

# Increasing Resident Confidence and Preparedness for In-Hospital Medical Emergencies

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## Background

- ACLS training is an essential part of onboarding for incoming residents, yet many feel unprepared when faced with an in-hospital emergency.<sup>1</sup>
- More training and exposure to possible inpatient medical emergencies and review of ACLS algorithms would likely improve resident confidence and preparedness.
- Many training models have been developed and implemented with success in improving resident preparedness for leadership roles in managing in-hospital emergencies.<sup>2,3</sup>

## Objective

- Implement a multi-modal review and training session aimed primarily at Family Medicine and Transitional Year interns to prepare them for leadership roles during an inpatient medical emergency.

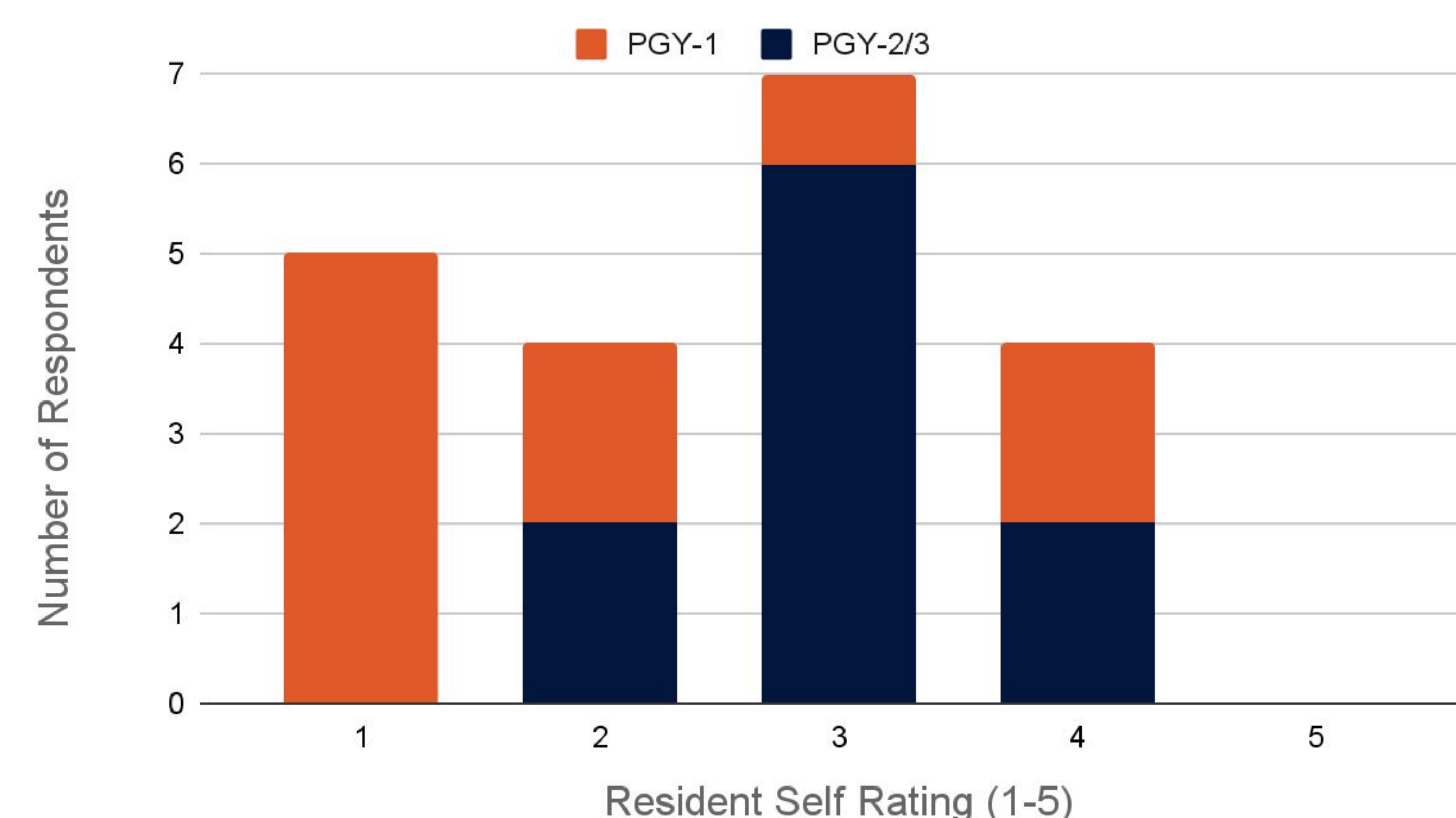
## Methods

- An educational session was prepared which included multiple components, including:
  - A brief lecture review of ACLS algorithms,
  - Interpretation of ECG rhythm strips with a focus on subsequent management,
  - A retrospective session where PGY-2 and PGY-3 residents were invited to discuss examples of medical emergencies they had previously faced
  - Simulated ACLS workshop utilizing CPR manikins
- A survey was provided to participating residents before and after the session.

## Results

- A total of twenty residents participated in the lecture and completed the pre-lecture survey. Ten of these residents identified as PGY-1's and ten as either PGY-2's or PGY-3's.

Figure 1 – Confidence in Interpreting Rhythm Strips



*This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities.*

- Eighteen Residents completed the post-lecture survey, ten PGY-1's and eight PGY-2's or PGY-3's.

Figure 2 – Confidence in Utilizing ACLS Algorithms

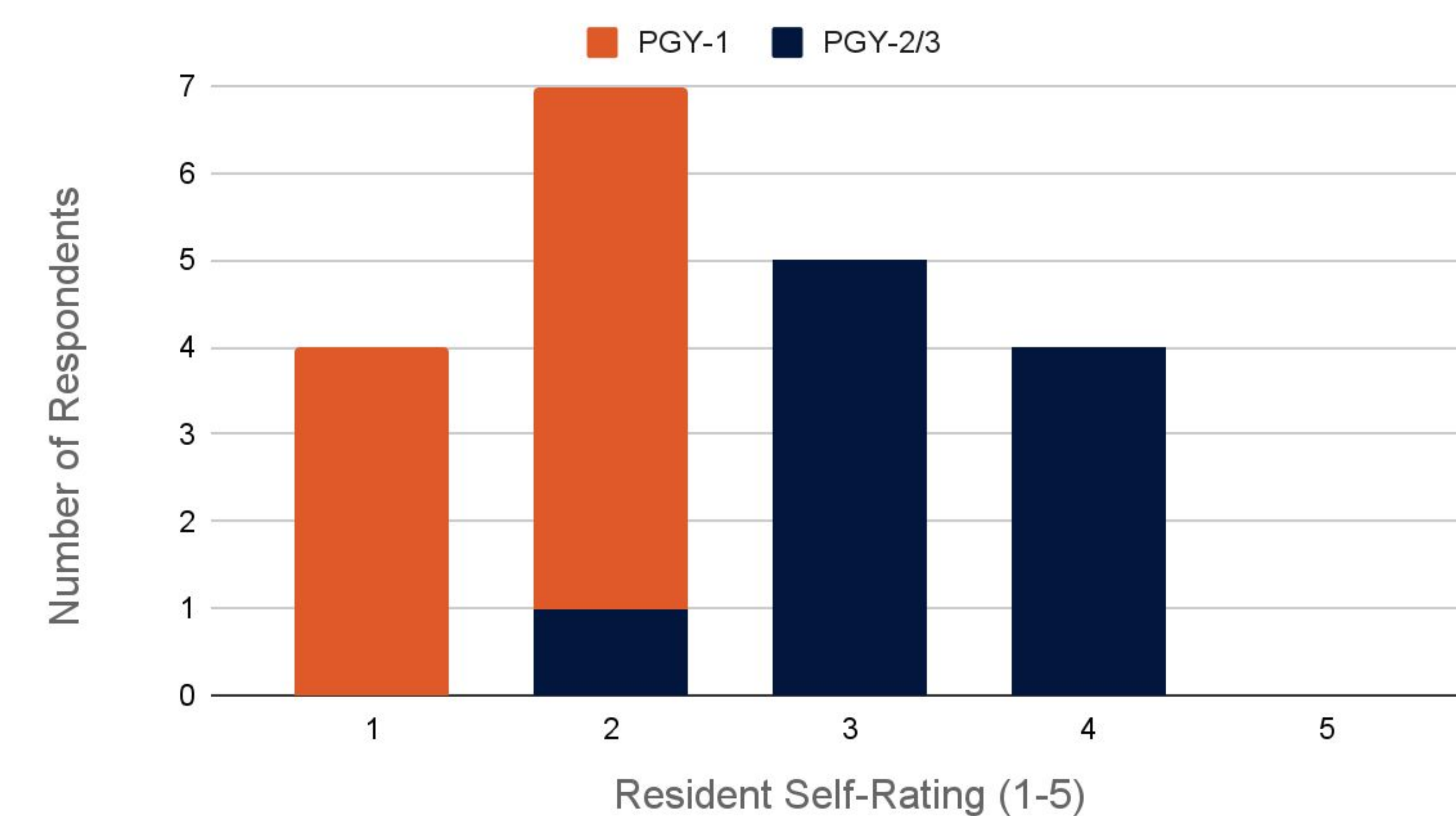


Table 1 – Reported Improvement in Confidence from 0%-100%

Interpreting Rhythm Strips						
Post-Graduate Year	0%	25%	50%	75%	100%	Average (Standard Deviation)
PGY-1	1	2	4	3	0	0.48 (0.25)
PGY-2/3	0	2	2	4	0	0.50 (0.17)
Utilizing ACLS Algorithms						
Post-Graduate Year	0%	25%	50%	75%	100%	Average (Standard Deviation)
PGY-1	0	2	6	2	0	0.56 (0.22)
PGY-2/3	0	1	4	3	0	0.56 (0.18)

Table 2 – Average Reported Educational Benefit of Session Components, Rated from 1-5, with Standard Deviation

Post-Graduate Year	Lecture Review	ECG Interpretation	ACLS Workshop
PGY-1	4.5 (0.53)	4.5 (0.53)	4.5 (0.53)
PGY-2/3	4.6 (0.52)	4.5 (0.89)	4.6 (0.52)

## Discussion

- All residents had indicated that they had previously completed ACLS certification, a requirement for the residency program. However, resident's self-perceived confidence in implementing these ACLS algorithms was low.
- This session was run in the early part of the academic year, and no PGY-1 reported that they had yet run a code or otherwise been in the decision making role during an inpatient medical emergency.
- Nine of the ten PGY-2 and PGY-3 residents had reported that they had run a code or been in a decision making role during an inpatient medical emergency. This indicates a high likelihood that a PGY-1 will be placed in a leadership position at some point during their intern year.
- Both interns and PGY-2/3 residents reported the session to be educationally valuable, with high ratings for all components of the training session.
- However, no objective standard was used to assess resident's capabilities in managing in hospital medical emergencies. Future training sessions could benefit from developing and implementing these standards based on various objective measures.

## Conclusion

- In-hospital emergencies are when our expertise as physicians is most valued by the patients and the hospital system. Patient's lives and well-beings may often be dependent on our ability to handle these emergencies.
- Our pre- and post-intervention surveys indicate a need and desire for better training on how to manage in-hospital emergencies, especially among interns.

## References

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