

# Assessing the effectiveness of placing posters outside operating rooms to improve ergonomic practices and physical discomfort

## Introduction

### Poor ergonomics in the operating room may lead to:

- Muscle fatigue
- Musculoskeletal injury
- Burn out

### Previous data shows that...

- 68%-87% of surgeons report generalized work-related pain<sup>1-3</sup>
- 51% report sleep disturbances due to pain<sup>1-3</sup>
- Disc prolapse as high as 15%<sup>1</sup>
- 26.7% surgeons with musculoskeletal complaints required work leave
- 41% feel pain interfere with relationships<sup>1</sup>
- 47% are concerned that these conditions will shorten their career<sup>1</sup>
- Students are less likely to enter surgical careers due to musculoskeletal ergonomics concerns<sup>4</sup>

### Purpose

- Investigate the role of reminder posters in improving ergonomic practices in the operating room

### Hypothesis

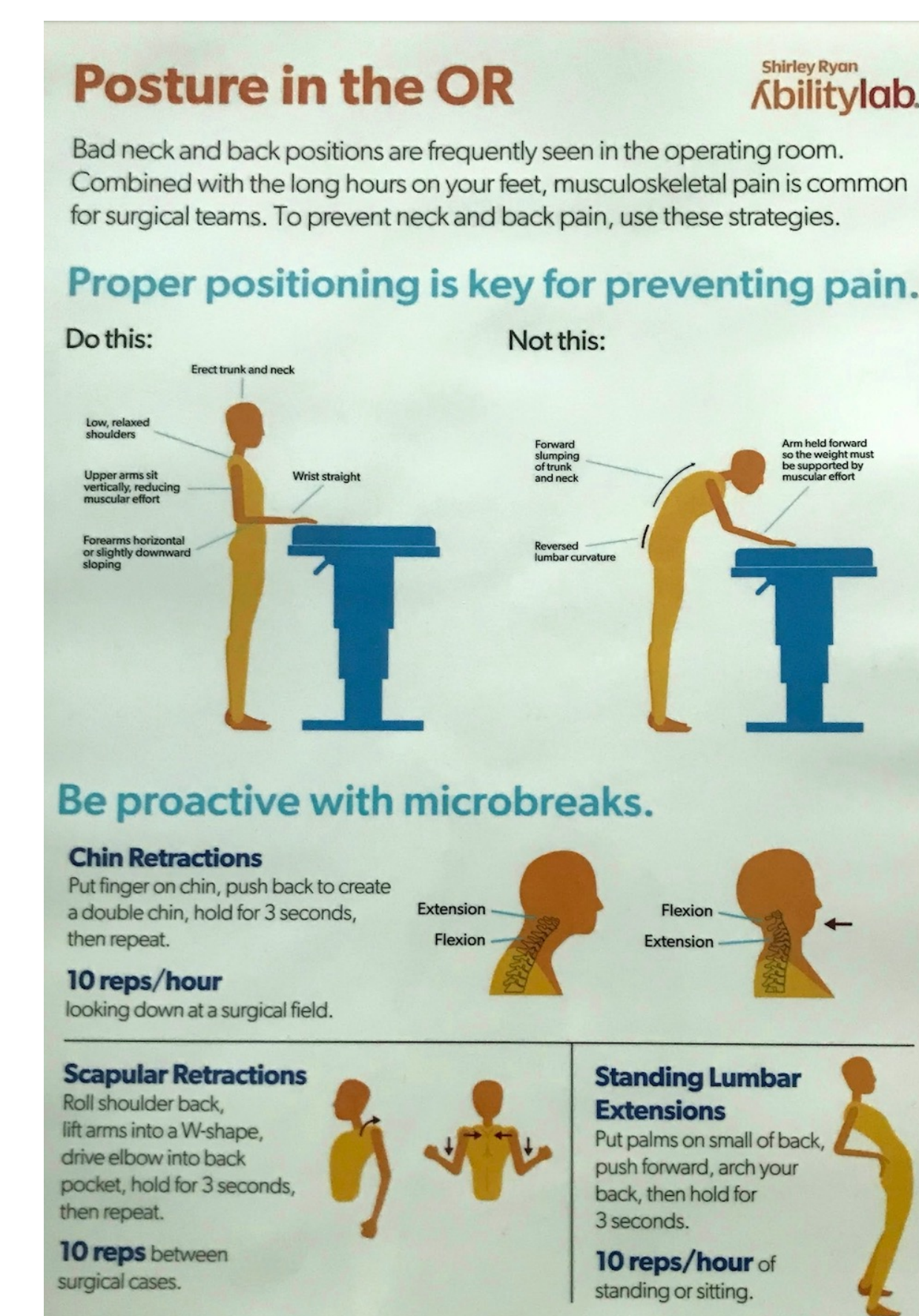
- Strategically placing posters that remind surgeons to adjust the OR table height and take microbreaks would increase the use of these strategies and decrease physical pain

## Methods and Materials

A poster was developed by a psychiatrist expert on surgeon work-related injuries displaying:

- Strategies to **improve posture** while operating
- **Exercises** to relieve back and neck pain
- Encourage **microbreaks**

Figure 1: Ergonomics pre- and post-poster display

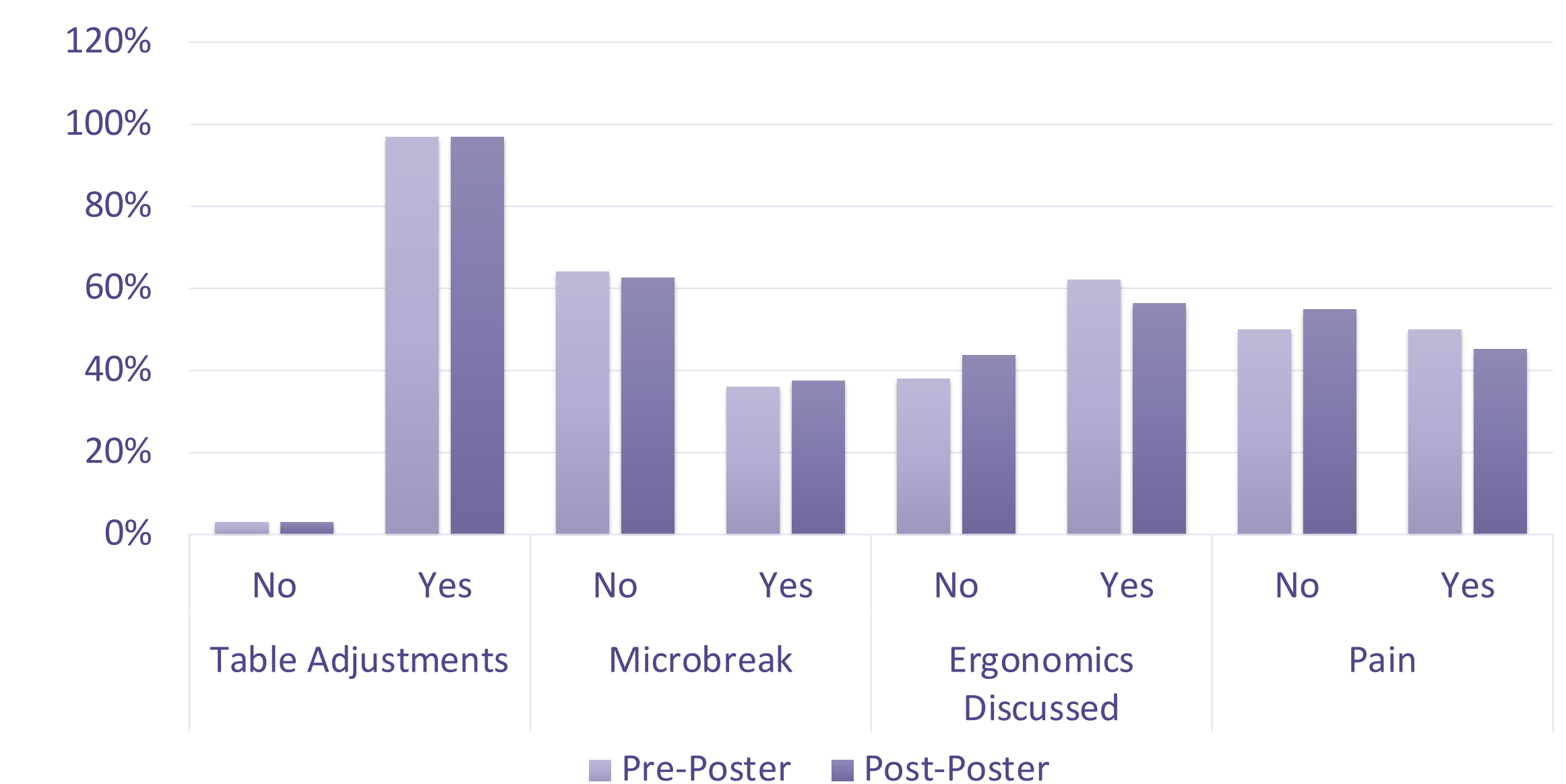


- The poster was placed at the entrance of every operating room at a single academic center
- An anonymous pre- and post- poster **survey** was administered to attending surgeons

## Results

- A total of 141 attending surgeons were surveyed
- We received 66 responses for pre-poster survey
- Post-survey was administered after 6 months
- Received 32 responses for post-poster survey

Figure 2: Ergonomics pre- and post-poster display



- **No difference** in surgeons who adjusted table height, took microbreaks, discussed ergonomics before vs after posters
- **No improvement in pain** before vs after posters
- While 41% agreed that the posters might help, **most responders were neutral or unaware the posters (47%)**

## Conclusions

- Posters outside operating rooms does not appear to be effective in increasing ergonomic practices during an operation
- Real-time feedback, additional training and incorporation of an ergonomic checklist as part of the “time out” are dynamic interventions that could potentially improve operative ergonomics, fatigue and burn out

## References

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