# Do patient preferences influence surgeon recommendations for treatment?

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## Introduction

When the best treatment option is uncertain, a patient's preference based on personal values should be the source of most variation in diagnostic and therapeutic interventions. Unexplained surgeon-to-surgeon variation in treatment for hand and upper extremity conditions suggests that surgeon preferences have more influence than patient preferences.

(1) Do specific patient preferences influence surgeon treatment recommendations?
(2) Are surgeon related factors associated with treatment recommendations?

## Methods

One-hundred-eighty-four surgeons reviewed 18 fictional scenarios of upper extremity conditions for which operative treatment is discretionary and preference sensitive, and recommended either operative or non-operative treatment. To test the influence of 6 specific patient preferences the preference was randomly assigned to each scenario in an affirmative or negative manner (Table 1). Surgeon characteristics were collected for each participant.

## Results

Of the 6 preferences studied, 4 influenced surgeon recommendations.

| Preferences | OR | 95% CI | *p* value |
|---|---|---|---|
| Least Expensive Treatment | 0.82 | 0.71 - 0.94 | ***0.005*** |
| Avoid Immobilization | 1.03 | 0.89 – 1.2 | *0.71* |
| Avoid Major Complications | 0.92 | 0.80 – 1.1 | *0.23* |
| Preference for Non-operative | 0.82 | 0.72 – 0.95 | ***0.006*** |
| Consensus that Surgery is Useful | 0.78 | 0.68 – 0.89 | ***<0.001*** |
| Aesthetics are Important | 1.15 | 1.0 – 1.3 | ***0.046*** |

Operative treatment was recommended more often by experienced surgeons, surgeons supervising trainees, surgeons practicing in Australia/Asia or Europe when compared to surgeons from USA and Canada. Whereas orthopeadic trauma surgeons recommended operative treatment less often than hand/wrist surgeons.

## Table 1 Description Patient Preferences

| | |
|---|---|
| **Costs** | The patient would prefer the least expensive treatment.<br>The patient is not concerned about costs. |
| **Immobilization** | The patient would prefer the treatment with the shortest immobilization time.<br>The patient is not concerned about immobilization time. |
| **Complications** | The patient would prefer the treatment with the lowest chance of major complications.<br>The patient is not concerned about the chance of major complications. |
| **Non-operative** | The patient would prefer non-operative treatment.<br>The patient is comfortable with either non-operative or operative treatment. |
| **Consensus surgeons** | The patient would prefer operative treatment only if there is consensus among surgeons that operative treatment is a useful option.<br>The patient is comfortable with operative treatment even if it's a bit experimental. |
| **Aesthetics** | The patient is concerned with aesthetics.<br>The patient is not concerned about aesthetics. |

## Conclusion

- Patient preferences were found to have a measurable influence on surgeon treatment recommendations, though not as much as we expected.
- Interestingly, surgeons on average interpreted surgery as more aesthetic which seems to presume that a scar and potential implant prominence are less bothersome to people than a deformity.
- This emphasizes the importance of strategies to help patients reflect on their values and ensure their preferences are consistent with those values (e.g. use of decision-aids).
- Supportive approaches such as the use of decision-aids might help patients identify their true preferences. Decision-aids also ensure that surgeon bias (e.g. surgery improves aesthetics) does not have a disproportionate influence on decision making. For instance, patients could be shown photos of various types of scars and deformities to refine their decision making. Additional study is merited to determine if treatment consistent with a patient's values might optimize adherence, facilitate recovery, increase satisfaction with care, and potentially improve patient reported outcomes.