

Writing Quality Multiple Choice Questions

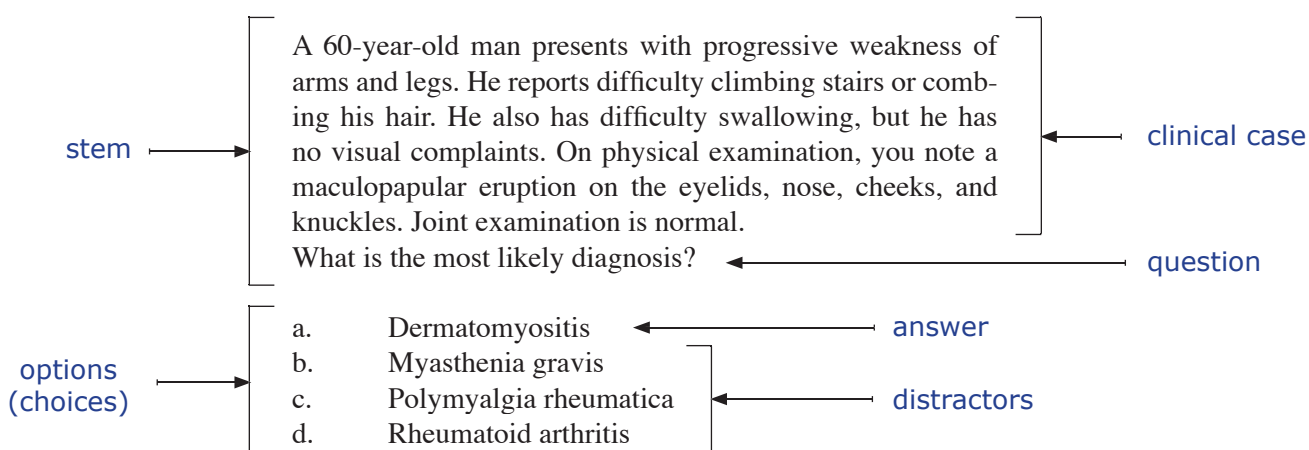
Adapted, with permission, from the RCPSC publication, "Developing Multiple Choice Questions for the RCPSC Certification Examinations, 2004".

INTRODUCTION

This document is designed to accompany the *MCQ Item Submission Form*. Please take the trouble to read this document before submitting multiple choice questions.

Multiple choice question (MCQ) examination papers are the most reliable, valid, and cost effective method of assessing medical knowledge. Scoring is highly objective and such examinations are certainly not trivial, irrelevant and ambiguous if well constructed. It is thus most important that new MCQs are constructed along the lines set out in this document.

STRUCTURE AND TERMINOLOGY



GUIDELINES FOR QUESTION CONSTRUCTION

The purpose of examinations is to assess competence. Some questions should be designed to discriminate between competent and non-competent candidates whereas others may be mastery-level questions (questions that test knowledge that all competent candidates should know).

Questions must relate to a topic from the curriculum/syllabus. Use relevant material, such as the inclusion of clinical settings, to test higher level learning. Avoid testing for simple recall.

A good examination should consist of questions with a range of difficulty. If you wish to construct a difficult question, please remember that 'difficult' need not, and should not, equate with 'obscure'. Both over-specific and over-general content should be avoided, as should opinion-based items.

Minimize the amount of reading in each item. Use correct grammar, punctuation, capitalization, and spelling. Keep vocabulary appropriate for the group being tested. Avoid the use of acronyms. Use nationally accepted terms common to the specialty.

In the stem:

- Ensure that the central idea is contained in the stem rather than in the options.
- Ensure that the stem consist of all information that a competent candidate will require in order to answer the question.
- Ensure that the directions are very clear.
- Avoid window dressing, such as excessive verbiage or unnecessary “red herrings”.
- Word the stem positively, avoiding negatives such as ‘not’ or ‘all of the following except’.
- Avoid imprecise terms like ‘sometimes’, ‘frequently’, ‘often’, etc.

In the choices:

- Place choices in logical or numerical order.
- Keep choices independent; choices should not be overlapping.
- Keep choices homogeneous in content and grammatical structure.
- Keep the length of choices about equal.
- Avoid using an ‘All of the above’ option.
- Use typical errors of candidates to write your distractors.
- Avoid mutually exclusive options.

Avoid giving clues to the right answer, such as:

- Choices identical to or resembling words in the stem
- Grammatical inconsistencies that cue the candidate to the correct choice
- Conspicuous correct choice
- Pairs or triplets of options that clue the candidate to the correct choice
- Blatantly absurd, ridiculous options
- The distractors and the correct answer are not homogenous in content (e.g. the correct answer is a treatment, the distractors are tests).
- The grammar of the distractors does not match the grammar of the stem.
- Textbook wording is used for the correct answer but not for the distractors
- Specific determiners (always, never, completely, absolutely) are used in the correct answer but not in the distractors

Finally:

- Edit and proof items.
- Use the checklist that accompanies the *MCQ Item Submission Form*.

STEPS IN QUESTION CONSTRUCTION

1 Choose a topic for the question. Every item should reflect specific content area as defined by the curriculum/syllabus, i.e. base each item on important content to assess; avoid trivial content; avoid trick items; avoid frightfully obscure matters.

2 Choose the appropriate context for the question, e.g.

- interpreting data
- eliciting data (physical exam, history taking)
- further investigations
- diagnosis
- initial management
- long term care
- risk factors
- side effects and contraindications
- counseling
- ethical issues

3 Create a stem

- Use clinical cases— make the question clinically relevant
- Test the application of medical knowledge rather than content recall
- The content should be at an appropriate level of difficulty
- Use a clear lead-in question

4 Create 4 options, including only ONE correct answer

- The correct answer should be clearly correct
- The 3 distractors should be plausible to a non-competent candidate, yet definitely incorrect

5 Use the checklist that accompanies the *MCQ Item Submission Form*.

CONTACTS

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