Joint Committee on Intercollegiate Examinations

EMI writing guidelines

Featherstone, C., and Hurst, Y. (2014), adapted from Case, S. M and Swanson, D. B. (2001) *Constructing Written Test Questions for the Basic Clinical Sciences*, NBME: Philadelphia.

Getting started

1) Identify an area of the blueprint which is in need of more questions or the area of the blueprint which you have been tasked to write for.

2) Identify the theme for the set and the level of thinking you want to test, and write a question on this theme which mimics tasks that successful candidates must be able to undertake at the next stage of training. At this stage of candidates' career progression, where candidates need to be able to integrate information and make decisions, questions should be pitched at the level of integration/interpretation (questions which require "putting the pieces together") and problem solving (questions which require "clinical judgement"), not simple recall (questions which can be answered with a Google search).
   Example recall questions, to avoid:
   - What are the symptoms of X?
   - Which of the following is a contraindication of X?
   - What is the name/definition of this procedure?
   - Which term is defined by each of the following statements?

   Example higher order ("putting the pieces together" and "clinical judgement") questions:
   - In this procedure, which structure is most at risk in this patient?
   - What is the most likely diagnosis?
   - What is the most useful investigation to carry out at this stage?
   - What is the most appropriate first step in the management of this patient?
   - How should the surgeon proceed?

3) Write the lead-in for the set (e.g. *For each patient described below, select the most likely diagnosis / the most appropriate treatment / the most helpful investigation / the structure most at risk during the surgical procedure…*). The lead-in indicates the relationship between the stems and the options, clarifying the task the candidates must undertake.

4) Prepare the list of options. Options should be single words or very short phrases. These should be of similar length, along a continuum, grammatically consistent and logically compatible. If appropriate, order the options in a logical order (e.g. numerically, alphabetically, or anatomically). All the distractors must be plausible, but there should only be one single best answer for each stem.

5) Construct the stems. The stems should all follow a similar structure. Each stem should present a single, clearly formulated problem, usually in the form of a patient vignette. The

stems should contain enough information to allow candidates to answer without referring to the options. Patient vignettes may include any subset of the following information:

    a. The patient (age, gender), the presenting complaint and its duration; any other relevant information a competent day one consultant would typically need to piece together to determine the best course of action.

    b. Relevant details of the patient's history, possibly including details of family history

    c. Relevant physical findings, results of diagnostic studies, initial treatment, subsequent findings, images…

Reviewing the item

1) Does it focus on important problems rather than trivia?
2) Can each question be answered without looking at the options?
3) Are all the relevant facts included in the stems?
4) Can each question be read and answered within approximately one minute?
5) Are there at least four reasonable distractors for each stem?
6) Does the lead in provide clarity about what the candidates are to do with the information?
7) Is there a consensus among examiners as to the best answer for each of the stems?
8) Does the question successfully avoid the pitfalls listed in the Question Writing Checklist?

Typical layout of an EMI

Blueprint code and level (integration/interpretation, problem solving)	
Theme	
Answer options	
A.	G.
B.	H.
C.	I.
D.	J.
E.	K.
F.	L.
Lead in	
Stem 1 and image if relevant (and correct answer)	
Stem 2 and image if relevant (and correct answer)	
Stem 3 and image if relevant (and correct answer)	