

A154

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Room Hall B2 Area E

Using Simulation-Based Education to Pinpoint Curriculum Deficiencies in an Anesthesiology Teaching Program

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Introduction: The aim of this study is to use OSCE-driven modalities in the teaching/testing tool of simulation-based-medical-education [1], in order to pinpoint and define deficiencies in teaching. The Anesthesia fields tested and evaluated were Operating-room (OR) mishaps, Trauma and Resuscitation [2].

Material and Methods: 66 examinees in the post-graduate-year (PGY) 2-4 were tested in crisis management in 3 major anesthesia domains. Each scenario (# 1 or #2, in each field) was evaluated according to a preset checklist. Examinees received a "pass" score on the scenario if they successfully performed 70% of the station's checklist items, including all *critical* actions/items. In each scenario and in every domain - the *error rate* and *difficulty grade* for each item were calculated in each PGY group, and for all examinees. If the error rate was >0.3, or difficulty grade <0.7 for any item - for PGY4 and/or all examinees - we further investigated that item.

Results: The *Error rate* for all examinees in *Trauma* and *Resuscitation* fields was lower than OR domain, and lower in resuscitation than trauma (0.34>0.25> 0.16, respectively). When we analyzed the specific type of deficiencies, we found that: (a) In the OR domain, most deficiencies were related to *thinking-process and differential diagnosis*, but none of these deficiencies was critical. (b) In the resuscitation domain, most deficiencies were related to *basic knowledge of treatment*, and most of them were critical. (c) In the trauma domain, most deficiencies were equally distributed and related to either decision on a *choice of action/intervention* or basic knowledge of treatment, and most of them were critical (Table).

Conclusions: The differences in deficiencies found between the 3 domains tested, and the lower success rate/difficulty grade found more in the OR>Trauma>Resuscitation fields - can be related to the increased "missed" items related to decision and choice of action or advanced knowledge[3], rather than to basic knowledge or treatment. It appears that even though fewer tasks were in the frame of the *advanced knowledge*, this kind of tasks was more "problematic" to learn or teach to most of the examinees including the graduating PGY4 residents.

References:

1. Anest Analg 2006;102:853-8. 2. Anesthesiology 2010 112:1041-52. 3 Anesthesiology 1998;89:8-18.

Table. The distribution of examinees in post- graduate-year (PGY2 – to 4) in each domain (operating-room [OR], trauma [Tr], and resuscitation [Res]) and in each scenario within each field; with the number and type of items tested, and the critical items in each scenario and field.

Domain	OR	Tr	Res	All 3 domains
No of Examinees PGY2-4	24	21	21	66
No of Items	40	26	34	100
No of Basic Knowledge / Technical Items	14	15	26	55
No of Cognitive/ Non-Technical Items	26	11	8	45
Critical Items	5	9	22	36