

# Reducing Sharps Injuries in the Operating Room

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## 1 Background

Sharps injuries are the second-most common workplace injury in the health care setting (University of Minnesota, 2006). An evidence-based practice approach to reducing sharps injuries is being implemented to reduce the number of staff members who are injured by surgical equipment.

## 2 Objectives

1. Reduce the number of needle-sticks in the Wilmer operating rooms from 25 in 2016 to 0 in 2017
2. Create a safer operating room environment for patients and employees
3. Create a more convenient way of passing sharp instruments in the operating room

## 3 Methods

A "hands-free zone" was implemented in an ocular plastics operating room at Wilmer Eye Institute for one month. In the operating room, the mayo stand was modified to create two zones: the instrument zone and hands-free zone (Image 1). The instrument zone was used for organizing surgical instruments and materials, while the hands-free zone was strictly used for the returning of instruments from the surgeon to the scrub person.



Image 1: Diagram of mayo stand including hands-free zone

Staff's perceived safety and convenience of each sharps passing method were measured before and after the intervention implementation via a three-item questionnaire:

- Item 1: "On a scale of 1-5 (1 = not at all safe; 5 = completely safe), how safe do you feel passing sharps in the operating room?"

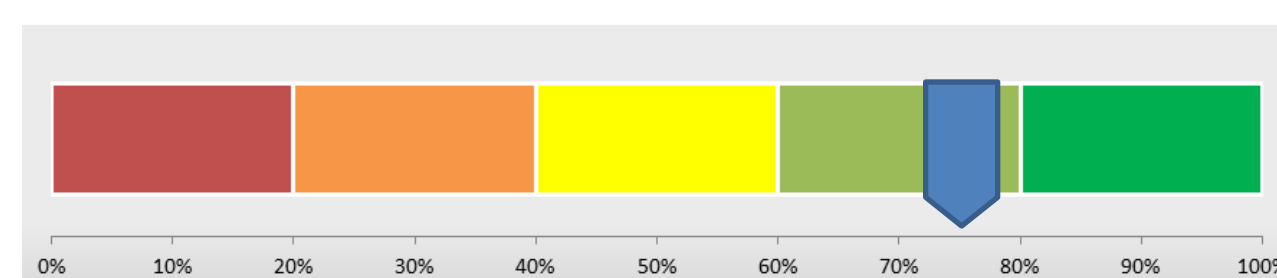
## Methods (continued)

- Item 2: "On a scale of 1 to 5 (1 = not at all convenient; 5 = most convenient), how convenient is this method for passing sharps in the operating room?"
- Item 3: "In your opinion, what is the best method for passing sharps in the operating room? In your own words, please describe this method."

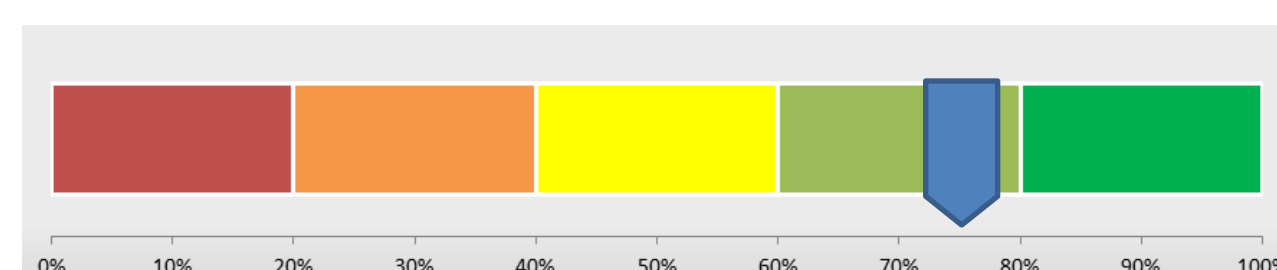
## 4 Results

### Pre-Intervention Survey

When surveyed on perceived safety when passing sharp instruments in the OR using standard method (1= not at all safe; 5= completely safe), OR staff reported an average rating of 3.79/5.

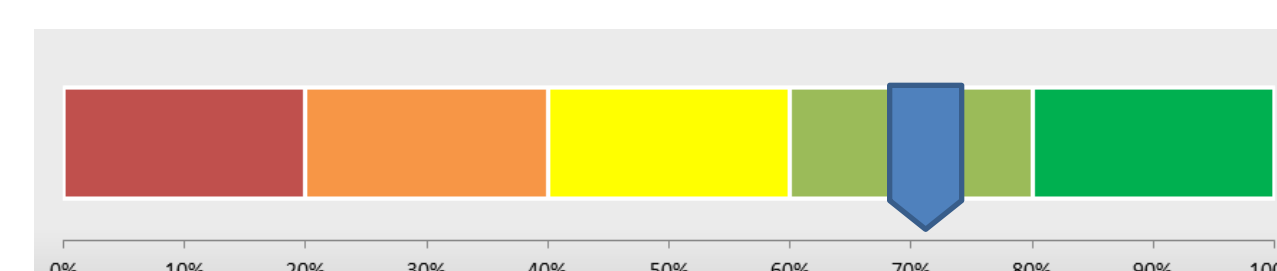


When surveyed on overall convenience of the standard method of passing sharps in the OR (1=not at all convenient; 2= most convenient), OR staff reported an average rating of 3.79/5.

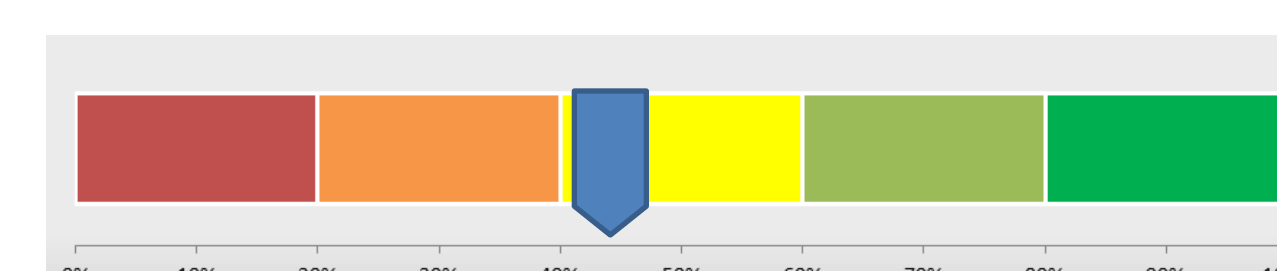


### Post-Intervention Survey

When surveyed on perceived safety when passing sharp instruments in the OR using the hands-free zone (1= not at all safe; 5= completely safe), OR staff reported an average rating of 3.6/5.



When surveyed on overall convenience of the new method of passing sharps in the OR using the hands-free zone (1=not at all convenient; 2= most convenient), OR staff reported an average rating of 2.2/5.



## 5 Conclusions

1. OR employees felt less safe when passing sharps using the hands-free zone than their traditional instrument passing method.
2. OR employees reported that the hands-free zone was less convenient than their traditional instrument passing method.
3. When surveyed, 80% of employees reported that the hands-free zone "was implausible because it required the surgeon to look up from his/her surgical target, which consumed too much time."
4. Roughly 50% of OR employees reported that surgeons were unable to visualize the hands-free zone through their magnifying surgical loupes.

## 6 Future Directions

1. Further expansion of the hands free-zone program to other surgical services to determine its efficacy.
2. Work to incorporate hands-free zone teaching into the OR time-out to ensure that the concept is clear prior to starting the surgical case.
3. Purchase orange silicone hands-free zone mats to create a more visual drop zone for surgical instruments.

## 7 References

University of Minnesota. (2006). Needle stick injuries among health care workers. *Environmental Health Sciences*. Retrieved from <http://ehs.umn.edu/current/6120/needle/magnitude.html>

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