

The Use of Video Capture Technology to Assess Surgical Skills of General Surgery Residents

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The Use of Video Capture Technology to Assess Surgical Skills of General Surgery Residents

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BACKGROUND / INTRODUCTION

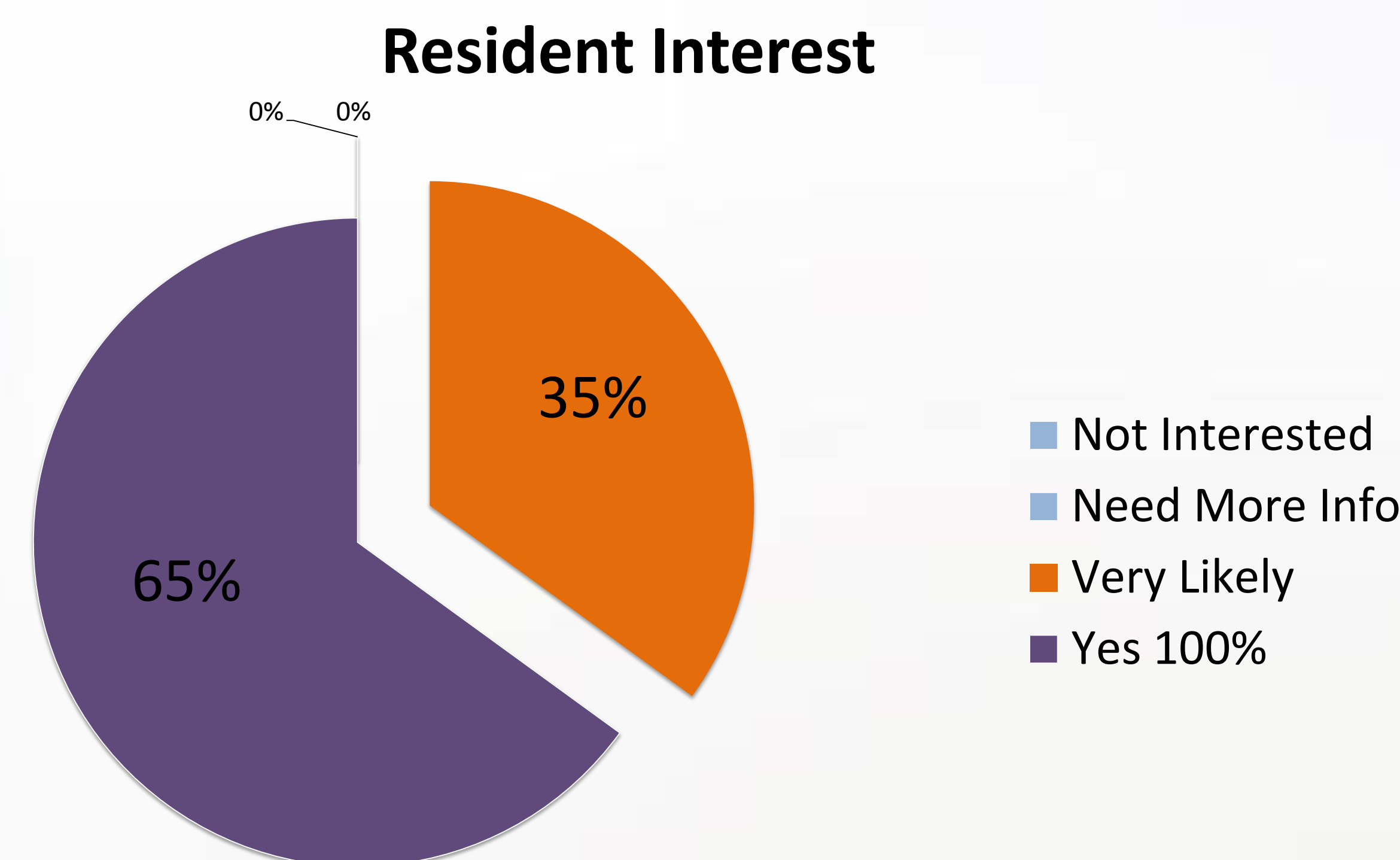
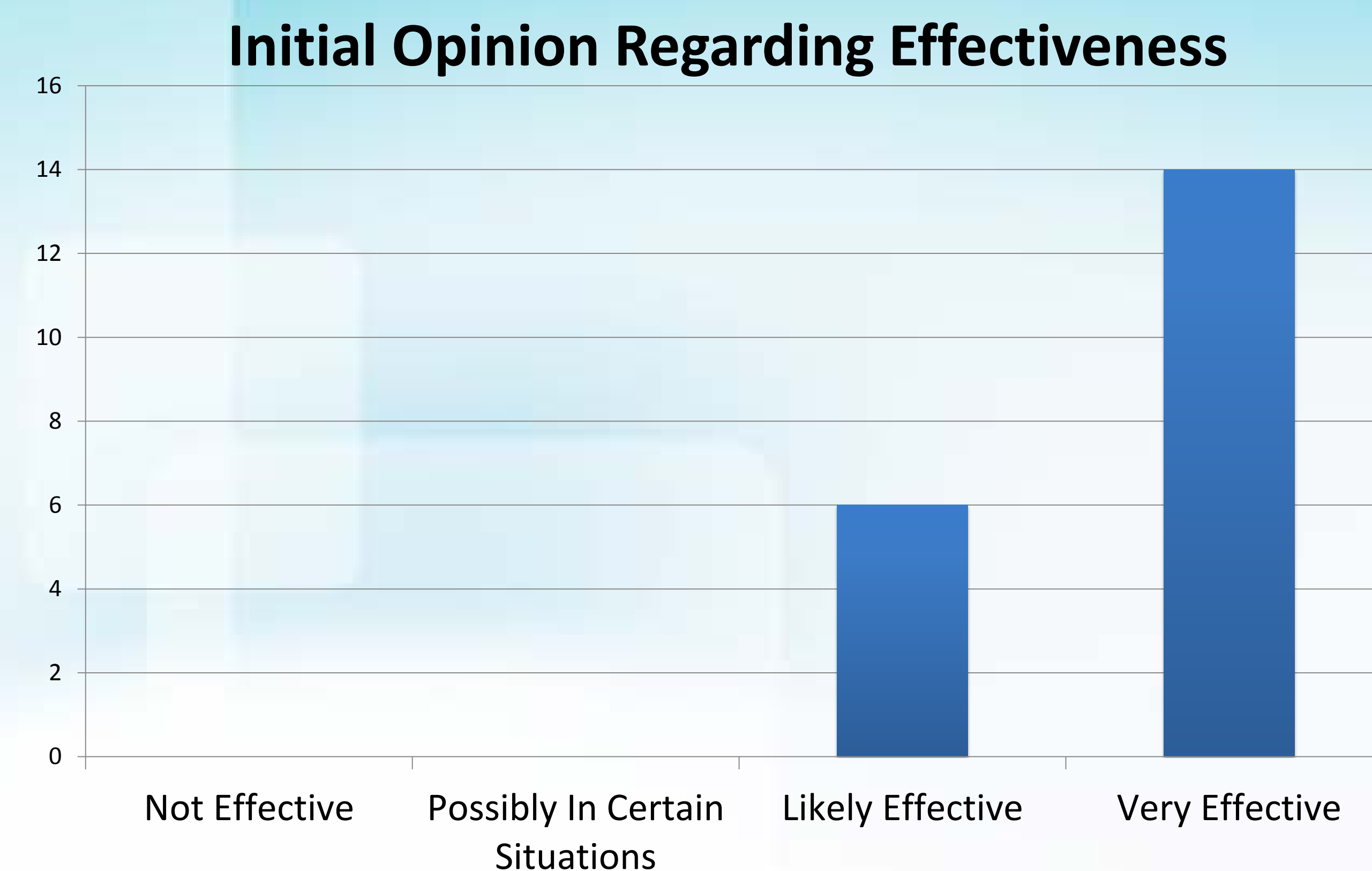
- Initial observation of current feedback tactics in the operating room (OR) appear to lack efficiency in long term learning retention
- Decision making on the competency of surgical residents to perform laparoscopic procedures has been hampered by the lack of reliability with methods used to evaluate operative performance
- Video reviews could offer a way to assess surgical skill and ensure quality
- Assessing specific skills in a practice setting can correlate to overall skill in the operating room
- Video recordings can be evaluated on a larger scale via crowd sourcing for continued research

METHODS

- Video record and assess specific surgical skills in a practice setting using laparoscopic box model
- Video record and assess surgical procedure performed in the operating room
- Evaluate and consider correlations between performance of specific surgical skills and overall performance in the operating room
- Create a plan to improve specific skills therefore improving overall surgical ability
- Use crowdsourcing forum to obtain global rating scale

OUTCOMES/RESULTS

- During the 8 week period over 15 procedures were recorded and reviewed with participation from a variety of residents (7) performing multiple procedures
- After residents were informed of the video recording system they were given a survey to assess initial feedback and interest in the technology



CHALLENGES

- SimCapture System requires a modifier for different outputs
- Lose aspects of system if there is not an operator present during recording session
- Open surgical cases require a type of video recording camera
- For future crowdsourcing evaluations, lengthy video recordings will need to be edited to important segments

CONCLUSIONS

- The SimCapture system was successfully used in both practice and OR settings
 - Resident and attending feedback was positive throughout entire project period
 - Residents showed interest and enthusiasm regarding this new form of teaching and assessment
 - The system proved to be a reliable form of assessment and feedback mechanism for surgical residents
- Dath, D., Regehr, G., Birch, D. et al. Surg Endosc (2004) 18: 1800. doi:10.1007/s00464-003-8157-2
- "How to Make Surgeons Better? Videotape Them, NEJM Suggests." *Advisory Board*. N.p., 11 Oct. 2013. Web. 25 July 2016.

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Assess and evaluate specific surgical skills in practice setting

Assess and evaluate overall ability during surgical procedure

Consider correlations between the two performances and create an action plan to improve skills

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