

Development of formative assessment tools for the Geisel School of Medicine Phase I Endocrinology course

Elena S. Haight, BS and Andrew Crawford, MD

Introduction

AY2019-2020 was the inaugural year of the new curriculum at the Geisel School of Medicine at Dartmouth. Among a multitude of curricular changes was a shift to an organ system-based curriculum, wherein the previous "year 1/normal physiology" content was taught as part of the same course as the previous "year 2/Scientific Basis of Medicine" content.

Background

Active studying methods, employing retrieval of information from memory, as opposed to passive methods that may involve reading the same content repeatedly, may be more effective for memory retention (1-3). Consistent with this approach, student feedback from the 2020 Phase 1 Endocrinology course indicated overwhelming desire for formative quizzes as a study tool.

Methods

Based on student feedback, the following work was undertaken:

- 1) Formative quiz generation, using a combination of fact-based questions and case-based questions,
- 2) Development of "pharm cards" for endocrine medications,
- 3) Annotation of ScholarRx Bricks, to make them well-suited to be the primary text for future cohorts.

Main conclusion

Required formative quizzes, offered via Canvas, in addition to assessments associated with required Rx Brick readings, will promote active learning in the Phase I Endocrinology course and enable monitoring of student grasp on content, in order to address areas for improvement prior to benchmark assessments.

Sample Question

The mass on an adrenal organ pictured below has what features of malignancy?

- a) Large size
- b) Cystic areas and large size
- c) Heterogeneously enhancing
- d) Large and heterogeneously enhancing
- e) Large size, cystic areas, heterogeneously enhancing



Explanation: These images show a left adrenal mass that is large in size, contains cystic areas, and has heterogeneous enhancement, all of which suggest malignancy.

References

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3. Pashler H, Bain PM, Bottge BA, et al. Organizing Instruction and Study to Improve Student Learning. IES Practice Guide. Washington, DC: Institute of Education Sciences, 2007.