Write learner assessment questions for CME

STEP 1 Align assessment questions with learning objectives

Post-test assessment questions must measure each learning objective designed for the course.

EXAMPLE

Learning objective: Upon completion of this course, learners will be able to write effective multiple-choice questions (MCQs).

Assessment question: Which of the following criteria should be applied when writing multiple-choice questions for an exam?

STEP 2 Determine the type and number of questions

Question types

- Multiple-choice question (single answer option)
- Scenario-based questions (e.g., case study with follow-up questions)
- True/False (not recommended; difficult to measure learner knowledge)

Number of questions for a post-test

- OCME requires 5 post-test assessment questions for courses up to an hour in length, or 1 question per learning objective if your course has more than 5 objectives, which allows for an 80% pass rate. For longer courses, consult with OCME.

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STEP 3 — Apply best practices when writing questions

- Write succinct, clear _questions_. Do not add extra information as this can confuse learners.

- Write clear and unambiguous _answers_. The shorter the better!

- Keep distractors (i.e., the wrong answers) the same length and style as the correct answer(s) to prevent learners from guessing the correct answer(s).

- Limit MCQs to 3-5 options for the correct answer + distractors.

- Avoid using "not" and "except" when phrasing the question as this can confuse learners.

STEP 4 — Write a feedback statement for each question

Typically, a feedback statement is a **brief** overview of information that answers the question being asked. It is provided _after_ the learner answers correctly or incorrectly to help reinforce learning. For some assessments, individual feedback statements may be requested for each correct and incorrect answer.

KEY POINTS

- Keep feedback statements succinct (1-2 sentences).
- Only include information relevant to the question being asked.
- Avoid leading language when constructing individual feedback statements for incorrect responses to avoid giving away the correct answer for the user's next attempt.

Example questions and feedback statements

MULTIPLE CHOICE QUESTIONS (SINGLE ANSWER)

What is the primary function of nutritional insulin?

- A) Control glucose excursions after food is absorbed – CORRECT
- B) Correct hyperglycemia prior to food intake
- C) Control blood glucose levels during times of fasting
- D) Correct hypoglycemia prior to food intake

Feedback statement: Prandial (pre-meal) bolus insulin covers the extra requirements after food is absorbed, thereby decreasing postprandial glucose excursions.

Note: OCME advises against using options like "A and C" or "All of the above" for single answer questions as this can give away the correct answer.

Example questions and feedback statements

SCENARIO-BASED QUESTIONS (WITH INDIVIDUAL FEEDBACK)

A patient presents to the emergency department (ED) with dizziness and syncope. A twelve-lead electrocardiogram (ECG) demonstrated ST segment depression and T-wave inversion but not ST-elevation myocardial infarction. Which of the following diagnoses is consistent with the ECG abnormalities observed?

    A) Acute pericarditis

    B) Chronic obstructive pulmonary disease (COPD)

    C) Ventricular aneurysm

    D) Intracranial hemorrhage -- CORRECT

Feedback statements:

A) Incorrect – Concave ("saddleback") ST segment elevation with PR segment depression are not indicated.

B) Incorrect – Sinus tachycardia, P pulmonale, rightward axis, right bundle branch block (RBBB), and low QRS voltage are not indicated.

C) Incorrect – Residual ST elevation and deep Q waves are not indicated.

D) Correct – In addition to the classic finding of deep, inverted T-waves, intracranial hemorrhage frequently presents with other non-specific ECG changes. In a study of patients with confirmed intracranial hemorrhage, 25% demonstrated ST-segment depression, and 1 in 5 showed T-wave inversion. Intracranial hemorrhage can also cause ST-segment elevation or cardiac arrhythmias.

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