Comprehensive Critical Care Certification Review

2 Books for 1
Content review and questions, answers, and rationales!

PASS CCRN®!

ROBIN DONOHOE DENNISON

Over 450 Practice Questions with Answers, Rationales, and Test-Taking Tips

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with 214 illustrations

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A NOTE TO THE READER

The author and publisher have made every attempt to check dosages and nursing content for accuracy. Because the science of pharmacology is continually advancing, our knowledge base continues to expand. Therefore we recommend that the reader always check product information for changes in dosage or administration before administering any medication. This is particularly important with new or rarely used drugs.

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To a few of the very important people in my life:

To my husband, *Russell,* for the encouragement and love that he has given me throughout our marriage but that has never meant more than during the writing of this book.

To my parents, *Violet* and *Darrell Donohoe,* who never accepted less than my best. My mother will wear out her copy of this book showing it to everyone she knows. My father, who died 20 years ago, would have been even prouder.

To a favorite teacher and mentor, *Dr. Anna Lee De Haven,* who always truly wanted her graduate students at the University of Delaware to succeed. It has always meant so much to me to know that she also shines in my successes.

To all my friends and family. I'm looking forward to seeing you more this next year than I did last year.

Preface

This book provides a selective review of critical care nursing. It is intended for registered nurses planning to take the AACN Certification Examination for Certified Critical Care Practice. Information is organized according to the current CCRN® examination blueprint. The blueprint is issued by AACN Certification Corporation to identify the content areas to be tested and the percentage of the examination devoted to the content areas. Only content included in the test blueprint is included in the book, eliminating extraneous information that is not likely to be tested. The book reviews critical content, provides learning activities to assist in learning key concepts, and includes multiple-choice questions so that test-taking skills can be practiced and reinforced.

The intent of this book is to provide various study and preparation opportunities for nurses preparing to take the CCRN® examination offered by the AACN. Teaching seminars to prepare nurses for this exam over the last decade has helped me learn what nurses need to prepare for this examination and the strengths and weaknesses of current books on the market for CCRN® examination preparation. My goal in writing this book is to provide a pertinent content review, learning activities, practice questions, and a comprehensive practice examination.

CONTENT REVIEW

A succinct outline format is used and information is written in an easy to read, understand, and remember manner. Illustrations and tables further explain and clarify content. Figures and diagrams are used to visually illustrate key concepts to add to verbal explanations. Numerous tables organize information in an intelligent manner.

An anatomy and physiology review has been included. Although anatomy and physiology questions are unlikely to be on the examination, knowledge of anatomy and physiology is frequently helpful, if not essential, in figuring out questions about assessment, intervention, or evaluation.

Assessment includes history and physical assessment, diagnostic studies, and system-specific assessment such as hemodynamic monitoring, electrocardiography in the cardiovascular chapter, and acid-base balance in the pulmonary chapter.

Nursing diagnoses and general patient management for each system is included in a table format. Each table includes the following categories: Nursing Diagnosis, Defining Characteristics, Nursing Interventions, and Expected Outcomes.

Pathologic conditions listed on the CCRN® blueprint are included in the content review. Headings in this area are Definition, Etiology, Pathophysiology, Clinical Presentation, and Collaborative Management. Collaborative management includes medical and nursing management specific to the disease entity.

LEARNING ACTIVITIES

Learning activities test recall, organize information in a new manner, and ask questions in a different way. In his book *A Whack on the Side of the Head,* Roger von Oeck advocates changing the questions to come up with the right answer or answers. That is the basis for the learning activities. You will not see matching questions, essays, table completion, or crossword puzzles on the CCRN® examination. They are used here to have you look at the information in a different way. I hope you will find the crossword puzzles and other activities a fun and helpful way to review terminology, anatomy, and physiology.

REVIEW QUESTIONS

The review questions are written in the same format as the CCRN® examination: a short case study followed by a question or questions. There are questions at the end of each chapter related to the specific system. Therefore if you want to work on cardiovascular questions, proceed to the end of the cardiovascular chapter. A comprehensive 200-item practice examination is included at the end of the book. Again, this test is in the same format as the examination and with the same content distribution as identified on the CCRN® blueprint.

Answers, rationale, and test-taking tips are given for all questions. The rationale explains why the correct answer is the best answer, and the test-taking tip shows how to think through the question if you don't know the content. Both of these will make you a better test-taker on the important day of the CCRN® examination.

This book is not a comprehensive critical care text. The focus of this book is what is likely to be on the CCRN™ examination. I believe this book is the only one you will need to help you prepare for the examination, but if you would like additional reading, I recommend *Critical Care Nursing: Diagnosis and Management* by Thelan and others, published by Mosby Year–Book, Inc.

Critical care nursing has never been more exciting and challenging. For those of us who thrive on this excitement

and challenge, keeping up with new developments, research, and clinical changes provides yet another challenge. This book reviews selected critical care content and serves as a resource for succinct summary of important content.

CCRN® certification is a prestigious and important credential to hold for those of us who specialize in critical care nursing. If you study the content and practice your test-taking skills, you will pass the examination. I would love to hear from you regarding your success with the test and your comments on how this book helped you or how you feel it could be more helpful. Write to me at Nursing Editorial Department, Mosby–Year Book, Inc., 11830 Westline Industrial Drive, St. Louis, MO 63146.

I believe that this book will prove to be your most valuable resource in preparing for the CCRN® examination. Good luck!

Robin Donohoe Dennison

Acknowledgments

First and foremost, I would like to thank all of the critical care nurses who have attended CCRN® review courses that I have taught over the last decade. You have communicated to me what works and what doesn't, what you want and what you don't, and how you learn and remember content. My comprehensive handout for the review has served as the basis for this book, and I have appreciated your input.

I thank Paulette Rollant for reworking, revising, and polishing many of the questions, rationales, and test-taking strategies for this book. I also credit her with the idea of including test-taking strategies, which I believe will be invaluable for all of those "terrible test-takers" out there. Paulette also wrote the first chapter of this book, on test-taking strategies, and provided encouragement and support to me during the writing of this book.

I thank all of the writers of test questions for this text. Susan, Betty, Paul, Julie, Gail, Paulette, and Frank, I know how difficult it is to write challenging questions, and I greatly appreciate your efforts.

Thanks to Ann "Chip" Walthall and Wendy Johnson for translating my thoughts and ideas into original artwork. I always appreciate those who develop visual images for all of us visual learners.

And, finally, I thank my husband, R. Russell Dennison, Jr, MD, for listening, thinking, discussing, finding references, and supporting me emotionally through this long but exciting project.

Contents

CHAPTER 1

The Critical Care Certification Examination

Paulette Rollant

Congratulations! You have just taken your first and most important step toward the successful completion of the CCRN® exam. After reading this chapter, you will be ready to begin your action plan for exam preparation.

Why take a certification examination? Critical care nurses give four common responses:

Self-satisfaction—Nurses cite this reason most frequently.

Career mobility—Certification provides a national credential prestigious throughout the United States.

Clinical promotion—As a clinical credential, certification may be necessary for promotion.

Money—Hospitals may offer nurses with certification the following benefits:

- A bonus for certification
- An hourly differential for certification
- Clinical or administrative promotion to certified nurses
- Reimbursement for testing expenses/preparation classes with validation of a passing score

The test comprises 200 questions to be completed in 4 hours. It is designed to test the common body of knowledge critical care nurses need to function effectively in a critical care setting. Tables 1-1, 1-2, and 1-3 identify the categories tested, the cognitive level of the questions, and the distribution of nursing process questions with the percentage of questions for each component.

Table 1-1 Categories

Category	Question Percentage	Number of Questions
Cardiovascular	39	78
Pulmonary	22	44
Multisystem	10	20
Neurology	8	16
Gastrointestinal	8	16
Renal	5	10
Endocrine	4	8
Hematology/immunology	4	8

The passing score is reported in terms of a passing scaled score: 130 of 200. The difficulty of the examination determines the actual number of questions that must be answered correctly to warrant a scaled score of 130. If you receive a slightly more difficult version, you will have to answer fewer questions correctly than if you receive a less difficult version. Scaled scores are reported for each content area so that you can evaluate your performance in each area and identify your weakness. However, no minimum score is required for each category, cognitive level, or nursing process component. The scaled score is a composite score of all questions. The passing rate has been between 66% and 68% of participants taking the test for the first time since July 1989.

As you answer practice questions and review content, you may feel overwhelmed with insecurity, anxiety, or fatigue. Both experienced and novice nurses often feel this way. Keep in mind that planned preparation will increase confidence in your test-taking and content-retention abilities.

Table 1-2 Cognitive Levels of Questions

		Question Percentage	Number of Questions
Level 1	Knowledge/comprehension	36	72
Level 2	Application/analysis	39	78
Level 3	Synthesis/evaluation	25	50

Table 1-3 Nursing Process Distribution of Questions

	Question Percentage	Number of Questions
Assessment	32	64
Planning	15	30
Intervention/implementation	40	80
Evaluation	13	26

Because many elements influence outcomes, begin your preparation with a comprehensive evaluation of four factors:

- Content—What content is the most and least comfortable for me?
- Confidence—Do I use test-taking strategies for multiple choice questions?
- Control—Does my high anxiety cause me to select a response to *a* question rather than *the* question being asked?
- Common sense—Do I tell myself, "I can't remember that stuff!" instead of, "I know *something*. I'll figure this out!"

Preparation task #1: Check one of the four factors about which you feel confident.

Preparation task #2: Check the factor about which you feel least comfortable or maybe never considered part of test preparation.

THE FOUR-FACTOR SUCCESS SYSTEM

The four factors—content, confidence, control, and common sense—are analogous to many things in life that require four elements to be functional. For example, a car has four wheels and tires. If one tire goes flat, the car lacks one point of stability and can be driven only a short distance. If two tires go flat, the car is not likely to function with the remaining two tires, no matter how good they are. Similarly, exam preparation with the use of only one or two points of reference lessens your chances of passing the exam. To see how this success system can work for you, let's look at each point of reference. This exercise will help you find the plan that works best for you. You will use the nursing process to develop your simple but achievable plan.

Content

Step 1—Self-assessment:

Scan the table of contents in this book. Put a check to the left of the topics about which you feel the most confident (e.g., cardiac, renal). Give yourself credit for what you know. Now, circle the topics you think are most difficult. Number these circled topics in the order you would like to review them.

Step 2—Action plan:

Decide if you want to study alone or in a group. Either way, be sure to avoid marathon, all-day study sessions. Limit your study to sessions of 1- to 2-hour periods. If you study longer than that, you tend to get off track and distracted. You are more likely to commit content to long-term memory if you study for no longer than an hour and then sleep for a few hours. The best time to do 10 questions is right before bedtime.

Essential tip: Review the more difficult topics on days when you feel energetic and ready for challenges; review the checked content on days when you feel tired, depressed, or unmotivated. Do at least 10 to 20 questions every day.

Step 3—Evaluation:

Let your missed questions on practice tests determine the content you study most rigorously. Review your incorrect responses. For each missed answer, ask yourself: "Why did I choose the wrong answer?"

Did I Know the Content? List the unfamiliar content. Look it up. Then try to categorize unfamiliar content. Was it cardiac? Renal? If you have time, read parts of the chapter that you think would be most helpful to you. Ask yourself: "What step in the nursing process did I miss most often? Were more missed questions on assessment? Evaluation?" The next time you do practice questions, pick those type of questions. Or be sure when you are doing practice questions to identify these types of questions, read them more carefully, and concentrate on relaxing before selecting your response.

The missed questions should guide what you need to look up in this book. Keep a daily log (Table 1-4). Keep it brief and workable. Once a week, take the time to research selected topics.

Did I Misread the Questions or Responses? Most people identify this category to explain their incorrect response. Did you overlook a key word in the stem or in one response that caused you to misread the question? Did you answer *a* question instead of *the* question? When you get your exams back, do you say, "I knew that! Why did I choose this?" If you answered "yes" you need to sharpen and apply your confidence skills or control your anxiety more effectively. Or maybe you need to do both!

Your analysis of the reasons that you missed questions will guide you in what behaviors to change when you do practice questions. When you are anxious or tired, your concentration and perception abilities function below par. You then need to practice decreasing your anxiety or fatigue by exercises such as deep breathing. Try different relaxation exercises weekly. Find the one that works best for you.

Confidence

Confidence is knowing and using test-taking strategies. What are the steps to develop confidence? Confidence develops with practice, practice, and more practice as you learn to read multiple choice questions more precisely. Simply follow these easy steps.

Step 1. Be a detective.
Step 2. Read the stem systematically.
Step 3. Read all the responses before selecting the answer.
Step 4. Review practice questions.

Table 1-4 Daily Log

Content Area	Facts	Nursing Process	Other Comments
Renal	ARF - abnormal labs	Evaluation/treatment effectiveness	
Renal	Calcium imbalance	Assessment	
Endo	SIADH - Specific gravity	Assessment	Relate to osmolality

Let's look at each step in more detail.

Step 1. Be a detective.

Look for clues in the stem, question, and responses. **Clues** may include the following words or phrases:

Key words: *most, first, initially, immediately, late, toxicity, side effect, toxic effect, complication, usual problem, least, except*

Words related to the **nursing process:** *assessment, analysis, plan, intervention, evaluation*

Words related to **time parameters:** *day one vs. day three, preop, postop, during, after*

Words related to **age group of a patient:** *18 versus 25 versus 55* (the decade determines the developmental need and normal physiologic changes and guides an approach for teaching or discharge planning)

Absolute: *always, never, every, none, all, always*

Words of essence: *acute, chronic, partial, total,* names of diseases that suggest acute or chronic conditions

Locations: *emergency units, hospitals, neuro units, postanesthesia care unit*

Distracters: *mystery diseases, absurd situations, content that clashes with your personal beliefs or fundamental principles.*

Let's apply these clues to questions.

A patient begins to experience a severe gastrointestinal bleed. The plan of care to meet the patient's fluid needs should include, as a priority, strategies for which of the following?

a. Accommodate the patient's frequent need for the bedpan or emesis basin.
b. Monitor vital signs frequently.
c. Decrease the acidity of the gastric pH.
d. Administer blood and fluid rapidly.

When questions include key words such as *first* or *priority,* your approach to reading the responses should change. You do not need to look for an incorrect response because all the responses are correct. You must focus on choosing the best response. This clue reminds you to use the ABCs or nursing process approaches. With the ABCs approach, the airway, breathing, and circulation factors take priority over any other. With the nursing process approach, the most likely answer is to do further assessment before an intervention or evaluation if the information included in the stem defines a situation. You look for the assessment response. If the stem includes all assessment data, a response related to intervention is probably correct.

The preceding question has the essential words *priority* and *severe bleed* that guide you to the correct selection. Think ABCs. The only answer that deals with circulation or fluid needs is *d.* However, note that all the responses are correct.

To prevent complications on the third day after an uncomplicated acute myocardial infarction, the nurse would implement which action?

a. Monitor the patient's ability to perform activities of daily living without shortness of breath.
b. Accompany the patient in ambulating for a short distance at least each shift.
c. Apply antiembolic hose to the legs.
d. Give the patient a nitroglycerin sublingual to prevent chest pain before all out-of-bed activity.

A patient is having seizure activity. The nurse should

a. Insert an oropharyngeal airway.
b. Promote safety of the body systems.
c. Protect the patient's head with a pillow.
d. Observe the length and after-effects of the seizure.

The answer to the first question is *b.* If you read the first question too quickly, you may have overlooked the time clue of *third day.* Answer *c* is the answer for a question about an action on the *first* day of a postmyocardial infarction, not the answer for this particular question. By the third day, this patient should be walking short distances to prepare for discharge from the critical care unit. Answer *a* might be a good choice for any patient, but it will not prevent complications. Response *d* is incorrect because of the world *all,* an absolute. Not all activities need preventive medication.

The answer to the second question is *b.* The key word is *during.* This makes answer *d* incorrect because it includes information regarding the time after the seizure. Because this question is asking for general information, select a general or global response. Response *a* is incorrect because the patient will bite down and make it impossible to insert an oropharyngeal airway during a seizure. Elevating the head with a pillow may cause neck flexion with subsequent closure of the airway, especially in a nonintubated patient.

The critical care nurse is precepting a senior nursing student. The critical care nurse has a patient conference for a patient, age 26, postrepair of a ruptured appendix with sepsis and an open incision. The patient refuses to discuss the open incision and makes comments such as, "I know I'll look normal on my belly by the time I leave the hospital." The patient has been in the critical care unit for over 2 weeks because of multiple complications and problems of nutrition and healing. At this time, based on the patient's needs, the critical care nurse would most likely focus the conference on which of the following concerns?

a. Loss of functional ability by the patient
b. The effects of surgery on the patient's intimacy
c. Alterations in body image of the patient
d. The patient's fear of not being able to attain life's goals

The correct answer is *c,* which describes the major concern of persons in their twenties. If the patient's age was 36, *b* would be correct; if the patient was 46, *d* would be

correct; and if the patient was 76, response *a* would be correct. Note that this case study is extremely long. The most effective approach to these type of questions is to read the question, read the case study and select the information needed to answer the question, and then reread the question. This technique clarifies the most important information and guides reading all options as well as the selection of the best answer.

A new critical care nurse is assigned to a patient with an acute inferior wall myocardial infarction. Which of the following statements by the new nurse suggests an understanding of the care of this patient?

a. The patient needs to take nitroglycerin to avoid chest pain just before out-of-bed activity.
b. The heparin drip needs to be increased if the aPTT result is greater than 95.
c. The major dysrhythmic complication to monitor for is atrial tachycardia with rates over 110.
d. I will continue to assess for signs and symptoms of right ventricular failure.

The correct response is *d.* Approximately 33% of all inferior myocardial infarctions have concurrent right ventricular infarction. The other responses contain incorrect information: in *a,* nitroglycerin is used initially to treat the reoccurrence of cardiac pain; in *b,* the aPTT to be therapeutic is usually between 1½ and 2 times the normal; in *c,* the major dysrhythmia is bradycardia in inferior infarctions. Be aware of possible biases and increased fatigue or tenseness as you recall your experiences as a new critical care nurse. These feelings may result in your reading too quickly and missing key words.

A patient, age 80, with diabetes for over 25 years, is admitted to the critical care unit with septic shock from an infected foot. The patient had antineoplastic chemotherapy approximately 4 weeks ago. During and after the stabilization of the clinical status of this patient, the critical care nurse would suspect an infection in the presence of which finding?

a. Leukocytosis with a shift to the left
b. Fever with a possible leukopenia
c. Purulent drainage from the infected foot
d. Leukopenia with a shift to the right

The correct response is *b.* Given the septic shock, the infection, and the history of medication for cancer, this patient is most likely leukopenic. A slightly elevated temperature of 38.5° C may be the initial indication that a leukopenic patient has an infection. Purulent drainage in these patients, as well as leukocytosis with a shift to the left, is an uncommon finding because the bone marrow function is suppressed and the immune system has diminished function. Option *d* is incorrectly stated because leukocytosis occurs with a shift to the right (higher segs than bands) or a shift to the left (higher bands than segs). Recall that bands are immature cells and segs are the mature form of the neutrophils. A shift to the left indicates an acute infection or inflammation. A shift to the right reflects pernicious anemia or liver dysfunction.

With questions similar to the previous one, go with what you know or use a common sense approach to avoid an emotional reaction or a biased response. The reference to the shift to the right or left typically elicits a stress response in many critical care nurses, with thoughts such as "Now, is this the lung that makes this shift to the right or left?" and "Oh, I could never keep them straight." If you found yourself having such thought processes, simply close your eyes, take three deep breaths, open your eyes, and then reread the question and the options only. Eliminate responses in an attempt to narrow the options to two. Then reread the question one more time. Remember to be as calm as possible to allow for clearer thinking.

Step 2. Read the stem systematically.

Relax as you read! A tense body results in a tense mind that misses important words and cannot think or make decisions. For efficiency, read the question first. Then read the information above the question. Note any clues in the stem and be fair. Give all words equal attention. Read the question again. Think of what the answer might be. Then read all the given responses. Answer *the* question and not *a* question!

As you go from question to question, read at an even pace and avoid getting stuck on a single question. Avoid "hangover," which is thinking about previous questions while reading a new question.

Avoid in the first few seconds of reading a question the "I know" or "I don't know the content" approach. Recognize that your experiences and emotions may influence the way you read the question. For example, if you dislike neuro, this response automatically kicks into gear when you get to a neuro question. You are tense and cannot think. To counter this reaction to neuro questions, tell yourself, "I am familiar with some part of this situation. I can relate the information. I can make an educated decision." Furthermore, the question may be asking about something other than neuro. If you're tense, you may not even notice this fact.

For some questions, you may want to act out the situation. Close your eyes, visualize the scenario in your mind, and mentally act it out. Put yourself in the role of the nurse with this patient in the given situation. Often the correct response will come to mind immediately. For questions about positioning (adduction, abduction, flexion, extension, and so forth), increase your chances for selection of the correct answer by minimally moving your extremity in the described manner.

While reading the stem, decide whether the background information is important or even related to the question asked. Decide whether the question is asking about assessment, planning, intervention, evaluation, or communication content. Or is the question asking about normal or abnormal

states? Is the information general or specific? Identifying the focus at this point will help to screen the four responses. Remember that quotation marks do not always indicate a communication or psyche question. Be aware that teaching-type questions could be testing normal or abnormal. For example, questions containing phrases such as "needs additional teaching" versus "needs no additional teaching" require closer attention. Common errors result from overlooking small words like "no," especially when reading too quickly or getting anxious.

Step 3. Read all the responses before selecting the answer.

Look for those clues mentioned in step 1. Concentrate on each word in each response. If possible, narrow your choices to two responses, which increases your chance of answering the question correctly.

With some responses, try to cluster the options to select the correct answer. *Clustering* means to classify the responses into categories of general versus specific, internal versus external, immediate versus late, drugs versus nondrugs, and assessment versus intervention. Usually three of the responses can be grouped into a category. The one outside the category is frequently the correct response. Try this question:

After 2 weeks in a medical critical care unit a ventilator patient with chronic airway limitations is constipated and dehydrated. Which intervention is best for the nurse to pursue for prevention?

a. Monitor daily the humidification provided by the cascade humidifier on the ventilator.
b. Get a PRN order for administration of Fleets enemas every other day.
c. Give extra water with the continuous intestinal feeding.
d. Give the ordered PRN laxative every 3 days.

The correct answer is *c*. Note that responses *b* and *d* can be clustered because they are interventions to resolve the constipation. Answer *a* is a correct action but not the best action for prevention of constipation and dehydration. This answer as it is stated is too general to be the best response. What does the nurse do after the monitoring?

With responses that have a series of items, use a vertical technique to read the responses. Let's try one.

Which set of arterial blood gases should the nurse expect to find in a patient with septic shock?

a. pH 7.28, P_{CO_2} 55, HCO_3 26
b. pH 7.50, P_{CO_2} 35, HCO_3 31
c. pH 7.48, P_{CO_2} 30, HCO_3 24
d. pH 7.30, P_{CO_2} 36, HCO_3 18

First, recall that in septic shock the patient will be in metabolic acidosis. Then read only the pHs down vertically and look for a decreased pH, acidosis. Using this technique, you can narrow the responses to either *a* or *d*. Now look at the HCO_3; recall that for metabolic imbalances the pH and the bicarb move in the same direction and for respiratory imbalances the pH and the CO_2 move in the opposite directions. Note that the question is about a metabolic imbalance. Compare the bicarbs in responses *a* and *d*. You know the answer is *d*. By using the vertical technique, you have saved time and energy and maintained a clearer mind.

If you are stumped by the question, sometimes simply matching similar words or ideas in the stem and response will result in a correct answer. Try these questions:

The new critical care intern asks the nurse preceptor why both of the assigned patients have to have their heart rates taken in lying and standing positions. The clinical care nurse explains that this is a test for

a. Central nervous system depression to detect sympathetic responsiveness
b. Malignant hypertension to identify the effectiveness of antihypertensives
c. Orthostatic tachycardia to evaluate the degree of volume reduction
d. Vascular insufficiency to monitor the degree of decreased afterload

A patient in acute renal failure develops acute pulmonary edema. Which of the following interventions would be inappropriate to include in this patient's care?

a. Administer oxygen at 3 L/min per nasal cannula.
b. Administer IV morphine and furosemide.
c. Place the patient in high Fowler's position.
d. Replace fluids with normal saline.

By matching the idea of position in the stem with the associated word *orthostatic* in the response, you can choose the correct answer to the first question—*c*. In the second question the question is to identify an inappropriate action. By matching the concept *edema* in the stem to the word *fluids* in the response, you can choose the correct response, d. Remember to reserve this technique to use only when you have no idea what the answer may be.

When you select an answer, your first hunch is usually correct. Do not change answers unless you are sure that you misread the question or missed some important clues the first time you read the question and responses.

Step 4. Review practice questions.

Correct your practice questions. Read the rationales of all questions if they are available. Rationales frequently include clinical pearls stated precisely and clearly, along with essential factors to consider for the correct response.

Look for patterns of missed questions. For example, you might find clusters of missed questions at the beginning, middle, or end of the exam. This could reflect periods of fatigue or anxiety. On your next practice test, you should make a mental note to relax at these times. Take a mental minivacation. Also, if you have the opportunity, review the

questions at these patterned intervals to make sure you correctly read the questions before turning in the test.

Note the questions to which you have changed answers. Did this help or hinder the number of questions that you got correct? If it helped, you have a pattern of changing answers to better your score. Change answers. However, if changing answers lowered your score, do not change your answers—no matter what!

Some authorities say that if you have no idea what the answer is, choose *c*. The rationale is that more item writers use *c* as the correct answer. I think that if you would rather choose *a*, do so. In the end, it does not matter because some research findings report that 20% to 25% of any number of multiple choice questions will be correctly answered by chance. This means that on a 200-item exam, you will get at least 50 questions correct by random guessing. Add that to at least 100 questions you will get correct by applied knowledge. You pass the exam. The self-diagnostic profile in Appendix A will help you identify your pattern of errors and improve your test-taking strategies and confidence.

Control

Control is your ability to maintain a minimal stress level so that your perceptions and decisions are accurate. You are able to read the questions objectively, think, and problem solve. Stressors during the exam can result in your feeling anxious and impatient. The three most common categories of stressors are mental, physical, and psychosocial.

Mental stressors are those negative messages you play repeatedly in your mind. Frequently, these messages drain your confidence, energy, and thinking ability. First, you have to consciously work at becoming aware of negative messages. Then you counter them with positive ones. For example, if you go into the exam playing the mental message of "I did not study all the content. I know I'll have trouble on this test," you immediately need to counter that thought with something more positive, such as "I studied as much as I could. I know that content and will use it to figure out related items on the test."

Other types of positive self-talk to control your anxiety and tension might be, "I will slow down and read the questions more carefully. I will take my time. I won't rush. I will ignore the distractions in the room. I know something. I'll figure it out." The research of Poorman and Martin (1991) showed that positive cognition resulting in positive self-talk or problem solving occurred much more frequently in successful test takers than in unsuccessful test takers.

Physical stressors include the environment and your body. The exam room may be too cold, hot, noisy, or crowded. The chairs and lighting may contribute to your discomfort. Left-handed test takers might have to sit in a right-handed desk. Plan on the worst. Dress in layers so that clothing can be added or removed. You may want to use ear plugs if you find noises distracting. When you do your practice test questions at home, select days that are hot, cold, or noisy. During this time, practice tuning out the distractions.

To diminish body stress, avoid spicy, fatty, and high-sugar foods. These can make you feel sluggish, heavy, and fatigued and can contribute to indigestion. Caffeine can cause jitters and necessitate frequent trips to the bathroom. Alcohol depresses the central nervous system and also dehydrates and depletes your body of important minerals.

Psychosocial stressors result from the behaviors or comments of your colleagues either during study time or right before the exam. Suggest to your group that only positive comments be allowed during study times or before the exam. Before the exam, you may want to distract yourself by listening to music on a headset or reading a novel. Also, be aware that a family member's physical problems that are similar to your test material may result in a bias for that content area. You may answer the question based on your personal experience rather than general theory.

What else can you do to control your reactions to stressors? Simply relax! Here are some tips that work. However, remember that you need to practice them daily so that their effects can be the most useful to you at exam times. Think of this time spent as money invested in the bank of stress-coping resources.

- Eat foods to moderate your physiologic stress. Vitamin C and citrus fruits help combat short-term intense stress. Protein, calcium, and potassium help offset the negative effects of long-term stress. Complex carbohydrates such as pasta, nuts, and yogurt can settle your nerves. Keep yourself in good health.
- Congratulate yourself daily on at least one of your accomplishments. (For example, "I did five questions today. I used a new test-taking strategy for selection of the correct answer, and I made time to relax for 10 minutes.") Tell each of your family members one positive comment every day. This helps you keep a positive focus instead of a negative one.
- Decide that you can interpret a situation in any way you choose. You do not have to rely on other people's views.
- Imagine how you will look, feel, and act once you have accomplished little goals for the day or week.
- Do something with your family at least once a week. Set aside time weekly that is their time to do something with you, even if it is only 30 minutes. Create a balance between family, school, work, and relaxation. Continue to fulfill your other roles, such as spouse, parent, coworker, and friend.
- Work out stress through exercise. Engage in some type of exercise daily, even if it is just isometric exercises in the morning before you get out of bed. Totally tense your body for 10 to 15 seconds, then feel how relaxed you are. Be careful with exercise, and do not overdo it. Too much exercise can trigger the production of cortisol in your body and cause an increased stress response. On the other hand, just the right amount of exercise can increase the amount of beta-endorphins in your system. These morphinelike chemicals produce a sense of well-being, reduce the sensation of physical pain, and counter the effects of negative stress hor-

mones. The more you exercise, the longer these chemicals linger in your body.

- Do a quiet exercise. Sit with your bottom against the back of a chair and both feet on the floor. Close your eyes. Take a deep breath. Consciously relax your muscles from head to toe with the expiration of your breath. Lower your shoulders. Calm your mind and concentrate on the blankness inside your eyelids. Think about your mind's eye looking into a safe, peaceful emptiness.
- Do a breathing exercise. Get in a relaxed position. Close your eyes.

  #1 Breathe normally through your nose. At the end of your exhalation, stop and count "one-thousand-one, one-thousand-two." While you count, focus on relaxing your body; let your shoulders slump and your hands fall open out of a fist. Repeat the exercise until you have felt the tension leave and you are relaxed.

  #2 As you breathe in through a wide-open mouth, picture the words *relax* or *calm* going down your trachea, large then small bronchioles, to deep into your alveoli. Picture the exchange of *relax* with the word *tension.* As you breathe out, picture the word *tension* moving out from your alveoli, bronchi, and trachea until it is swept into the outside air. Repeat at least 3 times and as needed.
- Take a minivacation in your mind. Close your eyes. Picture a pleasant, peaceful setting. Picture yourself in it. Concentrate on the happy and relaxed feelings your being at this setting evokes. Then, take at least three deep breaths. Before opening your eyes and returning to reality, turn off the picture of the pleasant setting. Have a blank screen on the inside of your eyelids. Focus on the nothingness of the vision. Then open your eyes and return to the task at hand. With practice you can use this technique anywhere. Depending on your available time, this exercise can last from 15 seconds to 15 minutes.
- Sit quietly. Do nothing. Think of nothing. If your eyes are open, concentrate on one small thing—maybe the handle of a closet door or, if you're outside, a blade of grass. As thoughts jump into your mind, push them out and continue to concentrate on the one detail that you have chosen. Accept things you cannot change. Pitch them out of your mind. Give them no time.

You can easily develop your personal antistress regimen to reduce your stress response. Remember, stressors are present every day, but you can control how you respond to these stressors. You can either enhance or diminish the effects of stressors. Key components of your antistress program should have the qualities of convenience, time effectiveness, and inexpensiveness, and they should also be enjoyable. The best plan is to include a combination of diet, exercise, and relaxation.

Common Sense

Common sense—do not leave home without it. Common sense means telling yourself, "I know something. I'll figure this out to get the answer." Let's practice your common sense on the following questions:

How long does it take to dissolve fibrin?

a. 1-3 days
b. 7-10 days
c. 25-30 days
d. 60-90 days

If you have no idea of what the correct answer is, use common sense plus a little content knowledge. You recall that fibrin has something to do with clotting. So you think of what might be a common situation when a clot forms in the body. You suddenly remember that this morning you bumped into the table and bruised your leg. Yes, a bruise is a clot. Then think. You remember that your bruises usually last about a week. Yes! The answer is certainly *b.*

A different common sense approach for this question is to look at the numbers in the given responses. Throw out the extremes, the highest and the lowest, answers *a* and *d.* Use a conservative approach and select the numbers in *b,* the correct response. Try another question and use your common sense.

In the elderly patient, sympathetic responsiveness

a. increases with age.
b. remains equal to that of a young adult.
c. decreases with age.
d. no longer occurs.

If you have no idea of what the answer is, use common sense. Most people know that as people get older, they slow down. Similarly, the sympathetic system most likely does also. The correct answer is *c.*
Let's try another question.

A patient is admitted to the critical care unit after accidentally inhaling a noxious gas. With production of large amounts of thin, pink-tinged, frothy sputum, the patient is intubated and placed on mechanical ventilation with 10 cm PEEP. The ventilator peak inspiratory pressure alarm sounds. The BP decreases, the HR increases, and breath sounds are unequal.
Which of the following is most likely to be the cause of the situation?

a. Pulmonary embolus
b. Cardiac tamponade
c. Hemothorax
d. Pneumothorax

Use common sense—if the patient has a pulmonary or air problem, the most likely answer will be related to air—*d,* pneumothorax. Another way to approach this is that the problems with inspiratory pressure and the breath sounds and the addition of PEEP—air pressure—are air related, than select the air-related answer. Pulmonary embolus is a circulatory problem and most likely results in other findings not mentioned. Cardiac tamponade and hemothorax are classically related to trauma or postsurgical situations. Tamponade would not change breath