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Title

Overview of the First Consensus Conference on the Fundamentals of Robotic Surgery: Outcome Measures

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Abstract

FRS Mission Statement:

“Create and develop a validated multi-specialty, technical skills competency based curriculum for surgeons to safely and efficiently perform basic robotic-assisted surgery.”

Purpose: On 12-13 December, 2011 the Fundamentals of Robotic Surgery (FRS) Consensus Conference (FRSCC#1) on Outcomes Measures convened an international body of leaders in robotic surgery to define the skills necessary to begin the process of creating a certifiable curriculum and testing method in robotic surgery.

Goals: To identify the outcomes that must be measured to certify that a surgeon has the most basic of cognitive and psychomotor technical skills for robotic surgery. These outcomes are organized as a list of tasks that a surgeon must be able to perform successfully, a list of the most common errors associated with each task, and the metrics that will be used to measure competency in that task.

Objectives: To develop a list of skills, tasks and errors critical to the performance of robotic surgery, and identify quantitative outcome metrics that accurately measure performance.

Scope: Material developed under FRS in this work focused on measuring the most basic skills that a surgeon must possess in order to perform robotic surgery. Although some of these skills require a background of general surgical knowledge, most measures of competency in FRS were technical (both cognitive and psychomotor) skills specifically required and essential to robotic surgery.

The scope was limited to actions performed by the surgeon in preparing, performing, and after finishing a robotic procedure as well as the more common errors in each of these areas. The actions of the entire surgical team were not part of this evaluation, though team leadership and performance were recognized as critical. The surgeon’s role within that team was included.

Methodology: The Consensus Conference was conducted during a 2 day period using a modified Delphi methodology. The participants consisted of subject matter experts from 14

different surgical specialties that use robotic surgery, as well as representatives from a number of the certifying surgical specialty boards and surgical education societies, and included participation by the civilian, the Department of Defense and the Veterans Administration (VA) sectors. Many of the participants are members of the ACS-AEI and of the Alliance of Surgical Specialties for Education and Training (ASSET). After the evaluation of existing materials and curricula, a task deconstruction was performed to identify the tasks, subtasks and errors that need to be measured. A matrix was then created that matched metrics to the tasks, skills and errors.

Following the conference, a second round classic Delphi anonymous rating was used to insure concurrence, to prioritize the ranking of the tasks and to eliminate low-scoring tasks.

Results: The results provide a matrix of specific robotic surgery tasks that are matched to their common errors, a description of the desired outcome and the quantitative metrics that support those outcomes. These tasks are the core material that will be presented at this meeting.

Future Directions: The measures that are the results this conference will be utilized as the requirements for metrics that must be incorporated into the curriculum development at the FRSCC#2 Curriculum Development conference. Following the completed curriculum, there will be a FRSCC#3 Validation Study Design conference, the design of which will be utilized in the multi-institution Validation Study.

Upon completion, the validated curriculum will be transitioned to the Fundamentals of Laparoscopic Surgery Committee of SAGES/ACS to develop the high-stakes testing and evaluation and eventually submitted to appropriate certifying boards for consideration of adoption.