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Challenges in Surgical Education

Video-Based Task Robotic Cholecystectomy

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Background: The integration of Robotic approaches into General Surgery is broadening the application of minimally invasive techniques. This pattern underlines how crucial it is to teach residents robotics abilities. Notably, video-based learning has made significant strides in accelerating learning and improving abilities. The incorporation of narration and didactic pictures are two specific aspects of video-based learning that have been found to impart positively. Addressing difficulties in surgical training is made possible by using video-based education including the challenge of knowledge retention in a space of material that is always developing while working within the confines of a time-limited training setting.

Current Challenges: We propose a standardized instructional approach involving a surgical video-based task for Robotic Cholecystectomy, incorporating essential video features. We engaged subject matter experts (SMEs) who devised a procedural steps list for Robotic Cholecystectomy. Their collaborative effort culminated in a comprehensive ten-step task sequence for the procedure, which was formulated through a modified Delphi process, starting with a literature review to establish a consensus. To enhance the instructional value, we created a surgical video featuring narration and anatomic labeling. The primary objective was to establish a standardized set of tasks, complemented by visual representation, aimed at facilitating the teaching of robotic Cholecystectomy to novice learners. The creation of this tool helps standardize the execution and instruction of the procedure. Furthermore, it streamlines the provision of formative, and summative feedback and assessment for learners under the guidance of supervising surgeons.

Need of Innovation: Creating a standardized task list combined with video-based learning for robotic Cholecystectomy establishes a framework to effectively and securely instruct general surgery residents in their initial experience with robotic surgery. Video-based learning presents notable benefits for trainee education, performance, and overall experience, making it an essential component of surgical training.