

Item writing guide

This guide has been written based on the National Board of Medical Examiners guide written by Susan Case and Dave Swanson (*Constructing Written Test Questions for the Basic and Clinical Sciences*). This is a key source which you may wish to refer to and is available for download from the NBME website, <http://www.nbme.org/publications/index.html>

The following is a checklist of things to consider when writing questions in the Single Best Answer style and summarises the guidance, as well as customising it to house style.

CRITERIA FOR REVIEW

1. Suitable topic for assessment?

- Is the question pitched at the right level for licensing for general practice?
- Questions must be applicable across the UK so be careful where this might be compromised with differing national guidelines.
- The topic and question should be suitable for a newly qualifying GP competent for independent practice.
- If possible, the knowledge should be applied rather than recall

2. Clear unambiguous question?

- It is important to consider carefully what question has been asked and make sure it is only one question.
- The scenario and the question should lead to one best answer with plausible but incorrect distractors.
- If the theme is 'asthma in a child' the question could be:
 - 'Which is the **most** appropriate treatment?'
- The lead-in should always be a question and should never be a statement or a sentence which can be finished off by choosing an answer from the option list. This means NO multiple true-false questions. These would fail the cover test
- It is not appropriate to ask for the one-*least*-best-answer as this type of question is inappropriate for questions.
- The important part of the lead-in is emboldened in each of these examples. Good methods of phrasing the lead-in question are:
 - 'which is the **most likely** diagnosis?', or,
 - 'which is the **most appropriate** treatment?'

- A very precise question is crucial in ensuring there is one correct answer. Greater precision can sometimes be achieved by using phrases like “the *most appropriate* immediate management” (for example, where we want to test the ability to understand that the curative treatment may have to wait until immediate supportive treatment has been given) or “the *most appropriate* diagnostic investigation” (if we want candidates to think beyond the usual immediate tests, such as FBC and U&Es).
- Use the cover test. (example at the end)

3. Appropriate scenario or stem?

- Questions may have a scenario or not, but the scenario should add something to the question. If the question can be answered without the scenario, do so but use the cover test
- The scenario should be a ‘standard’ illustration and should never include deliberate ‘red herrings’.
- If you feel that the stem is too easy and are keen to add in something extra to make it more difficult, stop and consider this: to the expert eye a description or patient case can often be perceived to be ‘too easy’, but this is not always the case for newly qualifying GPs and may confuse candidates,
- The AKT questions should be able to separate out those candidates who can synthesise well from those who cannot.
- Particularly with clinical cases, think about including details of the context in the question e.g. where is the patient presenting? what information would be available if this were a real patient episode.

* Context is important: a general practitioner’s response might be different to that of the doctor in the accident and emergency department. Just think of the diagnosis of acute chest pain. A very different set of outcomes and probabilities dictate the general practitioners perspective compared to that of the hospital emergency clinician. This is mainly because of the different patient populations each is presented with on a regular basis.

- Be careful that the author has not given information which a ‘test-wise’ student could home in on and reach the correct answer, without any particular application of knowledge or synthesis. For instance, if the patient’s occupation, or race, is a major clue to the correct answer, consider whether it is a useful question to ask. If one answer is very much longer than the other options, it is often the correct answer.

* It is of the utmost importance that students are ONLY able to get marks for using their synthesising and applying their knowledge.

- In patient scenarios, details of a patient’s complaint should appear in descriptive terms, as opposed to being summarised in a diagnostic manner. It is better, for instance, to write about a patient who has never been pregnant, rather than a patient with primary infertility – but use your judgement. This ensures that the student does the synthesising, as they would be required to in a real situation. It also creates greater authenticity.

* If in doubt, think of how a patient would explain their problem e.g. very few patients come to clinic complaining of petechiae.

- Clinical scenarios should flow in the order a patient's story might be usually presented and be written in a single paragraph. A series of disconnected statements or bullet points are not suitable.
- When looking at the scenario you should consider whether it requires application of knowledge to reach the answer. To do this, you may wish to consider the number of steps, or jumps in thinking, that are required to reach the correct answer. Too many steps, or jumps in thinking, and the question may be considered to be too difficult. Too few steps and the question may not be suitable for the bank.
- Jargon and informal abbreviations should be replaced with full wording, exactly as you would expect the question to read in an exam.

4. Suitable answer options?

- The option list should comprise of five answer options which logically correspond to the given topic
- The options should be homogenous and mutually exclusive. Therefore, if the focus is treatment, it is inappropriate to include e.g. individual drug treatments in the same option list as classes of drugs or drug dosages.
- If the option list is a plethora of different things you may wish to redefine the theme or focus to make the option list, and therefore the question, work better. The question as a whole should only test one thing. If a question appears with an option list which includes e.g. drugs and drug dosages this is unsuitable. You must decide if the question is about choice of drug or choice of dosage for a particular drug and amend the question to reflect this.
- The correct answer should be logically comparable to the other choices.

e.g. in the example the options can be arranged on a single continuum of thinking as each is feasible and mutually exclusive. When the student considers the available options for the question, they begin to see that all are possible, some are more possible than others but only one is the most likely.

Here, C is the correct answer:

<u>D</u>	B A E	<u>C</u>
Least		Most
Correct		Correct
Answer		Answer
Options represent a single continuum of choice		

- The correct answer should not be obvious or highlighted in any way, e.g. longer than, or more specific than, the other choices.
- The options will have been alphabetised, unless there is a particular reason for ordering the options in a different way.
- Finally, does everyone agree that the given answer is the correct one? If not this usually means the question is ambiguous

5. Answers and reference adequate?

- The answer should be stated as the option letter and the answer eg B - amoxicillin
- Justify why the correct answer is correct, and where appropriate, why the next best answer(s) are incorrect.
- The answer must be referenced with detail of the page in the guidance eg NICE – date, title and Number and page xxx

COVER TEST

Can you understand the question and give an answer to it without looking at the options? This is known as the 'cover' test. It is the gold standard by which the AKT writers judge their questions. It focuses on the nub of the question and should be unambiguous. Once you have attempted the cover test, when you reveal the options see if your initial response is one of the available possible options. If not, why not?

Example of Single Best Answer

Title: Complications of thyroid surgery

A 37-year-old woman is having a fit in the waiting room. She was discharged from hospital this morning after undergoing a total thyroidectomy for papillary carcinoma of the thyroid two days previously.

Which is the **most** likely cause of her fit? Select **one** option only.

- A** Cerebral metastases
- B** Hypocalcaemia
- C** Hypomagnesaemia
- D** Hyponatraemia
- E** Uraemia

Answer

B, Hypocalcaemia

Justification

This is because the parathyroids have been accidentally removed with thyroid.