



Assessing General Surgery Resident Proficiency in Robotic Surgery

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INTRODUCTION

- Robotic surgery (RS), though increasing in popularity, has not been uniformly adopted across general surgery (GS) residency programs¹.
- Literature identifying factors which increase RS curriculum efficacy, and quantitatively evaluating performance are limited.
- This study aims to evaluate resident-physician self-perceived proficiency in RS, investigate which aspects of RS training residents perceive to be most beneficial, and quantify console time across GS residency at our institution.

METHODS

- A survey was administered to all GS residents.
- Our survey evaluated current and future self-perceived confidence and proficiency in RS, and specific aspects of training found most helpful.
- User-specific active console time was obtained via an integrated tracking app, with increased active time used as a surrogate for increased proficiency.

RESULTS

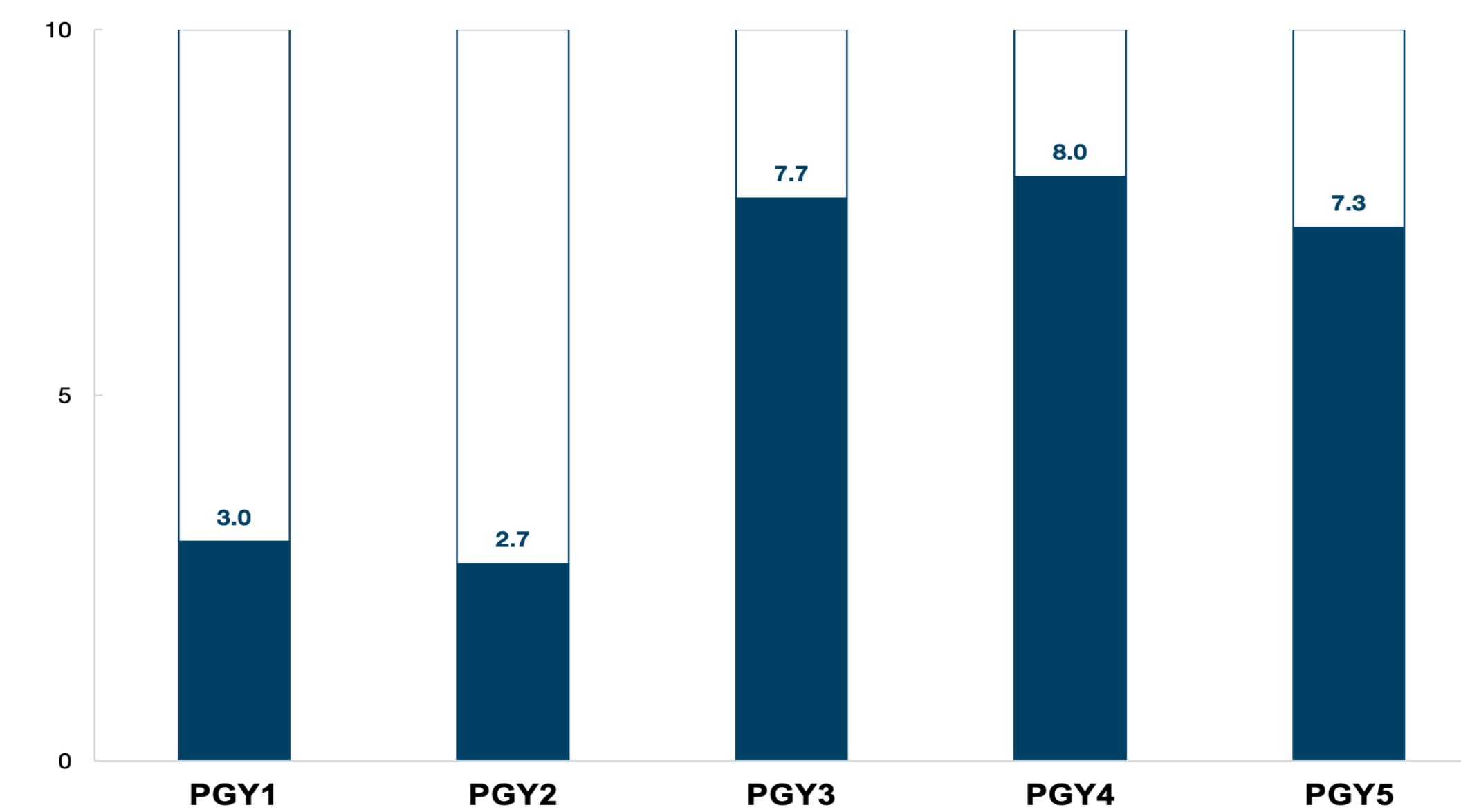


Figure 1. Mean resident self-perceived confidence scores for overall robotic surgery proficiency across PGYs 1-5.

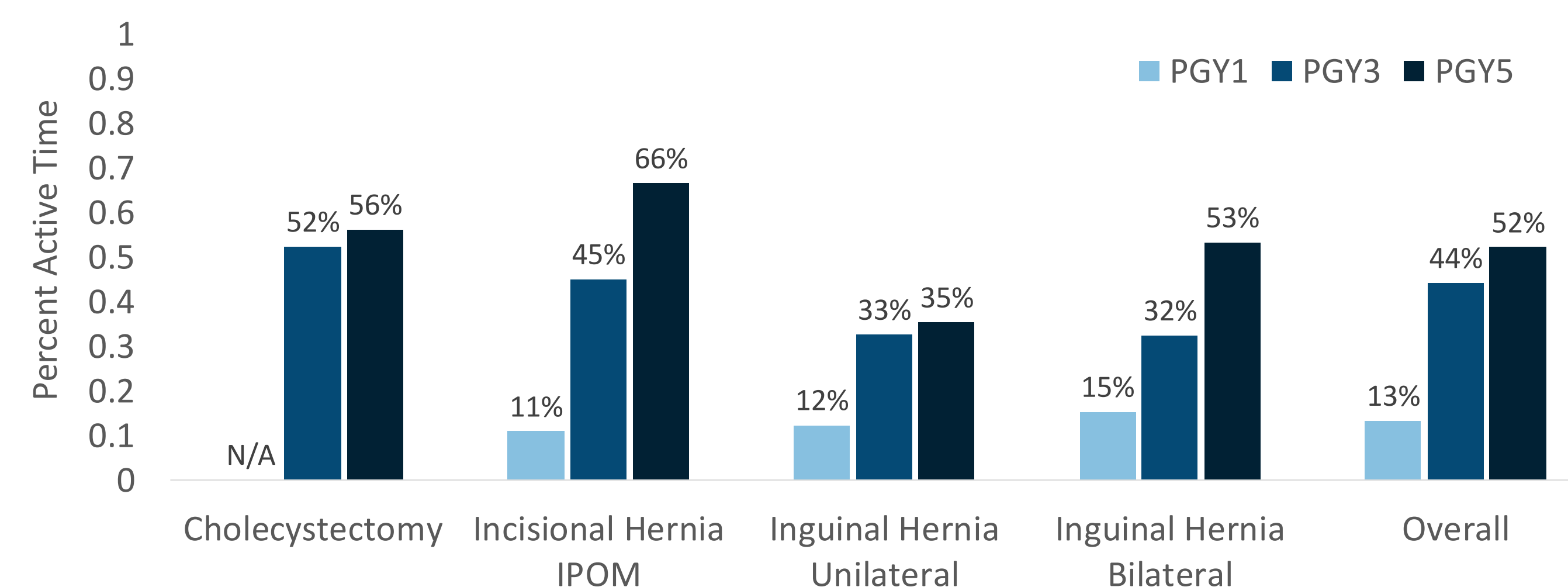


Figure 3. Proportion of active time on robotic console by PGYs 1, 3, and 5 during general surgery procedures (PGY1 n=7, PGY3 n=74, PGY5 n=37).

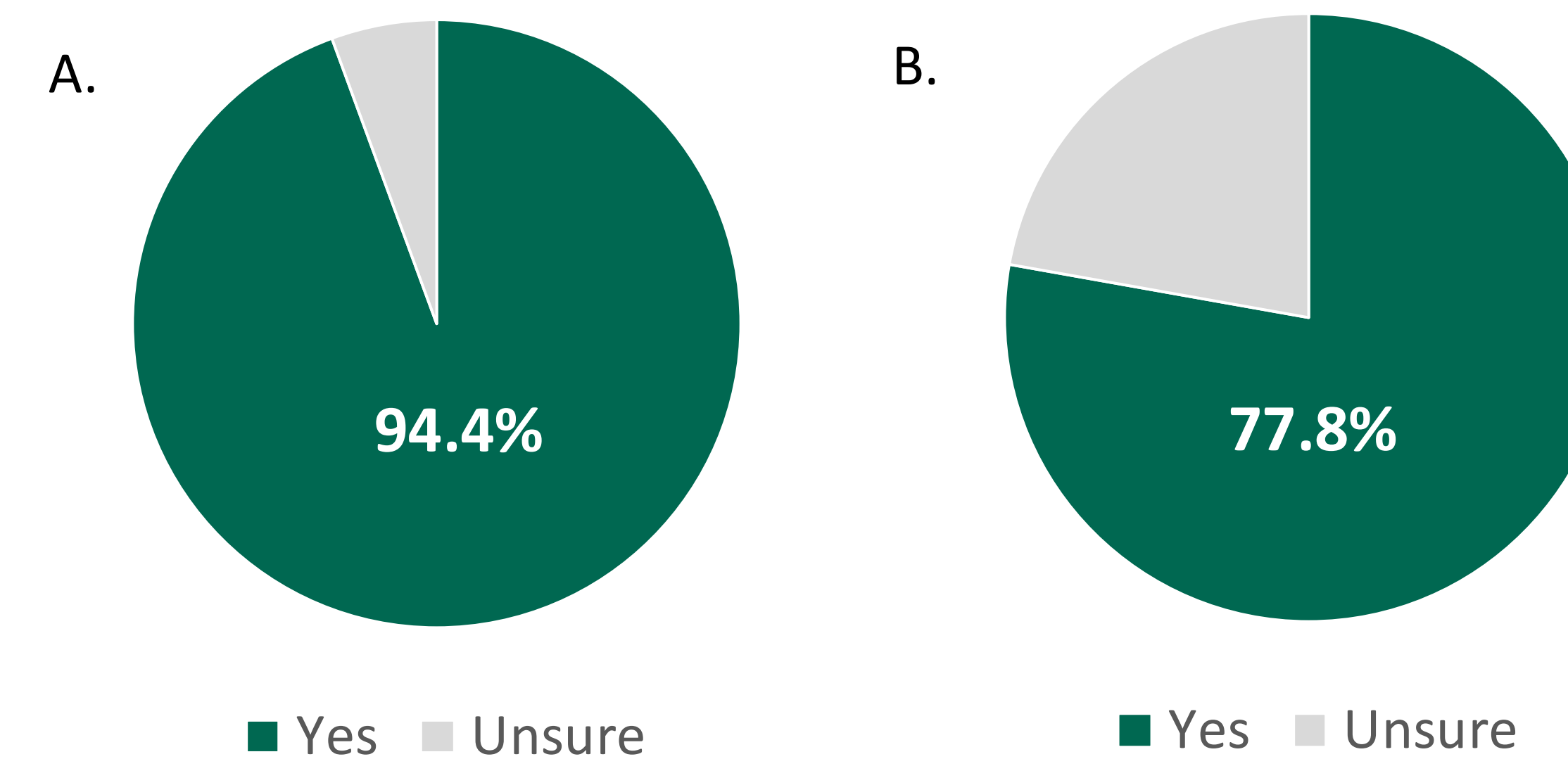


Figure 2. Proportion of residents expected to have acceptable proficiency in RS (A) and the ability to independently perform RS (B) by the end of residency.

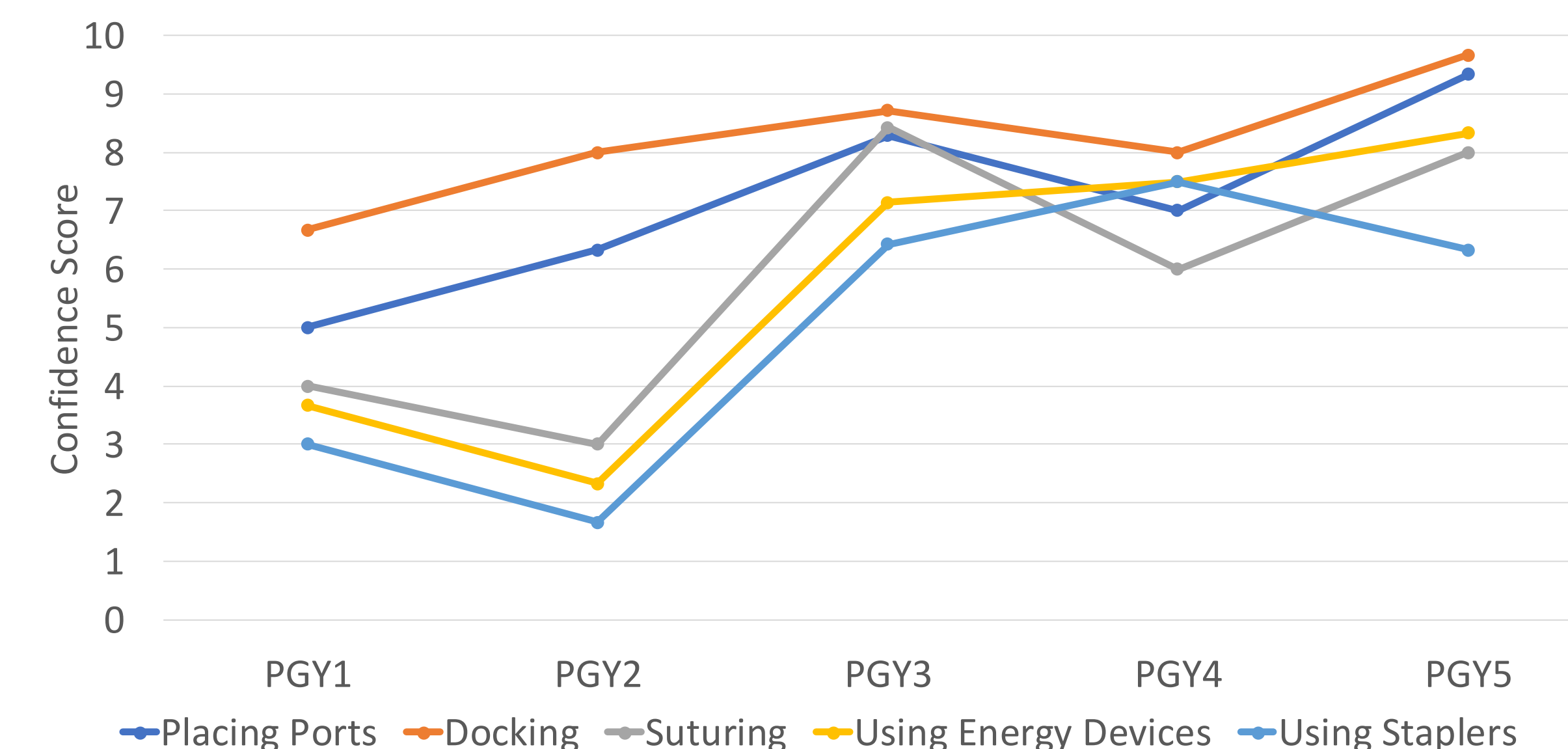


Figure 4: Resident self-perceived confidence scores out of 10 for specific robotic surgery skills across PGYs 1-5.

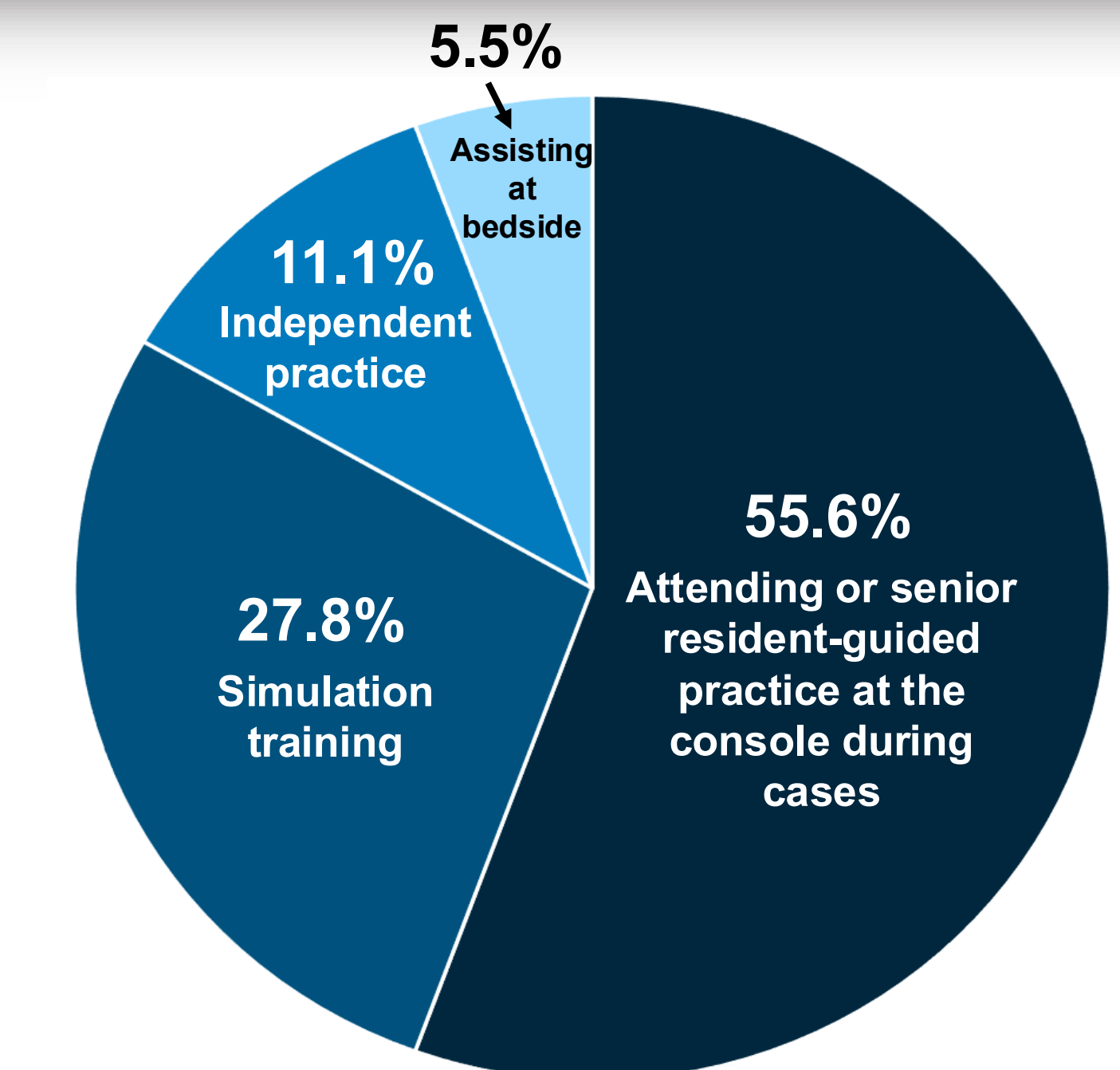


Figure 5. Specific training aspect that increased confidence in robotic surgery the most among all GS residents.

DISCUSSION

- With further integration of RS into GS residency curricula, determining factors that increase resident self-perceived proficiency are key to increasing RS training efficacy.
- Our results suggest that within our curriculum, proficiency and confidence increase with PGY year, highlighting the utility of a formal curriculum.
- Lower confidence in PGY-2 and -4 (Fig. 4) may result from gaps in exposure (only PGY-1, -3, -5 rotate in MIS).
- Further studies are needed to better standardize proficiency evaluations, with video review of particular interest.

REFERENCES

1. Madion MP, Kastenmeier A, Goldblatt MI, Higgins RM. Robotic surgery training curricula: prevalence, perceptions, and educational experiences in general surgery residency programs. Surg Endosc. 2022 Sep;36(9):6638-6646. doi: 10.1007/s00464-021-08930-z. Epub 2022 Jan 10. PMID: 35001224.