AMERICAN BOARD OF PODIATRIC MEDICINE

ITEM WRITING MANUAL

EXAMINATION COMMITTEE

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ABPM QUESTION WRITING GUIDELINES

INTRODUCTION

You are being asked to write questions for the ABPM Examination Committee. This committee is composed of four subcommittees: In-training (ITE), Qualification (Qual), Certification (Cert), and Certificate of added qualification in Amputation Prevention and Wound Care (CAQ). The ITE, Qual, and CAQ examination questions are single answer, multiple choice. The certification committee writes case-style questions. These are multiple answer, multiple choice.

Questions will fall into one of several subject areas in accordance with the examination blueprint. The blueprint outlines the subject areas within the specialty of podiatric medicine and orthopedics deemed appropriate for inclusion in the examination and is aligned with the residency training requirements. You will be assigned subject areas. Please convey any areas of additional clinical expertise to the sub-committee chair. Note: the CAQ in Amputation Prevention and Wound Care has a separate blueprint.

DEI Policy
ABPM recognizes the presence of differences within a given setting; in the workplace, that may mean differences in race, ethnicity, gender, gender identity, sexual orientation, age and socioeconomic background. ABPM acts to ensure that processes and programs are impartial, fair and provide equal possible outcomes for every individual. **Inclusion** is a priority of ABPM in making people feel a sense of belonging. In the development of all test items, ABPM has strived to ensure fair and equitable representation.

OBJECTIVE

The questions should be uniquely relevant to the ongoing clinical practice of podiatric medicine and orthopedics. The Board specifically avoids questions that are based on pure recall of facts. Questions should require problem-solving and application of knowledge to arrive at the correct response. To accomplish this task, you will need:

1. Expertise in the subject areas and substantial clinical experience.

2. Knowledge of the characteristics of a good question and the ability to recognize and correct question-writing faults.

3. An understanding of how information is processed and how to test higher cognitive processes.

The information in this manual is designed to increase your awareness of appropriate question formats and ability to produce thought-provoking questions.

TERMINOLOGY

Each multiple-choice question is referred to as an *item*. Effective items have three distinct parts: a stem, a question, and a set of options. Each item begins with a *stem*. The stem should present a clinical scenario or event that arises when engaging in clinical practice. The stem is followed by a *question* that delineates what is being tested. The question determines how the candidate must think about the event. Following the question, there are 4 *options,* one of which is the single best response (*the correct or keyed answer*). The other 3 options are considered *distractors* since they represent plausible answers to an insufficiently informed candidate. The model item below identifies the three distinct parts of an item.

MODEL ITEM

Stem:
A 20-year-old male with Type 2 DM presents with anorexia, muscle weakness, malaise and sudden onset of lower extremity pitting edema. The patient was recently diagnosed with retinopathy and has an elevated cholesterol level.

Question:
Which of the following is the most appropriate diagnosis?

Options:

A. Hypoparathyroidism
B. Nephrotic syndrome
C. Chronic obstructive pulmonary disease
D. Congestive heart failure

FORMAT FOR THE STEM

The stem is a narrative that sets the clinical scenario for the question. The material must be presented in a clear and concise manner using key words to guide the candidate in their thought process.

The stem begins: **"A (age) (sex/gender identity optional) presents with……"**

For example: **"A 47-year-old female presents with pain in the right forefoot."**

In the case of a minor use: **"A (age) (sex/gender identity optional) is presented for…."**

By using similar format to begin each item, the candidate can establish a flow lending a certain level of comfort. We are not testing the candidates' ability to cope with stress. Some variation in the phrasing of the stem is allowed if rules of grammar are obeyed, and the stem remains concise. For example: do not begin every sentence with the same phrase, e.g., The patient, or She states. In general, try to avoid pronouns especially possessive pronouns, e.g., her foot, his toe, or their ankle. Instead use the foot, the toe, or the ankle.

For a single answer multiple-choice question, as in the qualification exam, the stem will generally be longer and provide more information including pertinent positive and negative history and physical findings. Key words are often used to guide the candidates' thought process toward the correct pathology.

For example: **"History reveals (comorbidities)."**
"Examination reveals (physical findings)."

When referring to laboratory findings in the stem, sentence format is acceptable for up to 2 values. If three or more values are presented, use the table format as described in the ABPM Style Guide.

For example: **"Laboratory findings reveal WBC 13 and ESR 23."**

Laboratory findings reveal:

Glucose	70
BUN	12
Creatinine, serum	0.6
eGFR	90
BUN/Creatinine Ratio	8
Sodium	135
Potassium	3.5
Chloride	96
Carbon Dioxide	21

For a multiple answer multiple-choice question, as in the certification exam case format, the stem is often more concise. The past medical history and exam findings are provided in subsections as typically found in electronic medical records.

FORMAT FOR THE PAST MEDICAL HISTORY (Certification Exam)

Past Medical History:
- If 3 or more conditions use format of bullet list
- May use the terminology “unremarkable” or “non-contributory.”

Medications:
- Use format in ABPM Style Guide

Allergies:
- List allergen in format consistent with ABPM Style Guide
- List reaction to the allergen
- May use NKDA as denoted in ABPM Style Guide

Surgeries/Hospitalization:
Social History: Please refer to ABPM Style Guide when documenting substance use.
Family History:
ROS: May use the terminology “unremarkable” or “non-contributory.”

FORMAT FOR THE PHYSICAL EXAM (Certification Exam)

Vitals:
- Use a table according to ABPM Style Guide.
- List height, weight, BMI
- BP, HR, RR, T.

Example:

Ht:	Wt: lb (Kg)	BMI:	
T: F (c)	BP:	HR:	RR:

Vascular:
Neurologic:
Dermatologic:
Musculoskeletal:

FORMAT FOR THE USE OF MEDIA

Clinical photos, medical imaging, tabular listing of vitals and laboratory values, or other non-verbal means of presenting information are inserted after the stem and before the question in a single answer, multiple-choice question. When using media in a case these are attachments. The inclusion of such non-written material should enhance the context of the clinical scenario.

When referring to media in the stem of the question state, “as shown.”

When taking clinical photos:
- JPEG format or pdf. Format (pdf can be enlarged without loss of resolution)
- Center the pathology in the frame
- Crop the image to visualize the key region without losing context
- Image size should be limited to 400 pixels.

When inserting medical imaging, e.g., radiograph, MRI, CT, nuclear medicine, or ultrasound:
- 2 images are ideal to clearly demonstrate pathology, but not required
- Must be a classic representation of the pathology in question
- Qualification examination: no images from the internet are accepted

Tables for vitals and laboratory values:
- Refer to the ABPM Style Guide

General rules regarding media:

- Toes are always directed toward the top of the page (up) for AP, dorsal or plantar views
- When viewing from the side or LAT view, the sole of the foot is directed toward the bottom of the page (down)

FORMAT FOR THE QUESTION

The item question defines how the candidate should use the given information. The question determines the type of cognitive process used by the candidate. The question should be stated in the positive and mirror the actual thinking process required in the subject area being tested. Though sometimes easier to construct, negatively phrased questions (LEAST, EXCEPT) are often artificial, i.e., they do not reflect how one thinks in practice and require the candidate to switch mental patterns. Negative questions should be used sparingly, and only when there are limited plausible, but incorrect, options.

The question always begins: **"Which of the following (is/are) the most appropriate…."**
For the certification examination there are multiple question formats as follows:

Which of the following are most appropriate to include in the differential diagnosis?
Which of the following laboratory studies are most appropriate to narrow the diagnosis?
Which of the following most likely contribute to these symptoms?
Which of the following are most appropriate for initial patient management/treatment?
Which of the following studies are most appropriate at this time?
Which of the following radiographic findings are present?
Which of the following confirms the diagnosis?
Which of the following are most appropriate in the perioperative management?
Which of the following are the most relevant perioperative concerns?
Which of the following are appropriate goals for surgical intervention?
Which of the following are the most appropriate wound care options?
Which of the following pedorthic treatments are the most appropriate?
Which of the following biomechanical sequela are most likely after surgery/trauma/etc?
Which of the following gait patterns will most likely be observed?
Which of the following etiologies most likely contribute to this gait?
Which of the following are long-term sequela of …
Which of the following are most appropriate in the long-term management of …
Which of the following are the most likely etiology of … (and you can be broad like dermatologic, genetic, infectious, neoplastic, neurologic etc..)

FORMAT FOR THE ITEM OPTIONS

Options for the answer can be other findings related to the stem, diagnostic studies or tests, diagnoses, treatments, or sequelae of treatment, etc. Item options should be homogenous in content meaning if the question is asking for a diagnostic study, all options should be a diagnostic study.

In formulating options, avoid mistakes, termed item faults, which tend to give the answer away or increase the probability of obtaining the correct answer without knowledge of the subject area tested by the item.

- Options that are similar are called a parallel. When there are only two of such options it is called an unprotected parallel

For example:

A. Inverted orthoses with medial heel skive
B. Accommodative orthoses with off-loading at first metatarsal head
C. Inverted orthoses with extrinsic forefoot varus posting
D. First ray cut out and medial flange to rearfoot post

Options A and C are an unprotected parallel thus the candidate is more likely to choose one of these two options regardless of the stem content. The way to correct this is to create two sets of parallels, known as a protected parallel, forcing the candidate to use the information in the stem to choose between the possible options.
Corrected:

A. Inverted orthoses with medial heel skive
B. Accommodative orthoses with off-loading at first metatarsal head
C. Inverted orthoses with extrinsic forefoot varus posting
D. Accommodative orthoses with first ray cut out

- Two options that are opposites will lead the candidate to choose between those options regardless of the stem
- If three options are all similar in style and content and one is different, called an outlier, it will detract from the validity of the item because a skilled test taker will automatically exclude the outlier increasing their odds of choosing the correct answer even if they are guessing.
- One option that is longer than the others will draw the skilled test taker's attention because they know that too much detail went into creating that option to make it the wrong answer. This is called "too long to be wrong" answer.

OVERVIEW OF COGNITIVE PROCESSING

The ABPM Examinations test whether a candidate is skilled in using and handling the information pertinent to the management of patients with podiatric medical and/or orthopedic presentations. The emphasis is on the use of knowledge, and not mere recall or recognition. This section of the manual provides examples of test questions requiring thinking and guidelines to determine if the questions involve more than recall or recognition.
The difference between recall/recognition questions and those requiring thought, lies in the extent to which the information being tested requires processing by the candidate. In a recall/recognition question, information or knowledge is tested in a static manner; often in the same form as originally learned, known as regurgitation.

Examples requiring ***Recall: Questions that require recognition, but not the use of prior knowledge.***

BAD QUESTION

1. A 55-year-old female who is five days post total first MTPJ implant arthroplasty presents as shown.

Which of the following organisms is most common in the development of joint implant infections?

A. Escherichia coli
B. Enterococci
C. Pseudomonas aeruginosa
D. Staphylococcus epidermidis

The question being asked is independent of the context framed by the stem and the clinical image. Use media wisely as they will serve window dressing for what is purely a recall question.

BAD QUESTION

2. A 12-year-old male is presented for pain in the left foot of six months duration. He was kicked in the foot during a football game. Radiographs obtained in the emergency department were read as negative for fracture, and treatment included protected weight bearing for one month with crutches and CAM walker.

Which of the following is a characteristic of aseptic necrosis of the navicular?

A. Frequently occurs post-acute trauma

B. Greatest incidence is between 12 - 14 years of age
C. Antalgic gait pattern
D. Typically, an iatrogenic etiology

Again, the question being asked is independent of the context framed by the stem. Use of a supplemental radiograph or other imaging study would not alter the situation. The candidate either does or doesn't know the characteristics of aseptic necrosis of the navicular.

The examples above do not require the candidate to make any judgments or use the information provided. Recall questions test whether the candidate knows, or is able to recall, definitions, normal or abnormal patterns, procedural steps, etc. Recall questions do not test whether the candidate understands the information or can transfer it to another (non-presented or learned) situation. Recall questions ask the candidate to identify, name, list, label or repeat information and can typically be identified by their direct or implied use of such verbs.

This manual is designed to help you write items demanding more of the candidate than simple recall of material. This does not mean that recall is an unimportant cognitive process. There is a need for a broad base of information in any specialty. However, any item that requires the use or manipulation of knowledge automatically demands recall of information. Therefore, recall is being tested in every item, but it is done indirectly, adding to the efficiency and power of the testing situation.

The remainder of this document contains a variety of questions that succeed in requiring the candidate to use their knowledge.

QUESTIONS REQUIRING UNDERSTANDING OR COMPREHENSION

The first set of examples involve the process of understanding or comprehension. This process requires the candidate to compare, analyze, transform, transfer, interpret and/or predict new information. Recalled information must be held in mind and manipulated while comparing it to other information, analyzing it into its component parts, and making predictions or inferences from that information. The common thread in all these examples is the manipulation of the information reflects the candidate's understanding or comprehension of the material.

Examples Involving ***Comparisons: Questions that require the candidate to work beyond recall.***

GOOD QUESTION

3. Which of the following Salter-Harris epiphyseal fractures would be difficult to differentiate radiographically?

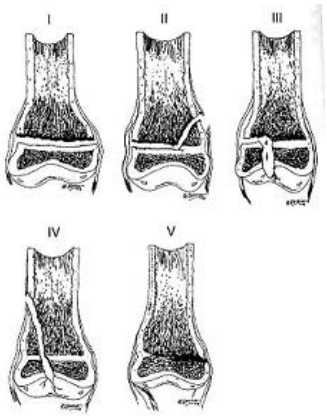
A. I and V
B. II and V
C. I and II
D. I and III

This example requires the candidate to both know the radiographic features of each fracture type and to be able to work through their features to arrive at the correct answer.

An alternative is to provide a stem containing images of all 5 Salter-Harris fracture types and ask the candidate to identify which two would most likely lead to growth disturbances if inadequately treated:

GOOD QUESTION

4. Which of the following Salter-Harris epiphyseal fractures would most likely result in angular deformity if inadequately treated?



A. I and II
B. II and III
C. III and IV
D. I and V

Example Involving ***Analysis: Questions that require the candidate to examine many different facets of a concept****.*

GOOD QUESTION

5. A patient presents with a painful and decreased subtalar joint range of motion and an abducted, everted position of the foot throughout stance and during gait.

   Which of the following muscles will demonstrate activity in all phases of gait?

   A. Peroneus longus
   B. Peroneus brevis
   C. Tibialis anterior
   D. Tibialis posterior

This question requires the candidate to understand the correct phase in which the muscles presented fire under normal circumstances, and then derive the correct answer relative to the clinical findings presented.

Example Involving ***Predictions: Questions that require the candidate to understand the implications of given information and/or to predict outcomes.***

GOOD QUESTION

6. A 35-year-old male presents with painful first MTPJ motion. Radiograph as shown.

Which of the following is the most likely finding during the stance phase of gait?

A. Limited hallux dorsiflexion at toe off
B. Prolonged duration of the contact period
C. Accelerated STJ resupination during midstance
D. Early heel lift

This question requires the candidate to correctly identify first ray elevatus, and then predict the gait outcome of the condition based on an understanding of the biomechanics associated with the condition.

QUESTIONS REQUIRING APPLICATION

Another broad area of thinking-type questions involves the use or application of information. This process known as problem-solving. In these questions, a candidate must use information or concepts to produce a unique product. Information must be recalled in a selective manner, *i.e.,* the candidate must decide what information is necessary, and then apply it to the problem. Typical verbs seen in application-type questions are: solve, diagnose, decide, create, develop, select.

Example Involving ***Application. Questions that require the candidate to use or apply information to a given situation.***

GOOD QUESTION

7. Following a local injection of lidocaine, a patient develops difficulty breathing, urticaria, and paleness with a BP of 90/60 mmHg.

Which of the following is the most appropriate treatment?

A. Epinephrine
B. Hydrocortisone
C. Atropine
D. Diphenhydramine

QUESTIONS REQUIRING EVALUATION

A final broad area of thinking-type questions involves making qualitative and/or quantitative value judgments about information, evaluating it to make sure that it is consistent with defined goals or established criteria.

Examples Involving ***Evaluation: Questions that require the candidate to determine the consistency and/or appropriateness of information.***

GOOD QUESTION

8. A 9-year-old male is presented for plantar medial heel pain determined to be biomechanical in origin. Radiograph as shown.

Which of the following is the most probable cause of his heel pain?

A. Osseous equinus
B. Vertical talus
C. Rigid forefoot valgus
D. Excessive pronation

The candidate is expected to evaluate the consistency of the radiographic findings to the clinical presentation and to the item options presented.

WHAT DIFFICULTY LEVEL IS APPROPRIATE FOR AN ITEM?

The difficulty level of an item is measured by the percent of candidates answering the item correctly. This is somewhat of a reverse scale in that high percent pass items are associated with low difficulty and vice versa. It is common for novice item writers to construct items that are too difficult. Items with four options should have a 75% pass rate. When items become significantly more difficult than this recommended value, the resulting chance or random guessing can destroy both the reliability and validity of the item.

Several factors can render an item to be unduly affected by chance. Remember, the goal of the examination is to certify individuals in podiatric medicine and biomechanics. The items should be testing knowledge or problem-solving abilities frequently used and/or important, i.e., emergency conditions, to the standard-of-care in clinical practice. Items that represent inappropriate subject areas or non-relevant to an ongoing clinical practice, run the danger of being too difficult. Items that test theoretical knowledge, not used or assumed known for ongoing clinical practice, often turn out to be textbook items. While they might be a valid reflection of the degree to which one prepared for the test, they are probably not an accurate measure of one's use of knowledge or problem solving in actual practice.

Items representing new or cutting-edge information tend to be more difficult. Keeping up with current innovations is part of a definition of a diplomate, therefore such items should be included in an examination for diplomate status. These items should be carefully constructed so that there is a distractor that represents the previously held opinion or the previously held best decision. Test-takers who have not kept up with current information will be led to this distractor rather than making a random guess. It is the large scale, random guessing that creates problems with difficult items.

SUMMARY FOR WRITING APPROPRIATE STEMS AND QUESTIONS

1. The stem should present a relevant podiatric medical or orthopedic problem, event or circumstance. It should be worded in a clear and brief manner. Material or information should be presented in a manner normally encountered in practice, i.e., history before laboratory studies, etc.

2. The question should be phrased in the positive.
   Avoid negative phrasing such as “All of the following are true, **EXCEPT**:”

3. Do not ask for definitions or the recall of isolated facts. Problem-solving items ask the candidate to do something, e.g., provide a reason, make a diagnosis, take an action, predict consequences, identify implications.

4. With a properly formulated stem and question, you should be able to cover up the options and still answer the question - often called the cover-up test.

SUMMARY FOR WRITING APPROPRIATE OPTIONS

1. Where possible, all options should be uniform in terms of both form, length, grammatical construction, and content, i.e. all surgical steps, laboratory findings, not a mix of different content entities. There are exceptions to this, such as when the question asks for the most appropriate next step in treatment, e.g., hospitalize patient, order antibiotic therapy, immobilize foot/ankle, obtain consultation from another specialty.

2. Have only one best answer. Do not use All of the above, None of the above, or combinations such as A & C as either the answer or as distractors.

3. Make sure the correct, keyed, answer is separated from distractors by an important and relevant feature.

4. Be on the watch for item faults. Do not include overly similar or overlapping options, opposites, or mutually exclusive options. Make sure your choice of distractors do not direct the candidate to the correct answer. Avoid using specific determiners, e.g., always, may, sometimes.

EXAMPLE OF A CASE

A 27-year-old female presents with pain and swelling in the right second toe. Onset has been gradual over two months with no history of trauma.

Past Medical History: Unremarkable
Medication: None
Allergies: NKDA
Surgical history: None
Social history: One glass of wine per day, denies tobacco use
Family history: Noncontributory

Which of the following are the most appropriate diagnostic studies? (**Choose 4**)

A. Radiographs bilateral foot
B. Diagnostic ultrasound
C. MRI
D. Arterial Doppler
E. CBC with diff
F. HbA1c
G. Comprehensive metabolic panel
H. Rheumatoid panel

REVIEW

Item faults are those mistakes in item writing which tend to give the answer away or increase the probability of obtaining the correct answer without knowledge of the subject area tested in the item. Options should be of similar length, grammatically consistent with the item question, and mutually exclusive, avoiding opposites and overlapping options. A list of the most common item writing faults committed by item writers is presented here. It should be useful as a check list in your writing endeavors and critique of previously written items.

1. **Wordy or Incomplete Stem**: The stem contains frivolous text or fails to give all the information necessary. Make sure the stem contains all the essential information needed to answer the question, but not in a manner that unnecessarily increases reading time. It is best to use a question format, rather than an incomplete statement, when the sentence structure is complex or time is of the essence.

BAD QUESTION

Example:

A 12-year-old male presents with pain in the left foot of six months duration. He was kicked in the foot during a football game. Treatment in the emergency department consisted of radiographs, read as negative for fracture, and protected weight bearing for one month with crutches and CAM walker. He was also prescribed Motrin for pain control. After failure to respond, the patient was converted to a non-weight bearing cast for four weeks. Due to continued pain on resumption of weight-bearing an MRI was ordered which revealed decreased signal intensity of the navicular on T1 imaging.

Which of the following is a characteristic of aseptic necrosis of the navicular?

A. Frequently occurs post-acute trauma
B. Greatest incidence is between 12 - 14 years of age
C. Antalgic gait pattern
D. Typically, an iatrogenic etiology

None of the information in the stem is required to answer the question.

2. **Ambiguity in the Stem**: The information in the stem allows more than one alternative to be correct. This is the most common cause of having to double-key an item after administration.

Example:

BAD QUESTION

A 12-year-old male is presented for plantar medial heel pain determined to be biomechanical in origin. Examination reveals gastrocnemius-soleus equinus. Radiograph as shown.

If left untreated which of the following conditions will most likely develop?

A. Flexor substitution
B. Subluxed lateral column
C. First ray hypermobility
D. Hallux limitus

The **stem does not contain enough information to differentiate any of the choices** as being more likely.

3. **Absent Stem**: The item goes directly to “Which of the following is true?” The stem defines the problem area and presents the information to be used. Without it, **the item becomes recall**.

    Example:

BAD QUESTION

Which of the following spinal levels is represented by the dermatome crossing the dorsum of the foot?

A. L3
B. L4
C. L5
D. S1

4. **Use of Overlapping Options**: Two or more options are synonymous. Make sure each alternative is mutually exclusive and non-overlapping. If two options are synonymous, both can be discarded since only one must be the correct answer. This is not the case if the item format requires multiple true-false responses. In the latter case, **overlapping options are wasteful of time and result in double-testing**, testing the same content twice.

    Example:

BAD QUESTION

A 3-month-old female is presented for congenital clubfoot treated for six weeks with serial casting. Full reduction has not yet been obtained.

Which of the following is the most appropriate next step in treatment?

A. Denis Browne bar
B. Fillauer bar
C. Achilles tenotomy
D. Continued casting

The correct answer is Achilles tenotomy. The candidate who knows this test-taking method can automatically eliminate choices A and B since they are synonymous as a treatment alternative. Also there are 3 conservative options and only 1 surgical option, making the surgical option, **the outlier, the correct answer**.

CORRECTED QUESTION

A 3-month-old female is presented for congenital clubfoot treated for six weeks with serial casting. Full reduction has not yet been obtained.

Which of the following treatments is most appropriate?
A. Denis Browne bar
B. Fillauer bar
C. Achilles tenotomy
D. Adductor hallucis tenotomy

The correct answer remains Achilles tenotomy. This is now **an example of a protected parallel**.

5. **Use of Parallel Options**: Using two opposites, like hyperthyroidism and hypothyroidism, or two options that differ by only one term, like flexor digitorum longus and flexor digitorum brevis. The presence of these options tends to emphasize their importance and provides a clue to test-savvy candidates. Such candidates sense these options are the most important and are able to narrow the possible answer to two options without having specific subject matter knowledge. This is known as an unprotected parallel. If one wants to include both terms, i.e., it is the major distractor, be sure to include another pair of opposites, in the same item. **With two sets of parallels, i.e., protected parallels, the test-savvy candidate no longer has a guessing advantage.**

   Example:

BAD QUESTION

A 6-month-old female is presented for congenital clubfoot treated for six weeks with serial casting followed by Achilles tenotomy. Full reduction has been obtained.

Which of the following treatment is most appropriate?

A. Denis Browne bar
B. Fillauer bar
C. Straight last shoe
D. Passive stretching

The correct answer is Denis Browne bar. As two bar options are present, bar therapy is probably indicated, eliminating choices C and D.

6. **Inappropriate Difficulty Level**: Including items that are too difficult. Items that are only known by 20 to 30% of the candidates will cause the remainder of the candidates to guess. This large amount of guessing, with a limited number of options, negatively influences the statistical properties of the item and limits its measurement properties. Items that are too easy, i.e., 100% pass, are problematic when trying to measure differences between candidates. In general, items that are too easy or too difficult, and subject to guessing, do not contribute, and may detract, from the measurement properties of the test.

   Example:

BAD QUESTION

An 18-year-old female presents with pain in the balls of her feet, which is most severe at the end of the day and after walking.

Examination reveals:
•Ankle joint dorsiflexion less than 5 degrees bilateral (functional equinus)
•Pes cavus deformity (calcaneocavus)
•Diffuse callus sub metatarsal heads 2-5 bilateral

Gait examination reveals a "foot flat" to "foot flat" gait, early heel off and short stride length.

Which of the following is most appropriate orthotic modification for this patient?

A. Soft, flexible plastizote shell
B. Maximum cast fill
C. Heel lift
D. First ray cut out

This question is set up as a straight forward, sagittal cavus with a functional equinus and typical gait findings. The correct answer is heel lift. However, of the 209 candidates who took the question the following distribution resulted:

Answer	Point Biserial	Pass rate	A	B	C	D
C	-0.04	40%	46	53	84	26

This shows a pattern of guessing. The question may have terminology unfamiliar to the candidates, e.g., calcaneocavus, functional equinus, foot-flat to foot-flat gait, or the visual, may be misleading. It is also likely that too little of this subject is covered during resident training and there is a lack of familiarity with this level of orthotic specificity.

7. Use of **negatively formatted questions**, i.e., using the negative format for recall questions or using additional negatives in the options. Material presented in the except, or least format rarely mirror the type of thought processes actually used in practice. Usually one is trying to respond positively to an identified problem. Rarely does one think to try to pick out the one false item. This type of question results when there are too few plausible options with which to distract the candidate.

8. **Avoidance of All of the Above**: This category is often used to test for the completeness of information. It is sometimes used in more preliminary education, where a little bit of knowledge is dangerous. It is not used by the ABPM.

9. **Avoidance of None of the Above**: This category is not used by the ABPM. It typically reflects a circumstance where there is not enough information to decide or when one doesn't want to completely describe all the procedural steps necessary for some operation. However, None of the Above, when used as an incorrect answer, turns the item into a true-false question. The other options must be either entirely right or wrong, not simply the best choice from among the other options.

   In most cases the choices All of the Above or None of the Above are the correct choices for the given question. Candidates are aware of this and therefore respond by answer pattern recognition rather than by higher cognitive thinking.

ABPM ITEM CHECKLIST

Terminology:
Each question is referred to as an item.
Each item begins with a stem. The stem consists of a statement or a series of statements that introduce the concept or clinical problem to be tested.
Each stem is followed by a question that delineates what is to be tested.
Each question is followed a number of options.
In the didactic sections of all ABPM examinations, one option is required as the best response (the correct or keyed answer) and the others, are known as distractors, since they represent plausible answers. I
In the case based sections of all ABPM examinations, multiple options are correct as the candidate is forced to work through a clinical case scenario. There are an equal number of correct to incorrected options in the case items.

Methodology:
The review process requires that you utilize both your subject matter expertise and your ability to observe how you are solving the problem presented in the item -- your metacognition. The following procedure is recommended:

1. Read the stem and question of the item with the options covered.
2. Attempt to answer the question noting your thinking and your possible answers, before considering the options.
3. Now examine the options. Determine how each distractor is wrong, assuring no faults, in addition to how your chosen answer is the best possible option.
4. Finally review the entire item in terms of the checklist presented below. You should be able to answer 'yes' to each of the questions posed in the checklist.

Item Checklist – General

1. Is the subject matter of the item relevant and important to the practice of podiatric medicine?
2. Did you have to think in answering the item? Did you spend more time thinking than reading?
3. Did the item have a central theme that fits in with the test blueprint?
4. Is the item of appropriate difficulty level for a candidate?
5. Does the question have practical applications?
6. Was the language used precise and not subject to interpretation, i.e., indeterminants like often, usually.?

Item Checklist – Stem

1. Was the stem clear and concise?
2. Was the material presented in a generally accepted clinical format?
3. Did the stem include relevant visuals for the clinical scenario?

Item Checklist – Question

1. Was the question clear?
2. Was there only one question?
3. Was the question stated in a positive format?
4. Was the question a complete sentence?

Item Checklist – Options

1. Were the options uniform in terms of both **form**, i.e., length, grammatical construction, and **content**, i.e., not mixing apples and oranges?
2. Is the keyed answer correct and separated from distractors by important and relevant features?
3. Are all distractors considered plausible?
4. Are the options free from any of the following faults that tend to tip off the answer or cause the distractors to be disregarded?
    - Similar or overlapping responses
    - Opposites or mutually exclusive responses
    - Unprotected parallels
    - Use of specific determiners (always, may, etc.)
    - One option stands out by length – Too long to be wrong

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