 (47)	36 (42)	0.55
Recommend Immobilization			
Yes	71 (72)	61 (72)	>0.99
Allow to Return to Sport			
Yes	84 (86)	74 (87)	0.83
Allow to Return to Work			
Yes	90 (92)	76 (89)	0.62
Surgery is necessary > 10% of these patients			
Yes	66 (67)	77 (91)	<0.001

## Conclusion

The notable variation in non-operative treatment recommendations together with similar findings in studies of operative recommendations indicates inordinate influence of surgeon bias in decision-making.

To help ensure that decisions are consistent with a patient's values, they might benefit from decision-aids and other measures. The evidence suggesting that reading a short summary of best evidence before recommending treatment for carpal tunnel syndrome suggests that decision-support might also help to limit unwarranted variation.