Assessment of a Novel Education Platform In Colorectal Robotic Surgery – Intuituve Hub: An Early Experience

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Introduction

Telemonitoring is a concept that has been widely explored and improved during the last two decades, but this topic has encountered many barriers, such as limited interaction between the trainee and the main surgeon due to the nature of the long- distance interaction. Currently there is no software described in the literature that allows a bi-directional and interactive encounter between the robot (surgeon), trainee, and OR.

Objectives

We aim to describe a novel education platform in robotic colorectal surgery, wherein the surgeon can communicate and stream real-time surgical procedures. For this to be possible, the operating room is equipped with two bidirectional cameras and a headset, allowing the surgeon to both observe and interact with the trainee. In addition to the laparoscopic camera, this setup enables the trainee from their home or office to address any relevant topics of interest in real-time with the surgeon. Thus, this can improve the quality of the current tele-mentoring sessions.

Methods

Intuitive Hub Platform was utilized to stream four real-time robotic colorectal surgeries performed at a community hospital in Houston, Texas. The surgeries were streamed and the trainees, who are surgeons with robotic surgery certifications, watched and interacted with the mentor. A single colorectal surgeon performed all the procedures. Following each surgery, we conducted a survey to assess the platform's effectiveness, feasibility, and utility.

Results

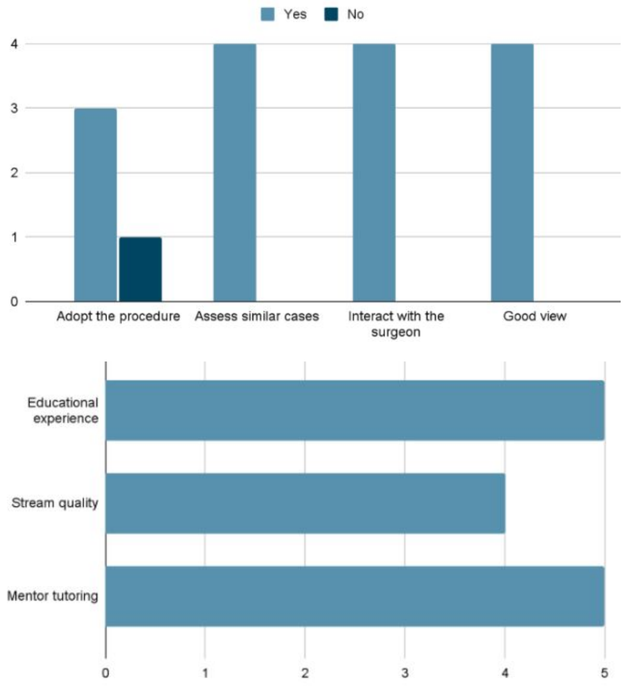


Figure.1 Survey Responses and platform Rating



Figure.2 Schematic Representation of the system



Picture. 1 Actual Representation of the telemonitoring session

Implications of Results

We performed two sigmoidectomies and two hemicolectomies that were streamed in the states of Alabama, Texas, New York, and Iowa. Wherein all trainees were comfortable with the platform and streaming and felt comfortable to assess similar cases, 75% were willing to adopt the procedure in their practice. We included the following questions in our survey. 1. Based on your experience, do you believe that you will adopt this procedure in your practice? 2. Would you feel more comfortable assessing similar cases with this procedure after the streaming? 3. Were you able to ask all your questions with the surgeon about the surgery? 4. Were you able to observe the OR patients' cavities and surgical staff? 5. On a scale from 1 to 5, how would you rate the educational experience? 6. On a scale from 1 to 5, would you rate the stream quality? 7. On a scale of 1 to 5, how would you rate the mentor tutoring? The responses to these survey questions that show this telementoring platform could be an ideal option for inexperienced trainees looking to gain additional experience.

Future Actions

The Intuitive Hub, by Intuitive Inc., is a novel, feasible and easy-to- access educational platform in which trainees from around the United States can enroll in real-time telementoring with an experience colorectal surgeon. Additional surgeries are needed to expand upon the data and compare this novel platform to the current options.

References

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