CHAPTER 1

What Are Critical Thinking, Clinical Reasoning, and Clinical Judgment?

This chapter at a glance …

Critical Thinking: Behind Every Healed Patient
Critical Thinking: Not Simply Being Critical
Rewards of Learning to Think Critically
How This Book Helps You Improve Thinking
   Brain-Based Learning
   Organized for Novices and Experts
What's the Difference between Thinking and Critical Thinking?
Critical Thinking: Some Different Descriptions
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Critical Thinking, Clinical Reasoning, and Clinical Judgment
   Applied Definition
Problem-Focused Versus Outcome-Focused Thinking
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CHAPTER ONE  What Are Critical Thinking, Clinical Reasoning?

CRITICAL THINKING: BEHIND EVERY HEALED PATIENT

A powerful quote from an online BLOG sets the stage for this chapter: "Behind every healed patient is a critical thinking nurse."

Critical thinking—your ability to focus your thinking to get the results you need in various situations—makes the difference between whether you succeed or fail. Whether you need to set patient priorities, figure out how to collaborate with a difficult team member, or develop a plan of care, critical thinking—deliberate, informed thought—is the key.

The journey to developing critical thinking starts with having a good understanding of what it IS. Too many nurses believe that critical thinking is like an “amorphous blob” that you can’t describe—something that you’re "just supposed to do." This approach is not helpful. You must be specific about exactly what’s involved when thinking critically in various contexts.

Thinking is a skill, just like music or tennis. It flows and changes depending on current conditions, and it requires gaining specific knowledge, skills, experience, and hands-on practice.

This chapter helps you begin the journey to improving thinking in two steps: (1) First, you learn why health care organizations and nursing schools stress the need for critical thinking. (2) Second, you examine exactly what critical thinking is and how it relates to clinical reasoning and clinical judgment.

CRITICAL THINKING: NOT SIMPLY BEING CRITICAL

Before going on to examine what critical thinking in nursing entails, it's important that you realize one thing: critical thinking doesn’t mean simply being critical. It means not accepting information at face value without carefully evaluating it. Consider the following description:

Critical thinking clarifies goals, examines assumptions, uncovers hidden values, evaluates evidence, accomplishes actions, and assesses conclusions. "Critical" as used in "critical thinking" implies the importance or centrality of thinking to an issue, question, or problem of concern. It does not mean "disapproval" or "negative." Nurses often use critical thinking to imply thinking that’s critical to be able to manage specific problems. For example: "We’re working with our nurses to develop the critical thinking needed to identify people at risk for infection early."

There are many positive uses of critical thinking—for example, formulating workable solutions to complex problems, deliberating about what courses of action to take, or analyzing the assumptions and quality of the methods used in scientifically arriving at a reasonable level of confidence about a hypothesis. Using critical thinking, we might evaluate an argument—for example, whether it’s worthy of acceptance because it is valid and based on true premises. Upon reflection, we may evaluate whether an author,
Patients and families must be active participants in making decisions; as the saying goes, "Nothing about me, without me." Knowing how to advocate and how to teach and empower patients and families to manage their own care requires highly developed critical thinking and interpersonal skills.

Critical thinking skills are key to establishing the foundation for lifelong learning, a healthy workplace, and an organizational culture that's more concerned with reporting errors and promoting safety than "pointing fingers" and "blaming" (Box 1-2).

**BOX 1-1 KEY LEARNING AND WORKPLACE SKILLS**

To succeed in the workplace and as learners, you must know how to:
- Be a self-starter and take initiative, ownership, and responsibility.
- Work independently and in groups to solve problems and develop plans.
- Teach yourself and others; advocate for yourself and others.
- Use resources: allocate time, money, materials, space, and human resources.
- Establish positive interpersonal relationships: work on teams, lead, negotiate, and work well with diverse individuals.
- Access, evaluate, and use information (organize and maintain files, interpret and communicate information, use computers to process data, and apply information to current situations).
- Assess social, organizational, and technologic systems.
- Apply professional and ethical standards to guide decision making.
- Monitor and correct performance; design and improve systems.
- Use technology: select equipment and tools; apply technology to tasks; maintain and trouble-shoot equipment.

**Accomplishing the Above Requires You to Have the Following:**
- Basic skills: reading, writing, speaking, listening, mathematics
- Thinking skills: knowing how to learn, reason, and think creatively, generate and evaluate ideas, see things in the mind's eye, make decisions, and solve problems
- Personal qualities: responsibility, self-esteem, self-confidence, self-management, sociability, and integrity

**HOW THIS BOOK HELPS YOU IMPROVE THINKING**

To keep your interest and help you understand and remember what you read, this book is designed based on principles of brain-based learning. The following section explains brain-based learning and how this book helps both novices and experts improve thinking.

**Brain-Based Learning**

Brain-based learning uses strategies that help your brain get “plugged in to learning.” For example:
5. Thinking is like any skill (e.g., music, art, athletics)—We each have our own styles and innate or learned capabilities. We can all improve by gaining insight, acquiring instruction and feedback, and deliberately working on the skills in real and simulated situations.

Organized for Novices and Experts
Whether you're a novice or an expert, the following organization helps you connect with what you already know, and move on to developing the complex skills you need to succeed today.

- This chapter and Chapter 2 build the foundation for developing critical thinking, clinical reasoning, and clinical judgment. Here, with specific examples and strategies, you learn exactly what it takes to improve your ability to think your way through nursing and personal challenges.

- Chapters 3 and 4 help you gain the knowledge and skills required to succeed in six common nursing situations: (1) clinical reasoning and judgment, (2) moral and ethical reasoning, (3) research and evidence-based practice, (4) teaching ourselves, (5) teaching others, and (6) test-taking. Beginning students sometimes like to jump to Chapter 4, where teaching others, teaching ourselves, and taking tests are discussed, before reading other chapters. This is a good example of making learning meaningful. Read what you're most interested in first.

- Chapter 5 helps you develop specific clinical reasoning skills by working with case scenarios that are based on real incidents. In this section, you gain a deep understanding of nursing process skills, such as assessing systematically, identifying patient-centered outcomes, and setting priorities. You learn not only how to accomplish these skills, but why they are essential to developing sound clinical reasoning and judgment.

- Chapter 6 helps you develop communication, interpersonal, teamwork, and self-management skills (e.g., managing your time). When you know how to communicate effectively, manage your emotions, organize your time, and build positive relationships with patients and team members, you spend less time getting sidetracked by interpersonal and "human nature" problems—and more time fully engaged in progress. Here, in the section titled How to Prevent and Deal with Mistakes Constructively, you also learn how to meet quality and safety standards and keep patients, caregivers, and yourself safe. The skills in this section are often considered to be leadership skills. Today, every nurse must be a leader. Advocating for your patients, yourself, your peers, and your community requires highly developed interpersonal and communication abilities.

You'll find many helpful Internet resources throughout this book. For direct links to all listed URLs, go to http://evolve.elsevier.com/Alfaro-LeFevre/CT.
CHAPTER ONE  What Are Critical Thinking, Clinical Reasoning?

- Critical thinking—a broad term—includes reasoning both outside and inside of the clinical setting. Clinical reasoning and clinical judgment are key pieces of critical thinking in nursing.
- Clinical reasoning—a specific term—usually refers to ways of thinking about patient care issues (determining, preventing, and managing patient problems). For reasoning about other clinical issues (e.g., teamwork, collaboration, and streamlining workflow), nurses usually use the term critical thinking.
- Clinical judgment refers to the result (outcome) of critical thinking or clinical reasoning—the conclusion, decision, or opinion you make.

![PROCESS](Critical thinking and clinical reasoning) ![RESULT (OUTCOME)](Clinical judgment (conclusion, decision, or opinion))

American Nurses Association (ANA) standards state that the nursing process—*assessment, diagnosis, outcome identification, planning, implementation, and evaluation*—serves as a critical thinking model that promotes a competent level of care¹⁶ (discussed in depth in Chapters 3 and 5).

To clarify your understanding of the relationship of critical thinking to reasoning inside and outside of the clinical setting, study Figure 1-1. This figure also highlights requirements of ANA standards, Quality and Safety Education for Nurses (QSEN), and Institute of Medicine (IOM) competencies.

**Applied Definition**
To understand critical thinking in the clinical setting—a setting that's challenging, complex, and regulated by laws and standards—study the following definition.

**Applied Definition**

Critical thinking in nursing—which includes clinical reasoning and clinical judgment—is purposeful, informed, outcome-focused thinking that:

- Is guided by standards, policies, ethics codes, and laws (individual state practice acts and state boards of nursing).
- Is based on principles of nursing process, problem-solving, and the scientific method (requires forming opinions and making decisions based on evidence).
- Focuses on safety and quality, constantly re-evaluating, self-correcting, and striving to improve.
- Carefully identifies the key problems, issues, and risks involved, including patients, families, and key stakeholders in decision-making early in the process.
- Applies logic, intuition, and creativity and is grounded in specific knowledge, skills, and experience.
PROBLEM-FOCUSED VERSUS OUTCOME-FOCUSED THINKING

Problem-focus thinking and outcome-focused thinking are closely related. You must have excellent problem-solving skills to get the results you need. But, keep the following points in mind.

- There are many ways to solve a problem. There are quick fixes, "one-size-fits-all" solutions, temporary and long-term solutions, and solutions that are satisfactory but could be better. Outcome-focused thinking aims to fix problems in ways that get you the best results.
- Sometimes there are so many problems that the best approach may be to focus on outcomes rather than problems. For example, if you work on a team with many interpersonal problems, your manager might say, "We have a long history of problems, and it will take forever to fix them. I want to see us all working as a team. I'm asking you to put the problems aside and get agreement on roles, responsibilities, and behavior, so that our patients get good care and we enjoy coming to work."

RULE

Critical thinking requires excellent problem-solving skills, as well as the ability to look ahead and decide exactly what outcomes (results) must be achieved.

WHAT ABOUT COMMON SENSE?

Some people believe that critical thinking is simply common sense, something that can't be taught. However, this belief is grounded on superficial understanding of what critical thinking is and how you get common sense. Although some people are born with common sense, a lot of it is learned from experience. You can put someone with great common sense in a new or stressful situation, and you're likely to see behaviors that don't seem at all sensible. Think about the following scenario.

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<tr>
<th>Scenario</th>
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<tr>
<td>CRITICAL THINKING: SIMPLY COMMON SENSE?</td>
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<tr>
<td>As an evening supervisor, I stopped to check on a new graduate who was in charge for the first time. She appeared to be &quot;in over her head,&quot; nervous and running around. Calmly, I asked how things were going. She replied, &quot;Fine, except for the man in Room 203. His temperature was 104° an hour ago. We drew blood cultures, gave aspirin, and started him on antibiotics.&quot; I asked, &quot;What's the temperature now?&quot; She replied, &quot;He's not due until 8 pm&quot; (3 hours later). It seemed common sense to me that you would check the temperature more frequently when it was that high. Wanting to set a collaborative tone, I stressed the need to check it more frequently, and asked her to keep me informed. I also made sure I came back frequently to see how things were going. At the time, I believed this nurse had no common sense, but she went on to be an excellent clinician with a track record of success. She was simply inexperienced, nervous, and overwhelmed in a new situation. She may even have been subconsciously defending an oversight.</td>
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ask them how they see your behavior. Ask them to focus on usual patterns of behaviors (not single incidents), and to give you specific examples. The results of this exercise may reaffirm or surprise you.

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<th>PERSONAL CRITICAL THINKING INDICATORS (CTIs)</th>
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<tr>
<td><strong>PERSONAL CITIs</strong> are brief descriptions of behaviors, attitudes, and qualities often seen in individuals who are critical thinkers.</td>
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<tr>
<td><strong>SELF-AWARE</strong>: Identifies own learning, personality, and communication style preferences; clarifies biases, strengths, and limitations; acknowledges when thinking may be influenced by emotions or self-interest.</td>
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<td><strong>GENUINE/AUTHENTIC</strong>: Shows true self; demonstrates behaviors that indicate stated values.</td>
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<td><strong>EFFECTIVE COMMUNICATOR</strong>: Listens well (shows deep understanding of others' thoughts, feelings, and circumstances); speaks and writes with clarity (gets key points across to others).</td>
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<td><strong>CURIOS AND INQUISITIVE</strong>: Asks questions; looks for reasons, explanations, and meaning; seeks new information to broaden understanding.</td>
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<td><strong>ALERT TO CONTEXT</strong>: Looks for changes in circumstances that warrant a need to modify approaches; investigates thoroughly when situations warrant precise, in-depth thinking.</td>
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<td><strong>ANALYTICAL AND INSIGHTFUL</strong>: Identifies relationships; expresses deep understanding.</td>
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<td><strong>LOGICAL AND INTUITIVE</strong>: Draws reasonable conclusions (if this is so, then it follows that...because...); uses intuition as a guide; acts on intuition only with knowledge of risks involved.</td>
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<td><strong>CONFIDENT AND RESILIENT</strong>: Expresses faith in ability to reason and learn; overcomes problems and disappointments.</td>
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<tr>
<td><strong>HONEST AND UPRIGHT</strong>: Looks for the truth, even if it sheds unwanted light; demonstrates integrity (adheres to moral and ethical standards; admits flaws in thinking).</td>
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<td><strong>AUTONOMOUS/RESPONSIBLE</strong>: Self-directed, self-disciplined, and accepts accountability.</td>
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<td><strong>CAREFUL AND PRUDENT</strong>: Seeks help as needed; suspends or revises judgment as indicated by new or incomplete data.</td>
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<td><strong>OPEN AND FAIR-MINDED</strong>: Shows tolerance for different viewpoints; questions how own viewpoints are influencing thinking.</td>
</tr>
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<td><strong>SENSITIVE TO DIVERSITY</strong>: Expresses appreciation of human differences related to values, culture, personality, or learning style preferences; adapts to preferences when feasible.</td>
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<td><strong>CREATIVE</strong>: Offers alternative solutions and approaches; comes up with useful ideas.</td>
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<td><strong>REALISTIC AND PRACTICAL</strong>: Admits when things aren’t feasible; looks for useful solutions.</td>
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<tr>
<td><strong>REFLECTIVE AND SELF-CORRECTIVE</strong>: Carefully considers meaning of data and interpersonal interactions; seeks feedback; corrects own thinking; alert to potential errors by self and others; finds ways to avoid future mistakes.</td>
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<td><strong>PROACTIVE</strong>: Anticipates consequences; plans ahead; acts on opportunities.</td>
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<td><strong>COURAGEOUS</strong>: Stands up for beliefs; advocates for others; doesn’t hide from challenges.</td>
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<tr>
<td><strong>PATIENT AND PERSISTENT</strong>: Waits for right moment; perseveres to achieve best results.</td>
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<tr>
<td><strong>FLEXIBLE</strong>: Changes approaches as needed to get the best results.</td>
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<td><strong>HEALTHY</strong>: Promotes a healthy lifestyle; uses healthy behaviors to manage stress.</td>
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<td><strong>IMPROVEMENT-ORIENTED (SELF, PATIENTS, SYSTEMS)</strong>: <strong>SELF</strong>—Identifies learning needs; finds ways to overcome limitations; seeks out new knowledge. <strong>PATIENTS</strong>—Promotes health; maximizes function, comfort, and convenience. <strong>SYSTEMS</strong>—Identifies risks and problems with health care systems; promotes safety, quality, satisfaction, and cost containment.</td>
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**NOTE:** The above is the ideal—no one is perfect.

BOX 1-3  HOW OTHER AUTHORS DESCRIBE CRITICAL THINKING TRAITS

Scheffer and Rubenfeld’s Habits of the Mind¹
- CONFIDENCE: Assurance of one’s reasoning abilities
- CONTEXTUAL PERSPECTIVE: Consideration of the whole situation, including relationships, background, and environment relevant to some happening
- CREATIVITY: Intellectual inventiveness used to generate, discover, or restructure ideas. Imagining alternatives.
- FLEXIBILITY: Capacity to adapt, accommodate, modify, or change thoughts, ideas, and behaviors
- INQUISITIVENESS: An eagerness to know, demonstrated by seeking knowledge and understanding through observation, and thoughtful questioning to explore possibilities and alternatives
- INTELLECTUAL INTEGRITY: Seeking the truth through sincere, honest processes, even if the results are contrary to one’s assumptions and beliefs
- INTUITION: Insightful sense of knowing without conscious use of reason
- OPEN-MINDEDNESS: A viewpoint characterized by being receptive to divergent views and sensitive to one’s biases
- PERSEVERANCE: Pursuit of a course with determination to overcome obstacles
- REFLECTION: Contemplation upon a subject, especially on one’s assumptions and thinking for the purposes of deeper understanding and self-evaluation

Facione’s Critical Thinking Dispositions²
- TRUTHSEEKING: A courageous desire for the best knowledge, even if such knowledge fails to support or undermines one’s preconceptions, beliefs, or self-interest
- OPEN-MINDEDNESS: Tolerance of divergent views; self-monitoring for possible bias
- ANALYTICITY: Demanding the application of reason and evidence; alert to problematic situations; inclined to anticipate consequences
- SYSTEMATICITY: Valuing organization; focusing; being diligent about problems of all levels of complexity
- CRITICAL THINKING SELF-CONFIDENCE: Trusting one’s own reasoning skills; seeing oneself as a good thinker
- INQUISITIVENESS: Curious and eager to acquire knowledge and learn explanations even when the applications of the knowledge are not immediately apparent
- MATURITY: Prudence in making, suspending, or revising judgment; awareness that multiple solutions can be acceptable; appreciation of the need to reach closure even in the absence of complete knowledge

Paul and Elder’s Intellectual Traits³
- INTELLECTUAL HUMILITY: Consciousness of limits of your knowledge; willingness to admit what you don’t know
- INTELLECTUAL COURAGE: Awareness of the need to face and fairly address ideas, beliefs, or viewpoints to which you haven’t given serious hearing
- INTELLECTUAL EMPATHY: Consciousness of the need to imaginatively put yourself in the place of others to genuinely understand them
- INTELLECTUAL AUTONOMY: Having control over your beliefs, values, and inferences; being an independent thinker
- INTELLECTUAL INTEGRITY: Being true to your own thinking; applying intellectual standards to thinking; holding yourself to the same standards you hold others; willingness to admit when your thinking may be flawed
- CONFIDENCE IN REASON: Confidence that, in the long run, using your own thinking and encouraging others to do the same gets the best results
- FAIR-MINDEDNESS: Awareness of the need to treat all viewpoints alike, with awareness of vested interest

conflicts are crucial to critical thinking. These types of skills take considerable knowledge and practice and must be as good as clinical skills.18,19

**Right and Left Brain Thinking.** Critical thinking requires right-brain thinking (generating new ideas) and left-brain thinking (analyzing and judging the worth of those ideas).

**Maximizing Human Potential.** We’re only just beginning to identify ways to maximize the human potential to think critically. For example, new brain imaging techniques show us what parts of the brain are being used in various thinking and tasks, helping us learn how individuals use their brains. People survive brain injuries that used to be fatal, and we continue to learn from their rehabilitation. For example, some people who have had strokes cannot speak, but they can sing words. We’re learning how to use brain techniques not only to learn, but also to promote healing, stress reduction, and wellness.

**Mapping as a Strategy to Teach and Learn.** Maps and decision trees created by experts guide seasoned and new nurses. Maps developed by learners promote deep personal understanding. They help learners make connections between concepts and information in their own unique way. You can find the “how to’s” of concept mapping in Appendix A.

**Changing How We View Mistakes.** We now know that being allowed to make mistakes in safe situations (e.g., simulations) is a powerful way to learn. Experts also agree that “to err is human” and that most errors happen because of multiple factors and system problems (e.g. look-alike drugs or inadequate staffing or staff preparation). Humans are vulnerable to making mistakes due to “human factors” (e.g., stress, fatigue, information overload). Reducing errors related to human factors (e.g., using computers and decision support systems) is now the norm.20

**“What-if” Scenarios—Being Prepared.** Today, we have greater emphasis on developing detailed policies and procedures to address “what-if” scenarios (e.g., bioterrorism or pandemics) and be prepared.

**Evidence-Based Thinking Stressed.** Clinicians are expected to provide evidence that supports opinions, solutions, and courses of action. We must be confident when we’re asked questions like, “What evidence do you have that this will work?” or “What data are you using to support that this is the problem or that this is a good solution?”

**Measuring Outcomes (Results).** Critical thinking makes it necessary to develop very specific ways to measure progress and results. For example, in the case of pain management, you don't ask a general question like, “Are you more comfortable?” You ask, “Can you rate your pain on a scale of 0 to 10, with 0 meaning pain-free, and 10 meaning the worst possible pain?”

**Collaborative Thinking.** The workforce is diverse. We must find ways to facilitate “meetings of the minds” to get the collaborative approaches we need today.

**Relating on a “Human Level” Matters.** Understanding personal interests and passions and showing your “human side” helps build the relationships needed for critical thinking.
importance of looking at critical thinking from three perspectives: *thinking ahead*, *thinking-in-action*, and *thinking back* (reflective thinking).

Consider the following descriptions, and think about the differences in each circumstance.

1. **Thinking Ahead**: Anticipating what might happen and being proactive by identifying what you can do to be prepared. For novices, thinking ahead is difficult and sometimes restricted to reading procedure manuals and textbooks. An important part of being proactive is asking questions like "What can I bring with me to help jog my memory and stay focused and organized?"

2. **Thinking-in-Action**: Rapid, dynamic reasoning that considers several things at once, making it difficult to describe. For example, suppose you find your stove on fire. As you spring into action, your mind races, thinking about many things at once (How can I put this out? Where's the fire extinguisher? Should I call the fire department?). Thinking-in-action is highly influenced by previous knowledge and hands-on experience. To keep safety first, in all important situations, keep experts nearby who have extensive experiential knowledge stored in their brains. If you encountered a fire, wouldn't you like to have a fireman standing at your side? Thinking-in-action is prone to "knee-jerk" responses and decisions. To use the fire example again, an untrained person may throw water on a grease fire, which can make it worse.

3. **Thinking Back (Reflective Thinking)**: Analyzing the reasoning you used to look for flaws, gain more understanding, and correct and improve it. Experienced nurses double-check their thinking in dynamic ways during thinking-in-action. However, this doesn't replace reflective thinking that happens after the fact. Deliberate, methodical reflective thinking that happens *after the fact*, using specific strategies and tools (e.g., journaling, chart reviews, honest dialogue with others) brings new insights, more depth, and greater accuracy; you can more objectively identify "lessons learned" from experience.

Considering all three of the above phases of thinking helps you examine thinking in a holistic way. If you look only at one phase, you'll miss important parts of thinking.

**Putting it All Together**

By now, you should have an idea of what critical thinking, clinical reasoning, and clinical judgment entail. To solidify your understanding of this chapter, take a few moments to decide where you stand in relation to "Questions to Evaluate Your CT Potential" on the next page.

Then study the instructions on completing the exercises throughout this book (page 20), and complete the end-of-chapter exercises.