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Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

Medical Student Milestones in Emergency Medicine

Permalink

<https://escholarship.org/uc/item/50p4959v>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 15(5.1)

ISSN

1936-900X

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Publication Date

2014

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Peer reviewed

24 Medical Student Milestones in Emergency Medicine

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Background: Medical education is a continuum from medical school through residency to unsupervised clinical practice. There has been a recent movement toward competency-based medical education prompted by the Accreditation Council for Graduate Medical Education (ACGME), using milestones to assess competence. While implementation of milestones for residents sets specific standards for transition to internship, there exists a need for the development of competency-based instruments to assess medical students as students progress toward internship.

Objective: Our objective was to develop competency based milestones for medical students completing their Emergency Medicine clerkship.

Methods: We performed a literature review and assembled a list of potential milestones. We then assembled a Delphi expert panel of 23 faculty including program directors (4), clerkship directors (16), assistant deans (5), and a medical student from 19 different institutions to investigate consensus on these milestones through two rounds of a modified Delphi protocol.

Results: Of the initial 39 milestones, 12 were removed at the end of round 1 due to low agreement on importance of the milestone or because of redundancy with other milestones. An additional 12 were revised to improve clarity or eliminate redundancy, and 1 was added based on participant suggestions. Of the 28 milestones moving to round 2, consensus with a high level of agreement was achieved for 24 of the milestones. These were mapped to the ACGME EM residency milestone competency domains, as well as the AAMC's Core Entrustable Professional Activities for Entering Residency to improve content validity.

Conclusion: Our study found consensus support by experts for a list of 24 milestones relevant to the assessment of fourth year medical student performance by the completion of their EM clerkship. The findings are useful for development of a valid method for assessing medical student performance as the student approaches residency

Table 1. Importance for fourth-year student to be competent in the following milestones.

#	Milestone	Round 1			Round 2		
		Mean	LoA	Outcome	Mean	LoA	Outcome
1	Recognizes abnormal vital signs	4.91	High	Round 2	5.00	High	Milestone
4	Performs and communicates a reliable, comprehensive history and physical exam	4.30	High	Round 2	4.41	High	Milestone
6	Constructs a list of potential diagnoses based on chief complaint and initial assessment	4.39	High	Round 2	4.64	High	Milestone
11	Formulates basic diagnostic and therapeutic plans based on differential diagnosis	4.22	High	Round 2	4.64	High	Milestone
14	Describe basic resources available for care of the ED patient	3.48	Low	Remove: Low Agreement	--	--	--
34	Perform venipuncture or place IV	3.70	Low	Remove: Low Agreement	--	--	--