

Foreign Body Identification: A Residents Guide to Surgical Retained Foreign Objects

Diagnostic Radiology Residency RIP Project

INTRODUCTION

- A retained surgical instrument is a serious complication for both the patient and the provider.
- Retained surgical items are considered a “never event” by the National Quality Forum and Joint Commission
- Incidence of retained surgical items is estimated to be between 1 per 1000 and 1 per 3000 procedures.
- Retained surgical items are a possibility on every post operative scan regardless of intraoperative count and should be a part of every radiologist’s search pattern.
- Radiology trainees rarely see positive cases as they are very rare.
- It is important to educate radiology trainees on these items so that they can communicate with the surgical team. Early diagnosis and intervention are essential.

GOAL

- Increase the knowledge base of the average diagnostic radiologist resident by 10% via a radiographic atlas

METHODS

- Study was conducted over 6 months August 2022-February 2023.
- Atlas of retained surgical items was obtained using frequently miscounted objects at our institution.
- Lecture was created from the atlas targeted at radiology residents regardless of level (PGY-2, R1 through PGY-5, R4).
- Pre-quiz was administered in January of 2023
- Lecture was given and the atlas was distributed in early February 2023.
- Two weeks later in late February 2023 the post quiz was administered
- 49 residents participated in the pre-quiz and 48 residents participated in the post-quiz. Means were analyzed via paired T-test
- Comfort level subjective data was also obtained.

RESULTS

Figure 1. Training level on pre-quiz (a) and post quiz (b).

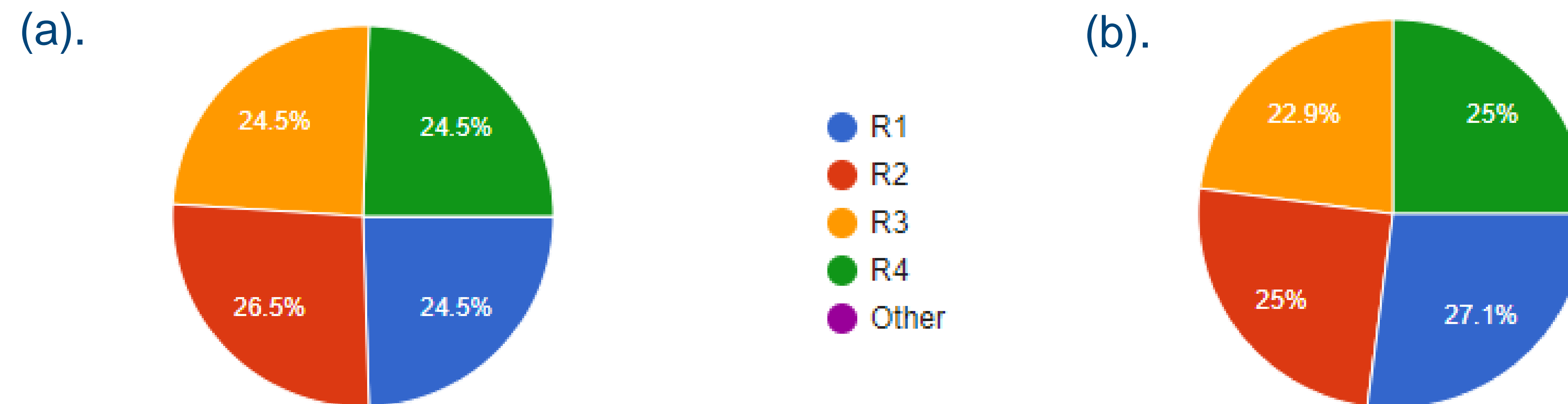


Figure 2. Average and median scores on quiz assessment between pre-quiz (a) and post-quiz (b)

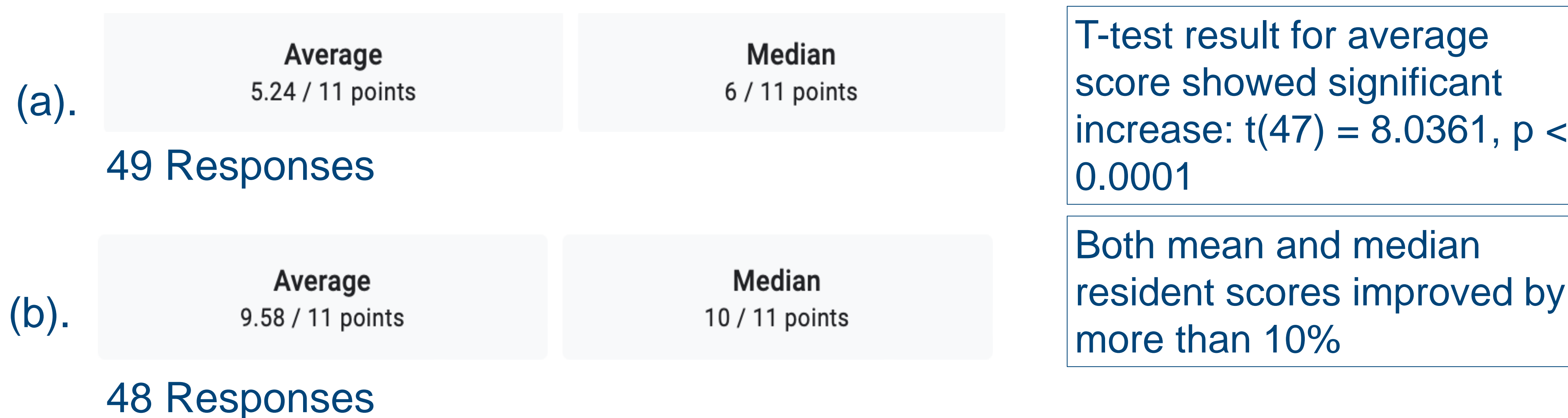
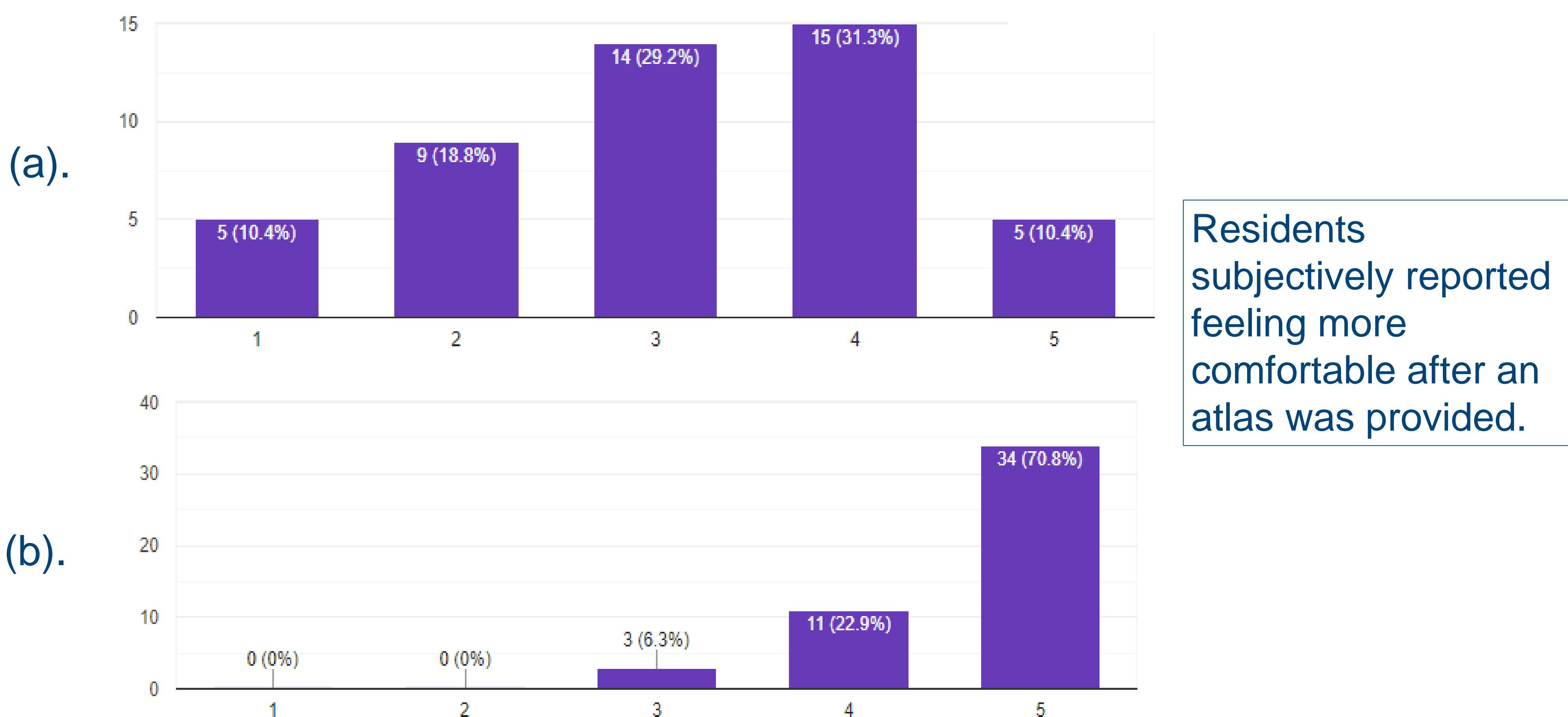


Figure 3. Comfort identifying foreign bodies prior to (a) and after (b) educational lecture and atlas.



CONCLUSIONS

- The level of training between the pre and post quiz was similar thus a proportional between classes.
- There is a need for instruction regarding retained surgical instruments.
- Atlas as well as lecture was an effective way to teach and communicate these ideas with residents.
- Residents performed significantly better after instruction overall. The goal of 10% improvement between pre and post assessment was met.
- Dedicated instruction is a way to improve residents subjective comfort levels regarding image interpretation.

LIMITATIONS

- Limitations included a small number of residents to sample and a single year data set. Assembling the atlas took longer than anticipated thus assessment was delayed from the original proposed timeline.

FUTURE DIRECTIONS

- Analyze differences in response by level of training.
- Hone educational initiatives by class and teach to their level– junior vs senior resident.
- This data is not generalizable.
- Examine resident performance over a longer period-- such as a multi-year analysis.

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