Developing Consensus for Assessment in the Simulated Environment:
A Proposed Method Using Airway Documentation

L Larsen, B Murray, R Marine
Simulation Development and Cognitive Science Laboratory,
Pennsylvania State University College of Medicine, Hershey, PA

Introduction

One of the major problems in training and assessment in the simulated environment is obtaining agreement of faculty as to the correct way of performing a task. This requires faculty to agree upon a uniform assessment protocol for each knowledge element to be assessed, often a difficult process. In this project, we describe a methodology to create a uniform protocol based on the patient care information to be entered in the anesthesia operating room record. This method can be applied to other teaching scenarios.

Methods

A sequential, two-part survey modifying the standard expert criterion (Delphi) protocol was sent to all anesthesiology faculty, residents, and CRNAs at one major academic medical center. The first part asked open-ended questions aimed at defining what is important to document on the anesthetic record for routine as well as difficult airway management. The second part asked respondents to rank the importance (0 (not at all) to 10 (very)) of each of the most frequently identified items in part 1.

Results

The analysis of responses from 39 completed **part 1** surveys resulted in identification of 5 key elements for the routine record: laryngoscope blade/size (35), bilateral breath sounds (31), end-tidal CO_2 (31), endotracheal tube size (30), and grade view of the vocal cords (29). In a patient with a reported difficult airway, the identified items were: blade/equipment used (28), ability to mask ventilate (17), best view (16), and identifying the reason why the laryngoscopy and intubation were difficult (12). Survey **part 2** (sample size 30), ranking results for a routine airway, showed relatively equal importance for each of the 5 indicators: $EtCO_2$ (average rank=9.73), type/size of blade (9.53), easy/difficult mask (9.4), number of attempts (9.37), and bilateral breath sounds (9.2). The range of variance was similar for a difficult airway, and rankings were: special equipment used (9.93), easy/difficult mask (9.9), size/type of blades used (9.83), what was successful? (9.53), anatomic abnormalities (9.43), and number of attempts (9.37).

Discussion

We developed both a method for determining expert consensus among anesthesiology providers for recording important clinical procedures as well as a set of criteria for the recording of airway experience in the operating room record. We propose further development of the two-part modified Delphi study model to determine items of greatest importance. For instance, this method could be used in the simulation environment for training and assessment across all ACGME Competency areas. The use of this model appreciates the importance of local determination of clinical criteria based on institutional context of clinical practice. Using this model facilitates faculty participation and buy-in to departmental and institutional evaluation protocols. Our future research will include both development of protocols for additional procedures and faculty acceptance and use of developed evaluation tools.