

Milestones for Laparoscopic Surgery

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INTRODUCTION

In the context of competency-based medical education (CBME) a combination of knowledge, skills, and attitudes are identified that capture the competencies necessary to deliver safe, effective healthcare in a given field or specialty. These competencies, in isolation, are insufficient for guiding curriculum design, instruction, and assessment, because they are decontextualized. However, these competencies may be integrated and organized into meaningful units that describe observable professional activities which can be used to guide all aspects of education. Presently, there is no set of professional activities or *milestones*, that contribute to defining the breadth of laparoscopic surgery.

OBJECTIVES

The purpose of this research was to to identify the set of milestones that capture the breadth of laparoscopic surgery, and that may be used to guide laparoscopic training.

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METHODS

Using a mixed methods design, evidence was generated from a variety of data sources. 1) A **literature review** was conducted to identify the competencies associated with laparoscopic surgery, and the aspects prioritized during assessment. 2) Subject matter expert were invited to two **education retreats**. The first retreat focused on generating a list of requisite fundamental, non procedure-specific clinical skills related to laparoscopic surgery. This list was generated through a series of brainstorming activities, and cognitive task analyses. The second retreat employed a series of innovative think aloud activities to generate a list of tasks associated with laparoscopic surgery. 3) **Synthesis**. During the second retreat, the subject matter experts were presented with data across all sources and collaboratively identified commonalities and differences and developed a set of milestones. 4) The initial set of milestones was presented and **refined** by a new group of subject matter experts through a guided discussion.

DISCUSSION

The 11 milestones describe professional activities that, together, capture the tasks essential to performing laparoscopic surgery. However, the competencies associated with effectively and safely performing these tasks will vary depending on the characteristics of the procedure (e.g., simple, complex), and expectations of the surgeon (e.g., trainee, expert clinician). As such, they are applicable to any level of training from basic to advanced, and may be used to develop curriculum in any surgical speciality. Furthermore, they provide a common framework of reference for the construct of laparoscopic surgery that did not previously exist.