

# Pushing The Limits: Comparative Efficacy Of Single And Simultaneous Peripheral Nerve Decompression

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## Background

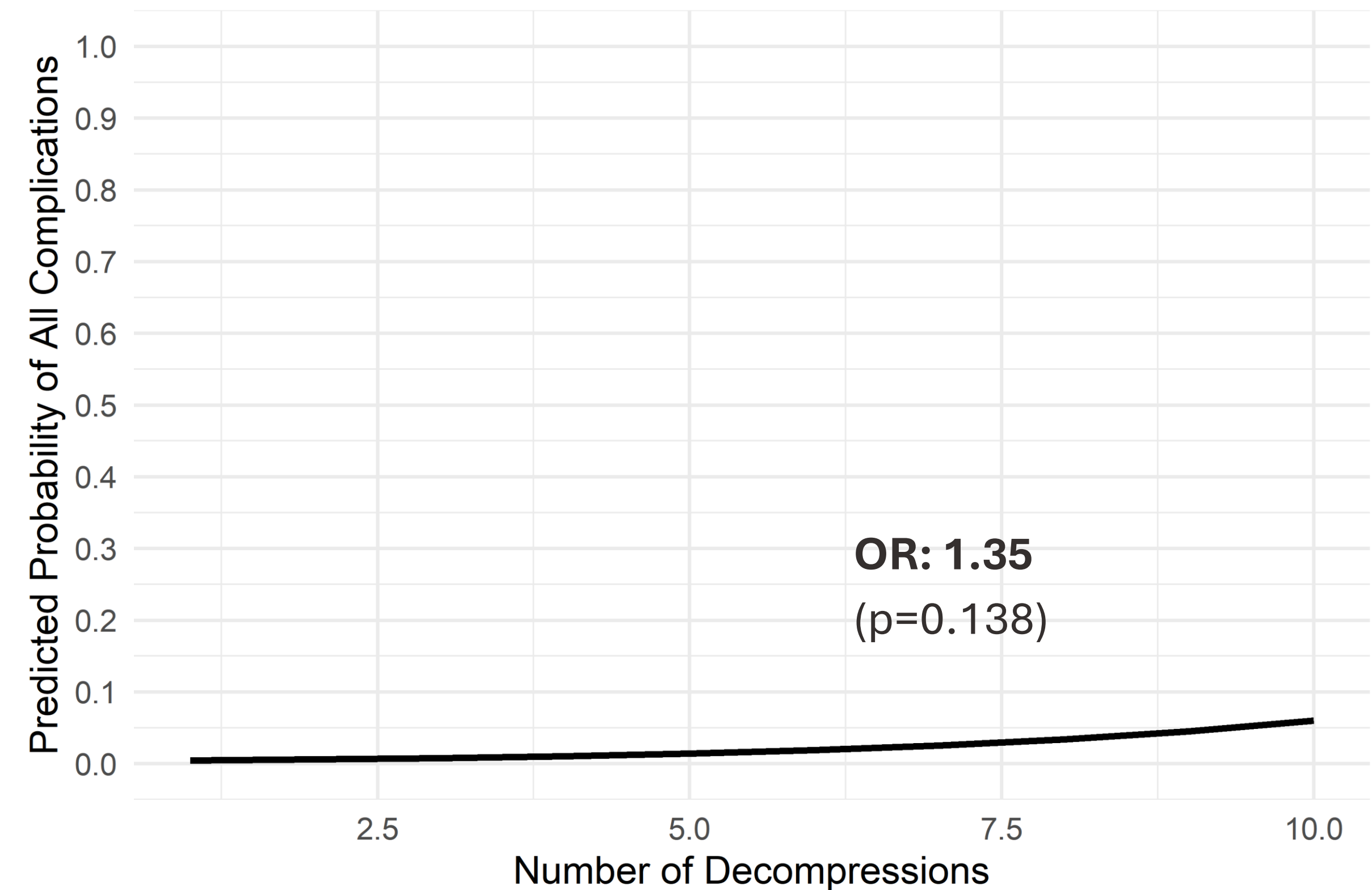
- Most existing research has focused on combination carpal and cubital tunnel release or double crush release on a single nerve
- Paucity of larger studies demonstrating the effectiveness of multiple simultaneous decompressions at distinct surgical sites of different nerves

**Purpose:** The purpose of this study is to broadly evaluate the safety and efficacy of simultaneously decompressing multiple, distinct upper extremity (UE) sites in a single operation

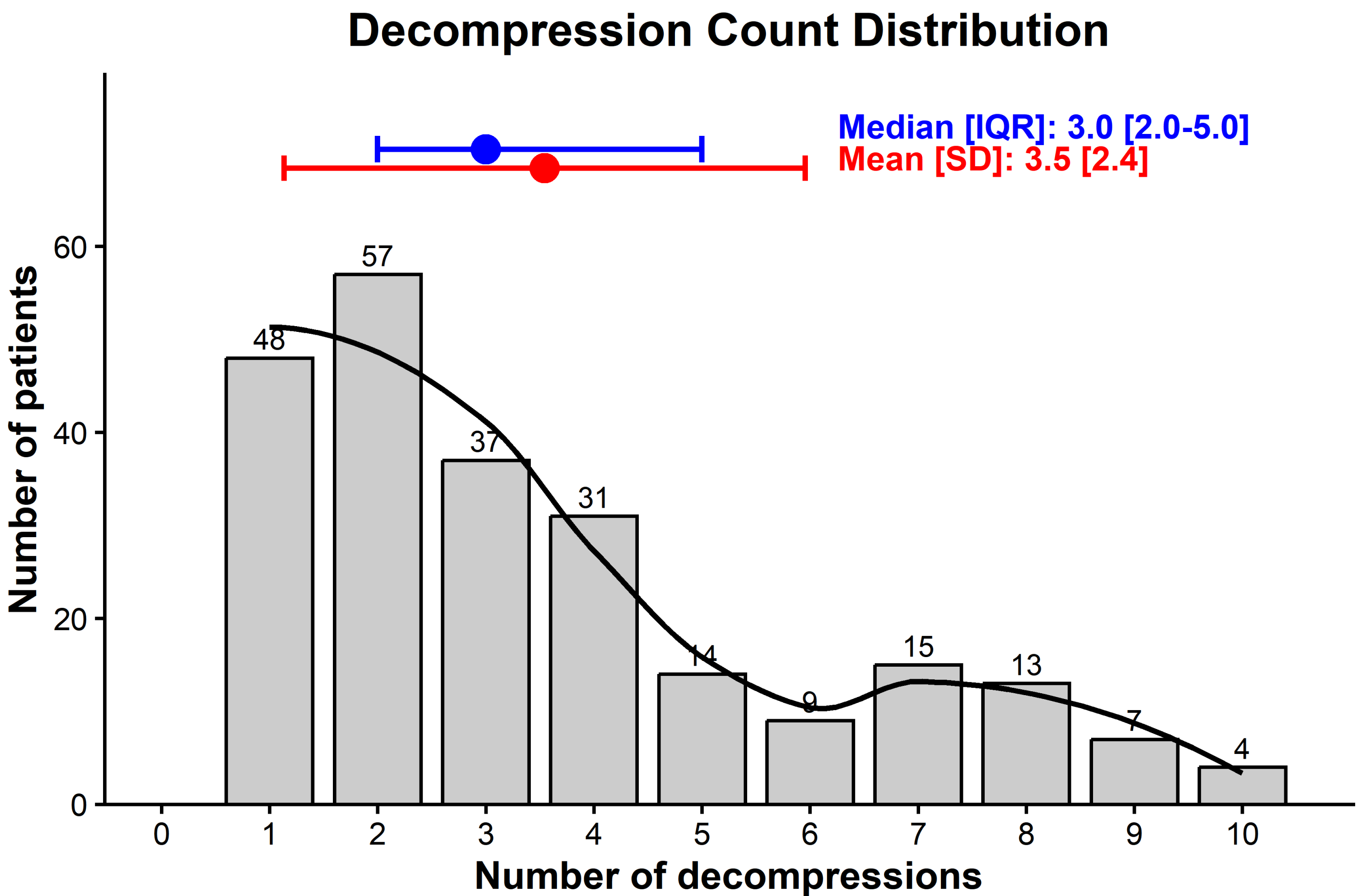
## Methods

- Retrospective review of patients who received UE nerve decompression between 2015 and 2024 at a single institution
- Minimum follow up 6 months
- Safety Outcome Measure: Surgical complications & Reoperation patterns
- Efficacy outcome measure: Presence of sensory abnormalities, Tinel’s sign, Pain, or Weakness pre- and post-operatively

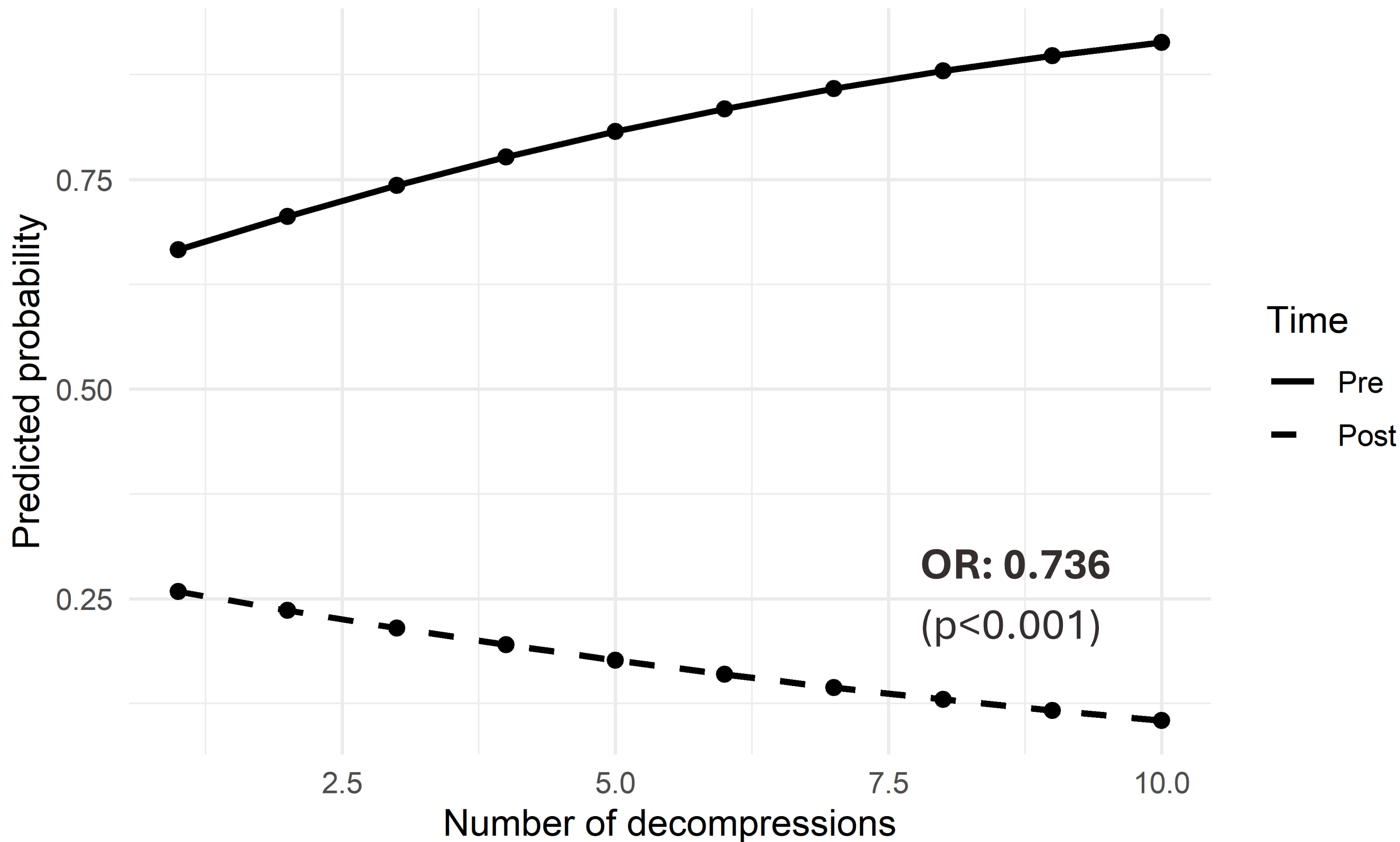
## Results



**Figure 1.** Predicted Probability of all complications by decompression count



| Nerve Relationship | Reoperation Location          | N (%)     | Total (N) | OR Per Decompression | P-value |
|--------------------|-------------------------------|-----------|-----------|----------------------|---------|
| Same nerve         | Same nerve, same as index     | 10 (4.3%) | 235       | 1.169                | 0.170   |
| Same nerve         | Same nerve, distal to index   | 1 (0.4%)  | 235       | 1.350                | 0.233   |
| Same nerve         | Same nerve, proximal to index | 0 (0.0%)  | 235       |                      |         |
| Different nerve    | Different nerve (any level)   | 4 (1.7%)  | 235       | 1.071                | 0.694   |



**Figure 2.** Predicted Probability of Tinel’s Sign by decompression count

## Conclusion

Increasing simultaneous decompression count was not associated with higher complication or reoperation rates in general or on a per decompression basis and may have symptom specific efficacy benefits