Critical Thinking in the Intensive Care Unit

Skills to Assess, Analyze, and Act

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## Contents

List of figures ................................................................. vii

About the authors ............................................................ ix

Introduction: Critical thinking in the intensive care unit (ICU) ............................... xi

- Back to basics ............................................................... xi
- Critical thinking and the ICU setting ........................................... xii
- Patient assessment ............................................................ xiii
  - Attributes of critical thinking with nursing assessments ....................... xiii
- Intervention ................................................................. xv
  - Attributes of critical thinking during interventions .............................. xv
- Synergy Model ............................................................... xvii
- Nursing research ............................................................. xix
- Encouraging the development of critical thinking in ICU nurses .............. xix

### Chapter 1: Defining critical thinking ................................................. 1

- Why critical thinking? ....................................................... 1
- Becoming a professional nurse ............................................... 2
  - Benner's stages of growth .................................................. 2
- So what is critical thinking? .................................................. 3
  - Del Bueno's definition of critical thinking ................................... 4

### Chapter 2: New graduate nurses and critical thinking ............................. 7

- Why don't new graduates think critically? ..................................... 7
- Stresses for new graduate nurses .............................................. 7
- Strategies to minimize stress .................................................. 9
- New graduates' levels of development ........................................ 10
Contents

Prioritization ...........................................................10
   Prioritization principles: Assessment ..................................11
   Prioritization principles: Time management .............................12
   Prioritization principles: Administrative ................................13
Identifying worst-case scenarios, stereotypes, and expected abnormal findings ..........................13
   Worst-case scenarios ......................................................13
   Stereotypes .............................................................14
   Expected abnormal findings .............................................14
Ongoing development ....................................................15

Chapter 3: The critical thinking classroom ........................................17

   Critical thinking can be taught ........................................17
   Background preparation ................................................18
      Teacher preparation ....................................................18
      Consider the learner's motivation ....................................18
      Generational differences .............................................18
      Professional nurses' goals ..........................................19
   Setting the stage .........................................................20
      Classroom environment ...............................................20
   Classroom content .......................................................21
      New graduate content .................................................21
      Teach in the context of clinical application .........................23
      Prioritization ..........................................................24
      Strategies to teach prioritization ....................................25
      Use test questions and illustrative stories ..........................26
   Classroom processes .....................................................28
      Repetition is the mother of all learning .............................28
      Use unfolding case scenarios ......................................28
   Instructional approach and style .......................................29
      Cooperative learning ..................................................29
      Multi-sensory learning .................................................29
      Effective use of discussion questions for class interaction .........30
      Exude passion, as well as purpose ..................................30
## Chapter 4: Orientation: Bringing critical thinking to the clinical environment

Moving from the classroom to the bedside ................................................. 53
Beginning with orientation ................................................................. 54  
  Self-assessment ............................................................................. 54
The role of preceptors ....................................................................... 59  
  How can preceptors teach critical thinking? ................................. 60
Teachable moments ......................................................................... 63  
  Evaluating skills ........................................................................... 68
Handling judgment or action errors during orientation .................... 68  
  Remediation .................................................................................. 70
Orientation sets critical-thinking expectations ................................ 71

## Chapter 5: Nursing practice that promotes and motivates critical thinking

Maintaining momentum .................................................................... 73
Nurse managers and staff educators .................................................. 74
Making critical thinking part of the culture ....................................... 77  
  Job descriptions ............................................................................. 77
  Clinical guidelines ......................................................................... 78
  Policy and procedure ................................................................... 79
  Performance reviews ................................................................... 81
  Goal setting .................................................................................. 81

## Chapter 6: Novice to expert: Setting realistic expectations for critical thinking

Setting realistic expectations ............................................................. 85
Novice to competent: New graduate nurses ....................................... 86
Greatest challenges for new graduate nurses ..................................... 88  
  Coaching new graduates through bad patient outcomes ............... 88
  Growing collaborative relationships with the medical staff .......... 89
  Growing collaborative relationships with the interdisciplinary team 90
  When new graduates fail to reach competent levels of critical thinking .................................................. 90
Competent to expert: Experienced nurses .......................................... 91  
  Handling experienced nurses who need remediation ..................... 92
  Measuring critical thinking in daily practice ................................. 94
Contents

Chapter 7: Applying critical thinking to nursing documentation ......................... 95
   Turning critical thinking into critical writing ............................................ 95
   Examples of critical writing skills ......................................................... 101

Chapter 8: Relating critical thinking to its higher purpose .............................. 105

Chapter 9: Resources and tools .................................................................... 107
   Resources and further reading ............................................................... 108
   Additional sample questions ................................................................. 111

Nursing Education Instructional Guide ......................................................... 149
   Continuing education exam ................................................................. 153
   Continuing education evaluation ......................................................... 159
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Introduction

Critical thinking in the intensive care unit (ICU)

By Eric Wolak, BSN, RN, CCRN

Learning Objective

After reading this section, the participant should be able to

• describe the characteristics of the critical care environment that require good critical-thinking skills

Back to basics

After being an intensive care unit (ICU) nurse for quite a while, you get to know how other ICU nurses think. Your first thought may just be to flip directly to the tools and forms in this book—but don’t go there yet. To be successful at mentoring and supporting critical thinking, you need to be willing to learn the basic principles behind critical thinking. These fundamental concepts are generic for all nurses, regardless of the specialty they are working in.

To make the most of this book as your resource for critical thinking, consider making time to review all of the content before you implement the helpful tools. It may be tempting to just start using them immediately, but you would not expect a new nurse to understand the relationship between blood loss and delay in blood pressure changes without some foundational knowledge.
**Introduction**

of anatomy and physiology. That same principle applies here. The tools are not the answer: the answer lies in grasping the concepts of critical thinking.

**Critical thinking and the ICU setting**

The ICU is a place of high patient acuity, complex pathologies, and multiple “unknowns.” These characteristics require nursing staff to display unique qualities and high levels of critical thinking, both as individuals and as part of a team.

The qualities that make the ICU such an interesting place include:

- What kind of admissions will arrive today?
- When will they arrive?
- How acutely ill will they be?
- What signs/symptoms of pathologies will patients present with?
- How many will require immediate life-saving measures?
- What type and how many monitoring devices will the patient require?
- What level of understanding will patients and/or their family possess?

The constantly changing, sometimes chaotic environment is what drives nurses to this specialty. In order to function cohesively, the entire healthcare team must be attuned to one another's strengths and weaknesses. Due to the high-stress situations that often occur in the ICU, a sense of trust usually develops among the entire healthcare team. In this environment of high patient acuity and rapidly changing patient conditions, the ICU nurse needs to be a critical thinker, and needs to know how to use strategies that aid critical thinking.

Critical care nurses will be faced with patients who present with a variety of pathologies and a limitless number of problems and needs. Often, these critically ill patients are unable to
communicate their symptoms or their needs. Consequently, ICU nurses must be able to make decisions based on physical examinations, patient assessments, and data obtained through monitoring devices. Utilization and critical application of all these data will allow the critical care nurse to provide the best care to his or her patients.

**Patient assessment**

Perhaps one of the greatest advantages of being a critical care nurse is the luxury of having 2:1 or 1:1 patient-to-nurse assignment. Although patient acuity and need dictates such ratios, it also provides the critical care nurse with the rare opportunity to be attuned to every aspect of the patient, assessment trends, and ever-changing patient status. This includes vital signs, pain assessment, lung sounds, secretions, drainage output, and so on. By having an intimate knowledge of the patient's clinical presentation, the critical care nurse is in the unique position to verbalize patient needs to the healthcare team and to implement interventions necessary for optimal patient care.

Another important component of the assessment process is reassessment. After any intervention, it is paramount that a reassessment be performed. This formula of assessment-intervention-reassessment is a primary component of critical thinking and ensures comprehensive care of critically ill patients.

**Attributes of critical thinking with nursing assessments**

The following examples demonstrate application of the concepts and approaches of critical thinking as it relates to patient assessment. Strategies and attributes of critical thinking during patient assessments include the following abilities:

**Thinker**

- Identifies and initiates appropriate standing orders.

- Recognizes when a patient begins to decompensate and notifies the physician before immediate life-saving measures are required.
Introduction

Evaluates evidence and facts
• A patient states he did not receive any pain medicine from the previous nurse. However, all records indicate that medication was delivered appropriately.

• Despite the fact that the family claims that the patient is not hurting, the ICU nurse notes that the Non-verbal Adult Pain Score (NAPS) is 7/10.

Explores consequences before making decisions or taking action
• Although a patient has gone into ventricular tachycardia, the critical care nurse realizes that the patient’s family has recently made him “Do Not Resuscitate” status.

Evaluates policy
• Recognizes that although the physician has written an order that it is OK to use a new subclavian central catheter, no chest x-ray was done after catheter insertion. The physician is contacted to request a chest x-ray and have it read before the new catheter is utilized.

Confident in decisions
• A physician challenges the ICU nurse about a life-saving medication that was given while the patient was on transport for a procedure. The nurse refers the provider to the written protocols that were followed to come to the decision of administering these medications.

Effective communication
• Communicates to other members of the healthcare team using a concise, organized process of verbalizing the situation, background, assessment, recommendations, and requests for further actions.

• Understands that no assumptions should be made. Every change in patient presentation is related to the appropriate provider.

• Asks physician if the chest tube should be placed to water-seal or suction.
Reassess after interventions

- After a change in ventilator settings based on a baseline arterial blood gas (ABG), the critical care nurse understands the importance of obtaining another ABG to reassess oxygenation and ventilation.

Displays critical analysis

- At end of shift, reviews patient outcomes and determines if delivered therapies or decisions were appropriate.

Intervention

In the intensive care unit, interventions are provided according to patient diagnosis, pathology, and data obtained during assessments. The challenging environment of the ICU presents the critical thinker with the opportunity to demonstrate the ability to make decisions in a fast-paced setting. During treatments and interventions, nurses are more involved as a team of critical thinkers working together, contributing decision-making comments that lead to improved patient outcomes. Collaborative relationships and efforts with the medical staff of the ICU provide opportunities for nurses to gain clinical knowledge that reflects their ability to make good decisions.

Attributes of critical thinking during interventions

Strategies and attributes of critical thinking during administration of therapeutic interventions include the following abilities:

Thinker

- If a nurse has a two-patient assignment, rationalizes which patient needs attention first.

- Recognizes the need to call pharmacy to ensure various medications are compatible through the same access line.
Evaluates evidence and facts

• Notes decreased urinary output, notes vital sign trends, bladder scans patient, flushes Foley catheter, and approaches provider with information and request for orders.

• When reviewing laboratory results, notes a patient has dangerously low blood glucose. After re-evaluating the patient, the nurse performs a finger-stick glucose test and finds the patient to have normal range blood glucose. Upon discussion with the lab, it is determined there is an inpatient with the same first and last name of this patient.

Explores consequences before making decisions or taking action

• The critical care nurse understands to take precaution in using a high FiO₂ concentration for the COPD patient, despite evidence of shortness of breath.

Evaluates policy

• Patient requests that the police not be notified of her assault from her spouse. Nurse refers to hospital policy requiring all assaults to be reported and offers patient safety options.

Confident in decisions

• During a resuscitative effort, a physician orders a dose of medication that is twice the dose recommended by the American Heart Association. Despite the urgent needs of the patient, the nurse reads the order back to the physician and questions the dose.

Effective communication

• Communicates to other members of the healthcare team using a concise, organized process of situation, background, assessment, recommendations, and requests for further actions.

• The nurse is comfortable saying, “This patient is concerning me as she may be an atypical presentation. How do you feel about me doing a 12-lead EKG on her?”
Reassess after interventions

- The critical care nurse reassesses the patient’s blood pressure and urinary output after giving a bolus of normal saline for low urinary output and blood pressure.

Displays critical analysis

- When caring for a septic shock patient, the nurse approaches the provider and, while updating him or her on the patient’s status, inquires, “What do you think about activated protein C for this patient?”

Synergy Model

The Synergy Model serves as the structural framework behind all critical care nurses’ practice. The model states that the needs or characteristics of patients and families influence and drive the actions of nurses. The Synergy Model identifies eight patient needs or characteristics and eight nursing competencies. Understanding and utilization of the Synergy Model enhances the critical thinking abilities of the critical care nurse. Subsequently, when these patient needs and nursing competencies are aligned, patient outcomes are optimized.

The eight patient characteristics that are evaluated by nurses include:

- **Stability:** The ability to maintain a steady state, including physiologic, psychological, emotional, and family or social stability

- **Complexity:** The intricate interconnectedness of two or more systems (e.g., body, family, and social systems)

- **Predictability:** The characteristic that allows one to expect an illness to progress in a specific manner

- **Vulnerability:** Susceptibility to a stressor

- **Resiliency:** The ability to return to a normal level of functioning
Introduction

• **Participation in decision-making:** The extent to which the patient and the patient’s family engage in decision-making

• **Participation in care:** The extent to which the patient or family engages in aspects of care

• **Resource availability:** The resources that the patient/clinical unit can bring to a situation

Patients and families move along these eight continuums and influence how a nurse approaches and cares for patients. The Synergy Model outlines eight nursing competencies to respond to patient needs in order to enhance outcomes. These dimensions of nursing practice span the continuum from competent to expert and include:

• **Clinical judgment:** Clinical reasoning, which includes clinical decision making, coupled with nursing skills acquired by formal and experiential knowledge

• **Clinical inquiry:** The ongoing process of questioning and evaluating practice

• **Caring practices:** All nursing activities to which the patient and family respond

• **Response to diversity:** The sensitivity to recognize, appreciate, and incorporate differences in the provision of care

• **Advocacy:** Working on another’s behalf and representing the concerns of the patient and family

• **Facilitation of learning:** The ability to facilitate patient, family, colleague, and unit learning

• **Collaboration:** Working with others to promote each person’s contributions

• **Systems thinking:** Appreciating the care environment that recognizes holistic interrelationships
The Synergy Model outlines that when patients’ characteristics and nurses’ competencies synergize, optimal patient outcomes are achieved. As the patient and family is the primary focus, optimal outcomes are defined as what patients and families acknowledge as important. Ultimately, the Synergy Model helps to promote nurse-sensitive outcomes. In addition to serving as the organizing framework in critical care, the Synergy Model has also served as a framework for nursing education and a guide for advanced practice nursing.

**Nursing research**

If ICU nurses are to develop evidence-based practice, then critical analysis of research and incorporation of critiqued research findings into practice is paramount. Critical care nurses can identify problems and read research literature to identify studies that address their clinical outcomes. Furthermore, critical care nurses can utilize these published research findings in developing and editing protocols and procedures specific to their patient population.

**Encouraging the development of critical thinking in ICU nurses**

Much of critical thinking needed in the ICU setting comes from work experiences and particular patient scenarios that nurses tend to “bookmark” in their minds. All ICU nurses should be actively involved in the orientation and development of both new graduate nurses and experienced nurses who join the ICU setting through relating these learning-rich case studies. Without passing along these bookmarked events, we cannot help others to develop their critical thinking capabilities.

We want ICU nurses who are able to

- recognize a problem
- know what to do
- know when to do it
- know how to do it
- know why they are doing it
Introduction

ICU nurses know what outcomes they want for each patient and recognize how they impact these outcomes. Recognizing the role critical thinking plays in achieving these desired outcomes is the first step to creating and achieving an environment that promotes sound judgments.

Furthermore, we must remember that it is a privilege to be at the side of a patient and family during their most vulnerable moments. It takes a special person to be an ICU nurse and with that comes a tremendous responsibility to make the best decisions for the patients entrusting their care to us.

References


Why critical thinking?

For educators and nurse leaders, critical thinking is like the weather: Everybody is talking about it, but nobody seems to know what to do about it. Passing the NCLEX only validates that new graduates have the minimal amount of knowledge needed to provide safe nursing care. Application of clinical critical thinking and judgment is at the heart of what makes a healthcare provider nurse (as a verb) compared to being a technician who completes tasks by rote. Critical thinking is at the core of safe nursing practice, and thus encouraging its development in every nurse should be an aim for all educators.
Chapter 1

Becoming a professional nurse

Nursing is a hands-on profession for which clinical experience plays a crucial role in professional development. Nurses have to progress through various levels before they reach proficiency. Managers and educators need to appreciate that new graduate nurses are at a different level, with different needs, than experienced nurses in their professional critical thinking.

**Benner’s stages of growth**

Benner (1984) is well known for identifying and describing the five stages through which nurses proceed in their professional growth. Benner’s stages are

**Beginner:** Has little experience and skills, learning by rote, completing education requirements.

**Advanced beginner:** Can perform adequately with some judgment, usually at this stage upon graduation.

**Competent:** Able to foresee long-range goals and are mastering skills. Still lack the experience to make instantaneous decisions based on intuition. Most nurses take up to one year to reach this stage.

**Proficient:** View situation as a whole, rather than its parts. Able to develop a solution.

**Expert:** Intuition and decision-making are instantaneous. Most nurses take at least five years in an area of practice to reach this stage.

So how do you take your inexperienced graduates and set them on the road to proficiency? And how do you help your more experienced nurses—who may have been practicing for years, yet you would never label them experts—reach that higher level? This book provides information, strategies, and tools to help you coach nurses at all stages of development as they hone their critical thinking skills, improve their judgment, and become better nurses. Chapter 3 discusses teaching critical thinking in a classroom setting, and other chapters include ongoing strategies for developing critical thinking in the clinical environment.
Defining critical thinking

The goal in encouraging and developing critical thinking is to help nurses progress effectively through the stages of development. No one wants 10-year nurse employees who have the equivalent of one year of experience simply repeated 10 times.

So what is critical thinking?

Alfaro-LeFevre (1999) defines critical thinking as careful, deliberate, outcome-focused (results-oriented) thinking that is mastered for a context. Critical thinking is based on scientific method; the nursing process; a high level of knowledge, skills, and experience; professional standards; a positive attitude toward learning; and a code of ethics. It includes elements of constant reevaluation, self-correction, and continual striving for improvement.

Some of the characteristics of people who display critical thinking include open-mindedness, the ability to see things from more than one perspective, awareness of one’s own strengths and weaknesses, and ongoing striving for improvement. The strategies commonly (and often subconsciously) used in critical thinking include reasoning (inductive reasoning, such as specific to general, or deductive reasoning, such as general to specific), pattern recognition, repetitive hypothesizing, mental representation, and intuition.

In the practical world of clinical nursing, critical thinking is the ability of nurses to see patients’ needs uniquely and respond appropriately, beyond or in spite of the orders. The ability to think critically is developed through ongoing knowledge gathering, experience, reading the literature, and continuous quality improvement by reviewing one’s own patient charts. An example of a nurse who displays critical thinking is when a physician orders acetaminophen (Tylenol) for a patient’s fever, and the nurse questions the order because the patient has hepatitis C. A critical thinker goes beyond being a “robo-nurse” who simply does as he or she is told.

In Croskerry’s study (2003), 32 types of misperceptions and biases (cognitive disposition to respond) were identified in clinical decision-making. Everyone is influenced by what they see most often, most recently, or most dramatically. Cognitive errors may be avoided by always striving to consider alternatives; by decreasing reliance on memory (instead, use cognitive aids such as reference books); by using cognitive forcing strategies, such as a protocol; by taking time to think; and by having rapid and reliable feedback and follow-up to avoid repeating errors.
The overarching goal is to help shorten new graduate nurses’ on-the-job learning curve, and give directed assistance to all nurses in their critical thinking development.

**Del Bueno’s definition of critical thinking**

There are many definitions of critical thinking, and one of the most helpful is Dorothy Del Bueno’s Performance-Based Development System. Del Bueno determined that nursing competency involves three skills: interpersonal skills, technical skills, and critical thinking.

Del Bueno defines critical thinking in a clinical setting with the following four aspects:

- Can the nurse recognize the patient’s problem?
- Can the nurse safely and effectively manage the problem?
- Does the nurse have a relative sense of urgency?
- Does the nurse do the right thing for the right reason?

Del Bueno discussed an example from her work on responses to a taped scenario of a one-day postop trauma patient. On the tape shown to nurses, the patient suddenly becomes diaphoretic, pale, short of breath with tachypnea, and holds the right side of the chest, complaining of pain. An ABG result is given showing respiratory alkalosis. The expectation is that nurses will recognize this is a potential pulmonary embolism or pneumothorax (an alteration in respiration), manage the patient with oxygen, assess breath sounds, raise the head of the bed, call the physician, etc. And experienced nurses should anticipate physician orders, such as a portable chest x-ray or an EKG. But Del Bueno found that 75% of inexperienced and 25% of experienced nurses said they would manage the patient’s alkalosis by only having the patient breathe into a paper bag.

Overall, she found that only 25%–30% of inexperienced nurses (less than one year of clinical experience) had acceptable results. The range of acceptable results was from 12% to 60%, and there was no difference between nurses’ performance based on their educational preparation and/or whether they had previous healthcare experience (such as being a technician or an LPN). She found that 65% of experienced nurses had acceptable results, and that the number was higher (85%) in some specialties. Overall, she found that nurses’ greatest limitations were in recognition and management of renal and neurological problems.
Defining critical thinking

References


Why don’t new graduates think critically?

Educators’ and nurse leaders’ desire to develop nurses’ critical thinking is undoubtedly more pressing for new graduate nurses. You may wonder why these nurses, who have just completed their education, do not display the qualities and skills you either expect or want. It’s important to understand that new graduates face many stresses as they transition from students to registered nurses, and these stresses impede their ability to learn and progress.

Stresses for new graduate nurses

Charnley (1999) identified four categories that lead to stress in novice nurses:

1. **Reality of practice:** They think they are supposed to have all the answers, are overwhelmed by the volume of work, and feel guilty because they cannot spend more time with patients.
2. **Unfamiliarity with the structure of the organization:** They spend valuable time looking for supplies.

3. **Lack of professional relationships:** They lack an understanding of the roles of healthcare providers, and their dependence on other staff may cause anxiety. They often lack mentors and support people.

4. **Lack of clinical judgment:** They have decreased confidence in their skills and decision-making abilities. This leads to apprehension.

Other special needs of new graduates have been identified, including the following (Brown, 2000; Charnley, 1999; Gries, 2000; Huber, 2000; Tingle, 2000):

**Interpersonal skills/communication:** They struggle with interactions with other providers in making rounds, clarifying orders, and interdisciplinary team conferences. They may miss some communication or instruction from an experienced nurse because they don’t understand what the routine or slang involves. For example, one unit may refer to a septic workup as “culturing every hole.” The new graduate does not understand that this standard order set includes blood cultures x2, sputum culture, urine culture, and stool culture.

**Clinical:** Though new nurses possess the clinical knowledge, they lack the experience that increases effectiveness, efficiency, and correctness.

**Organization:** This includes organization of skills and the day, often exacerbated by feeling overwhelmed and unsure how to prioritize.

**Delegation:** New nurses often feel uncomfortable delegating to more experienced and/or older assistants. This is exacerbated by a lack of leadership skills and trust/personal knowledge of the assistants.

**Priority setting:** Initially, there is a tendency to focus on tasks, rather than critical thinking planning.
Assertiveness: There can be hesitancy to say no or to understand the difference between being assertive and being aggressive.

As outlined above, the transition into practice includes a lot of stress. But new graduates can be helped to overcome the stressors and grow in critical thinking more easily when the orientation process recognizes and deals with these stresses.

**Strategies to minimize stress**
There are aspects you can add to orientation and for ongoing use that will minimize these stressors for new graduates. Possibilities include:

- Holding regular support group meetings with fellow orientees.

- Using a mentor or assigning a buddy (or sponsor) who builds a relationship and will follow the nurse for at least a year.

- Holding a treasure hunt for supplies or other departments during their first week of work. It will help their confidence if they know where the laboratory is located when someone stops them in the hall to ask.

- Holding a roundtable of the institution's staff nurses who have been out of school for two to five years, who can offer tips and support. (These nurses will be experienced enough to have learned, but not so experienced to have forgotten.)

- Spending a day rounding with a teaching physician who frequently admits to the unit.

- Emphasizing the importance of just “tell somebody” when something is abnormal, even if they do not know the cause or the solution. Alerting someone else will help new nurses learn. Make clear that waiting, assessing, and hoping is not a good solution.
Chapter 2

New graduates’ levels of development

When learning a new field, there are four classic stages through which the person proceeds:

- Unconsciously incompetent
- Consciously incompetent
- Consciously competent
- Unconsciously competent

The most dangerous situation is when nurses do not realize what they do not know. The best orientee is the one who realizes when to ask for help. Surprisingly, weaker students are frequently very confident, in part because they don’t grasp how much there is to learn or the potential risks.

A contributing factor to this phenomenon is that newer nurses are often placed on the off shifts with other inexperienced nurses. This can limit their exposure to more-experienced nurses and they do not realize their deficiencies since their coworkers have similar levels of knowledge and judgment.

Part of developing critical thinking and orientees’ ongoing self-knowledge should include encouraging them to think about “In what areas do I still need to grow?” Keep the issue of critical thinking and anticipation of potential patient complications in the forefront.

Prioritization

Prioritization typically is one of the most difficult aspects for new nurses to learn. They know if something is “normal” or “not normal,” but struggle to know how much importance to attach to these classifications. Many educators and managers think new graduates will automatically pick up this discernment, but this often does not happen until after considerable time, exposure, and experience.
New graduate nurses and critical thinking

New graduates struggle to prioritize the needs within one patient, within a team of patients, and/or between patient and administration needs. It is necessary to provide rules and principles they can use until they develop and internalize their own clinical judgment and instinct.

**Prioritization principles: Assessment**

Many of the following concepts may seem simplistic and obvious, but remember that experienced nurses often forget what they, as new graduates, didn’t know. Discuss the following aspects in a critical-thinking class, and include them during orientation and throughout new graduates’ initial development:

Review Maslow’s Hierarchy of Needs and ABCD: While familiar content, many new graduates have not specifically identified that “D for disability” includes mental status/level of consciousness (LOC), neurological and motor function, and pain. Pain, while not a good thing, is not always the worst thing. Sometimes in an effort to overcompensate for the past when analgesia received inadequate attention, pain is given almost absolute priority in the nursing curriculum.

Two common areas of weakness in new graduates are failure to ask all aspects of a pain assessment (PQRST) and failure to note the severity within the ABCD prioritization. Use examples where the type of pain and/or location, rather than severity, alerts the nurse to the problem, such as a substernal pressure that the patient rates as a 5. Use examples in which the severity matters: a significant shock (Circulation) takes priority over a mild wheezing (Breathing).

**Onset (sudden over gradual):** True sudden onset of symptoms can signal a catastrophic event. It is a true “sudden” onset if the patient can recall the exact time or activity when it began, and the maximum intensity is reached immediately (in less than one minute).

**Actual over potential:** A common error of new graduates is to focus on a “more important” potential future problem than what is currently going on. For instance, they assume the asthmatic patient who states he or she will stop his or her prednisone will take priority over someone who is currently experiencing low blood pressure. Emphasize first things first: Treat actual problems before preventing a future one.
Chapter 2

**Systemic over local (life before limb):** Something that has a systemic implication, or involves multiple systems, is a priority. If no other access can be obtained, an IV is started in the leg to administer the medication to stop continuous status epilepticus.

**Trends:** A trend, as opposed to an isolated incident, could be an indication of something more serious. Trends include a steady progressive decline, minor symptoms that recur repeatedly or increase in severity, and/or symptoms that are associated with other definitive (especially systemic) changes.

**Compared to the patient’s normal:** Recognition of the same significant symptoms (“This is like the last time I had a kidney stone”) or identification of a new distinction (“This is different from any other headache I had before”) is important. When the complaint is “ordinary,” such as a headache, remember there must be a reason why the patient thought it was important enough to report. Always consider the caregivers’ perception of changes in the patient, as they know the person better than anyone.

For example, one geriatric patient was reassured by three nurses that her reported urinary incontinence was “typical” for the elderly. It took the fourth nurse to assess this symptom as a new onset, with urinary burning, and take the necessary actions to diagnose the patient’s new urinary tract infection.

**Patient demographics:** Certain groups are more vulnerable for rapid worsening or atypical symptoms and should receive more consideration. This includes the immunosuppressed, whether by age (the very young and the very old), medication (steroid administration), disease (diabetes mellitus, HIV/AIDS), or past history (splenectomy, donor organ recipient). Similarly, greater concern should be given to patients with multiple comorbidities (their systems are already taxed for coping and will be more easily overwhelmed), or a history of the “worst-case scenario” in the past for these symptoms (e.g., “This is just like I felt when I had my heart attack”).

**Prioritization principles: Time management**

Medications tend to be a priority and new graduates should be encouraged to consider the type and timing of medications. Anti-diabetic medications and antibiotics are usually given priority because of the consequences if they are not given in a timely manner. If two antibiotics are ordered for the same time, give the one with the shortest interval until the next dose first.
In school, nursing assessment and teaching are emphasized. The reality is that most hospitalized patients have a “diagnosis” and one of nursing’s main functions is to properly administer the treatments prescribed for the patient’s improvement. Why is the patient here? Make sure the “cures” are being administered.

**Prioritization principles: Administrative**

Patients before paperwork: Students from a heavily regulated industry, such as licensed practical nurses who worked in long-term care facilities, or those who truly understand legal implications, tend to overemphasize the documentation. Remind them that “post” charting is allowed if identified as such.

**Stop any harm immediately:** Those inexperienced in leadership tend to focus on others dealing with problems rather than directly taking care of it themselves. If an aide is making an error, go in and correct it now rather than telling the charge nurse, asking for more inservices, writing up an incident report, or even speaking to the aide at the end of the shift.

**WHAT rather than WHO:** An inexperienced nurse is likely to be intimidated and respond first to an authority figure who is barking orders. A serious patient need is always first. Have them role-play stating, “I must take care of this first, then I can be back and talk with you in about a minute.”

Remind learners when talking about prioritization that everyone does receive care even if they are not first. Prioritization just recognizes that one person can only do so much at a time and there are competing demands. Prioritization involves the right care to the right person at the right time for the right reason.

**Identifying worst-case scenarios, stereotypes, and expected abnormal findings**

**Worst-case scenarios**

Another significant area in which new graduates need help is identifying and ruling out the worst-case scenario that could happen with a complaint. People make decisions heavily influenced by what they experience most often, most recently, or most dramatically in relation to the
current situation. New graduates have mainly been exposed to textbook stable cases in clinical experiences.

Give new graduates examples and specifically identify what would be the worst complication. Ask them how they would know the worst-case scenario was occurring when dealing with any patient, condition, or scenario. The one-day postoperative patient may be restless due to pain, but has shock been ruled out? How would you do that? This is particularly important to stress during a critical-thinking class, but it should also be brought up again and again. Remember, repetition is the mother of all learning. New graduates should know that for each patient they take care of, they should first think, “What is the worst-case scenario?” so that this may be ruled out as necessary, and the process should eventually become automatic.

There is a familiar phrase used in medicine, “When you hear hoofbeats, think horses, not zebras.” It illustrates the overarching principle that nurses should first consider the most common causes for a patient’s presentation, but be alert to the fact there are some “zebras” out there. Don’t miss them.

**Stereotypes**

It can be helpful to include common misconceptions (which are often subconscious) in illustrations. For example, common stereotypes may include that psychiatric patients don’t have physical problems, or that all old people are a little bit confused. Nurses should ascertain whether the elderly patient with new-onset confusion has low glucose, low pulse-oximeter reading, or a urinary tract infection. False assumptions can lead to a wrong action.

**Expected abnormal findings**

What is an expected finding for this given condition? Make the distinction that significant “abnormal” findings are not a concern when they are a part of that patient’s known medical condition. It is not alarming that a patient with pneumonia admitted for intravenous antibiotics has an elevated white blood cell count (WBC). It is more necessary to know if the WBC is higher, lower, or the same since starting the antibiotics. Similarly, it is not alarming that the patient with pancreatitis has amylase and lipase levels three times the normal value—that is how the diagnosis is made. It is more important to rule out serious complications such as hypocalcemia, hypovolemia, hypoxia, or severe pain.
Ongoing development

Awareness is the first step toward beginning to change behavior. Orientation often focuses on “how we do things here,” and includes forms, policies, and the mission statement.

Orientation also should include a purposeful identification and focus on critical thinking. Discussion should include making clinical correlations, applying them to each patient’s unique presentation, understanding the reason things are being done, and focusing on the most essential aspects in the proper order. Bringing these types of approaches to the forefront will help the new graduate understand what is needed to succeed.

References


Chapter 2


The critical thinking classroom

By Polly Gerber Zimmermann, RN, MS, MBA, CEN

LEARNING OBJECTIVE

After reading this section, the participant should be able to

• determine classroom strategies to teach, promote, and support the development of critical thinking

Critical thinking can be taught

The tendency is to view critical thinking as an abstract formula to memorize. Rather, it is a process of applying acquired textbook knowledge to the clinical setting and specific patients. All nurses usually need some initial assistance in applying their knowledge to the situation, particularly for high-volume, high-risk, or infrequent patient presentations with which they have had little familiarity during their education or experience.

Classes that discuss and teach critical thinking can be beneficial for both new graduates and more experienced nurses. New graduates and new hires will benefit from classes held during orientation, but it also may be useful to periodically schedule general-attendance classes so that other nurses may participate.
Background preparation

Teacher preparation
Educators can tend to spend excessive energy on “what” to teach. Just as important is “how” to teach—determining the best way to communicate the information so learning takes place. When planning an educational session, focus less on “What am I going to say today?” and more on “What are my listeners going to learn today?”

Teaching is not pouring wisdom into passive listeners. The teacher is a guide for active participation through a learning experience. Watch the audience’s responses. That is the only way to perceive the need to repeat material, vary the presentation, or illustrate the content’s application for this group.

Consider the learner’s motivation
Why will attendees be motivated to learn? The driving force for all ordinary behavior is “What’s in it for me?” Avoid the “Field of Dreams” approach—i.e., if we plan it, they will come and learn. Instead, use the human tendency toward selfishness—what’s in it for me?—to teaching’s advantage. Further breaking down that number one motivation reveals the three main aspects people want from education sessions. People want to

- get something accomplished/meet their goals
- receive personal recognition, power, or influence
- have social interaction and enjoyment

Most of us are usually more influenced by one factor than another, but there are aspects of all three in everyone. Time spent in the classroom should meet all three purposes. Give certificates; have checklists to complete; give personal, positive, public praise; and add humor or games.

Generational differences
Understanding motivational aspects is important when considering today’s multigenerational work force. Everyone is influenced by the time in which they were raised, when they developed their mindset, values, priorities, and styles. As the Arab proverb says, “People resemble their times more than they resemble their parents.”
Baby Boomers are individuals born between 1946–1964. The average age for registered nurses is 44 to 47 years. Baby Boomers are more likely to act out of a sense of duty and a drive to accomplish.

Generation Xers are those born between 1965–1980. They want independence and flexibility; they want to know “Why?” (as they focus on results); and they want fun. If an activity is not worthwhile to them, they do not feel a sense of obligation to stick it out and will check out physically and/or mentally.

Generation Y is the generation born between 1981–2006. They are entering the workplace with high expectations for themselves, their employers, and their managers, and expect coaching, training, and support to help them achieve their goals.

Many educators fall into the Baby Boomer age category, whereas new graduate nurses often fall into the Generation X or Generation Y categories. Remember that approaches used for the established work force, or even for you when you were a new graduate, may not work now. It’s important to tailor learning experiences to meet the needs of all generations in your classes.

**Professional nurses’ goals**

David Shore (1997) defined what professionals want from their educational offerings: They want to be an ACE. Specifically, they expect Access (to peers, resources, and networking), Credentialing (external validation of what they know and whether it is still correct), and Education (information to make a demonstrable, practical difference in their practice).

Keep these expectations in mind when planning learning experiences. Also note that experienced nurses are very interested in regulations (e.g., “The Joint Commission requires . . . ”) or legal requirements (e.g., “In this case, a nurse was sued for . . . ”).
Chapter 3

Setting the stage

Classroom environment
The classroom environment plays a key role in your critical-thinking course. Create an atmosphere that awakens the participant’s whole brain and senses. Communicate, even on a subconscious level, that this is an enjoyable, desirable place and activity.

Seating: As much as possible, use a half-circle for small groups, and a fishbone configuration for larger groups. Avoid having a group at a table with stragglers in the row behind. Avoid hiders: participation is necessary for learning.

Use color: One study found that visual aids with color and symbols increased long-term retention by 14–38%.

Peripheral learning: We use sight for 75% of our learning. While we speak at 125 words per minute, we think at about 600 words per minute. Give the learner something to do with the extra 475-word capacity. When their mind or eyes start to drift, let them fall on educational posters.

If it is a dedicated classroom, make posters that specifically apply to the content that is being taught. If it is a generic classroom, use prevention and healthcare associations’ free posters—then even the housekeeping staff learns.

Music: Play upbeat music before class, during breaks, and after class. Baroque is recommended because it matches the rhythm of the heart and enhances learning. Use lively pop music with a distinct beat you can dance to—it will pump up the energy in the room.

Frequent breaks: Experts recommend taking a five-minute “exercise” break every 40–50 minutes, but it’s even more effective to take a one-minute break every 25 minutes or so. Set a kitchen timer and, when it dings, announce that it’s time for a break and turn on the music. Encourage general arm stretching, walking around, etc. Indicate participation is optional.
After one minute, turn off the music and start class, usually with a joke. These breaks should be in addition to the scheduled longer break midway through the class. Teachers fear these breaks will create a loss of control of the classroom but that does not happen with adults when done with purposeful actions and explanations. Many students indicate “the music break” was one of their favorite aspects of the class.

There are many reasons to take these frequent breaks. Necessary bathroom breaks are then quickly facilitated without disrupting the classroom—and those who straggle back in miss the reward of humor. Exercise increases cognitive functioning, attention, and alertness. It pulls in the kinesthetic learners and individuals who have minor attention-deficit problems.

However, the real purpose for the breaks is to aid learning. People remember the first and the last things—educators call this the primacy and recency effect. More breaks mean more “firsts” and “lasts” to make an impression on one’s brain.

**Classroom content**

**New graduate content**

When new graduates are asked about their biggest fears and concerns, they mention concerns about how to handle their many responsibilities (during school they only had to deal with one or two patients), how to handle emergencies (especially a “code”), and how to communicate with physicians / when to call the doctor.

The first step in teaching critical thinking may be to help them develop a plan of action to enable more effective responses when encountering these issues in practice. This will free up their energy to allow them to focus on the subtle patient-care assessments and important interventions.

Use some of these tips as a starting point for discussion.
Getting work done

- Provide a cheat sheet form for taking report or for the day's organization.

- Set “drop dead” times within your day (such as “all 9 a.m. medications to be in the patients’ bodies by 9:30 a.m.”) as guideposts for your progress in the day's time management.

- Work ahead. Always assume the unexpected will happen—it does.

- Keep current with your charting. It is harder to recall everything at the end of the day.

- Constantly reprioritize. Don’t ask yourself, “What are all the things I should do?” but “What is most important for me to do?”

Emergencies/code

- Get help. For a code, if nothing else, go out in the hall and say, “I need help right now in room X!” in an urgent tone, with a loud, calm voice.

- Memorize the Institute for Healthcare Improvement (IHI) or other guidelines for activating a Rapid Response Team (see reference in resources section of Chapter 9). The IHI and other organizations have established recognized criteria for dealing with patients who could be critical and deteriorating. If anyone criticizes being contacted, cite the higher authority. “Well, the IHI indicates a Rapid Response Team should be activated for a sustained blood pressure below 90 systolic, so I felt it was advisable to follow the national criteria and get additional assistance.”

Contacting the physician

- Take the initiative and introduce yourself to the physicians who admit frequently to your unit.

- Rehearse introductory statements/scripts for common needs. “Your patient (name) in room X is reporting Y and requesting Z. Do you want to order anything at this time?”
The critical thinking classroom

General advice
• Be slow to join a clique

• Make friends with the unit secretary

• Make your rounds during the night whether others do or not

• Make your own list of procedures or skills you have never experienced and let everyone on the unit (especially during orientation) know your desire to watch/participate in these tasks.

Teach in the context of clinical application
When planning a critical-thinking class for new graduates, experienced nurses, or both, remember that your session will be enhanced when the classroom time is spent applying knowledge to the clinical setting. Do not simply give a theory lecture. Instead, use images from books or sample labs. For example, you could hold up a picture of purpura and ask, “What do you think when you walk in and your patient looks like this?” Or present lab results (see below) and ask which value nurses should take care of first.

<table>
<thead>
<tr>
<th>Value</th>
<th>Result</th>
<th>Normals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>193 mg/dL</td>
<td>70–110 mg/dL</td>
</tr>
<tr>
<td>BUN</td>
<td>8 mg/dL</td>
<td>10–20 mg/dL</td>
</tr>
<tr>
<td>Cr</td>
<td>0.7 mg/dL</td>
<td>0.7–1.2 mg/dL</td>
</tr>
<tr>
<td>Sodium</td>
<td>131 mEq/dL</td>
<td>136–145 mEq/dL</td>
</tr>
<tr>
<td>Potassium</td>
<td>3.2 mEq/dL</td>
<td>3.5–5.0 mEq/dL</td>
</tr>
<tr>
<td>SGOT/ALT</td>
<td>1932 IU/L</td>
<td>13–40 IU/L</td>
</tr>
<tr>
<td>SGPT/AST</td>
<td>2360 IU/L</td>
<td>7–60 IU/L</td>
</tr>
<tr>
<td>Bilirubin total</td>
<td>2.9 mg/dL</td>
<td>0.2–1.2 mg/dL</td>
</tr>
</tbody>
</table>
Experienced nurses are likely to pick potassium, but new graduate nurses rarely do so. Nurses learn the importance of potassium levels, in part, from work experience. This exercise will shorten the learning curve. You can also ask additional questions, such as

- What disease does the patient have?
- How does the patient look?
- Why isn't the sodium level the most important since it is “lower” than the potassium deficiency?

**Prioritization**

Nurses not only need to know what to do, but the importance and order in which things should be done. Nurses of all experience levels may need help with prioritization for multiple needs within one patient, between multiple patients, and between patient and administrative needs.

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**Case study: Prioritization doesn’t always come naturally**

At one associate-degree nursing program, the faculty had assumed students would naturally pick up the concepts of prioritization. The faculty was appalled when the students scored below the national average in this category on a standardized test.

To remedy the problem, the nursing program added classroom time to talk about principles of prioritization, which was followed by a year-long integration of such principles into future content. By giving the problem a specific focus and emphasis, the school’s students now score above national average in prioritization.

The handout developed for the second-year students can be found at the end of this chapter (Figure 3.1). This tool can either be used during critical-thinking classes, or given to attendees as a take-home reminder.
Strategies to teach prioritization

One way to teach prioritization principles is to use sample test questions dealing with prioritization, followed by a discussion of the rationale. For example:

Question: It is most important for the nurse to care for which patient complaint first?

a. Patient with type II diabetes mellitus with an a.m. blood sugar of 190mg.
b. Patient with a K+ of 3.2mEq who is receiving a K+ rider IVPB and states his arm is sore.
c. Patient with asthma treated with high-dose steroids states he is catching the “flu”; temperature is 100.4°F (38°C).
d. Patient with pneumonia being treated with IV antibiotics for one day. Today’s WBC is 14,000mm³.

Answer: The intended answer is C because immunocompromised patients present with suppressed symptoms. Follow-up discussion could include the difference if A was hypoglycemic, normal side effects of potassium infusions, and the fact that D is already being treated. However, discussion should also include the need to look at trends. If this was the patient’s third day on antibiotics and the WBC is the same or increasing, we need to initiate action toward consideration of changing antibiotics.

First rule out the worst-case scenario

Everyone is influenced by what he or she sees most often or most recently. When dealing with a patient presentation, nurses must learn how to rule out the most lethal possible cause first.

One way is to indicate a patient condition seen frequently on the unit or department where the nurses in the particular class work, such as a one-day postoperative hip replacement. Ask the attendees what is essential for the nurse to do today. Common responses will likely include manage the pain, check the operative dressing, assess bowel and breath sounds, check the hemoglobin, watch the IV site and urine output, and verify PT is initiated.

Next ask what are the worst-case scenarios (i.e., most lethal complication) that could happen with this patient. How would you know if the patient was having those conditions? Discuss
shock (possible loss of two liters in the hip), severe anemia (requiring transfusion), aspiration pneumonia, bowel ileus, sepsis, loss of circulation to the leg, dislocation of the prostethesis, or a secondary condition (myocardial infarction). Often, just the technique of bringing known material into the nurses’ conscious awareness helps the process become second nature.

**Use test questions and illustrative stories**

Another strategy is to use test questions related to a patient presentation, and find out whether nurses assess for the worst-case scenario.

**Question:** A 96-year-old patient admitted with pneumonia is found crawling out of the bed. What should nurses do first?

- a. Assess the patient’s pain level.
- b. Obtain a pulse oximeter reading.
- c. Call for an order for a sedative.
- d. Apply a Posey jacket.

**Answer:** Before you give the correct answer, B, talk about elderly patients’ inability to compensate and how the brain is the most sensitive indicator for most things (low glucose, cerebral edema, etc.) Discuss whether they would feel tempted to answer differently if the person was 50 years old. Is the stereotype about all elderly people being a little confused influencing them?

Continue the lesson with a further illustration: A student nurse was told by another nurse to restrain the elderly person, which he did, but then the student nurse checked the pulse oximeter on his own. The patient was 86%.

Another true example of the danger of assuming all elderly people are confused: An elderly patient’s daughter stated her mother was more confused than usual. Though the patient’s pulse oximeter was 90%, no action was taken till the patient had a small stroke the next day. Diagnostics tests then revealed a small pulmonary embolism and a new stroke caused by a second clot.

Students remember stories—use them to get your point across.
New graduate nurses and more-experienced nurses who lack critical thinking skills tend to focus on the immediate task and orders rather than what should be done in the bigger picture. They fear acts of commission, such as giving the wrong medication. In doing so, they often commit acts of omission—not doing what they should do.

To train nurses how to focus on the bigger picture, start with common situations and discuss as a group what nurses should do:

- The patient has decreased pulses in his or her leg after a knee replacement. The nurse calls the resident, who reassures the nurse that the situation is fine. What should the nurse do when obtaining the same assessment two hours later?

- The patient has neuro checks ordered every two hours. The checks have been fine for the previous eight hours. It is now 2:00 a.m. and the patient is sleeping. What should the nurse do?

Often, inexperienced nurses focus on “assessing” because they are told to assess before acting. However, emphasize the need to act when they sense through assessment that something serious is wrong. Examples of actual legal cases help illustrate this point:

- A nurse charted that the patient’s pulse remained 120 all night every hour on the hour, but did nothing (until the patient coded from internal hemorrhage).

- A nurse did not wake up the patient for a neuro assessment since the ABCs were stable, and the patient had some paralysis the following morning from cauda equina.

- A patient’s pulse oximeter remained 80% after the physician checked the patient at 1:00 a.m. The patient coded at 6:00 a.m. with respiratory acidosis.

State how important it is to at least tell somebody. Emphasize that it is all right if nurses do not know the etiology or what treatment should be given. Discuss options if one person doesn’t respond (such as the charge nurse, a colleague, the nursing supervisor, another resident, the attending physician, etc.).
Role-play what nurses should say in such situations, and remember that a little humility can go a long way. As Sylvia Rayfield (2002) suggests, start with “Help me to understand . . . ”

**Classroom processes**

*Repetition is the mother of all learning*

Regardless of the style, new material needs reinforcement, and this is especially important for new graduates, as the anxiety of being new adds to the need to hear things more than once. When you teach, say something again, in a slightly different way. Use personal anecdotes, legal cases, or even published literature to illustrate the principle, emotions, and consequences of the lesson. The repetition and variety of methods are penetrating.

*Use unfolding case scenarios*

This technique is another way to incorporate the process of clinical critical thinking in a classroom setting. It provides the information in staggered amounts, punctuated by questions. The following are examples you can use.

The patient is a two-day postoperative hemi-colonectomy and asks for something for pain. Ask the attendees, “What is essential for the nurse to ask?” You have already decided ahead of time that the patient will have a more atypical problem, such as cholelithiasis from the anesthesia and dehydration or bladder distention after the catheter is removed, so respond appropriately to the questions the nurses ask. Don’t let the “patient” tell the learners “giveaway” symptoms. Keep going until the learners specify where the pain is and palpate a positive Murphy’s sign or distended bladder.

A 40-year-old presents with chest discomfort. The “patient” should also either be a cocaine user, an atypical cardiac presentation, or a smoker on birth control with a small pulmonary embolism. Did the attendees ask about drug use, prematurely rule out cardiac etiology due to the sex and age, and/or remember to check a pulse oximeter? Remind them to use incidence and “classic” presentations to help rule in considerations, but not to absolutely rule out.
Instructional approach and style

Cooperative learning

A growing trend in education is to have students teach students because “he who teaches, learns the most.” One way to do this is the “think, pair, and share” exercise. Learners are given the general question and provided one minute to think about it and write down their thoughts. The task could be something like, “What are the three most important things to assess for in the first day on an abdominal postoperative patient?” or “What is something that makes it easier to delegate to an aide?”

After the minute is up, the participants then pair up and share their answers. Require each person to verbalize their thoughts to their partner, rather than just agreeing with the first person’s statements. After time to share, one person is chosen as the spokesperson for the duo. Use a random selector to decide who shares, such as the person with the earliest birthday in the year, so both pay attention during the sharing.

Have the spokespeople stand and randomly select a few to repeat information from the paired sharing. Another way to change the selection is to use a version of musical chairs, passing a blown-up balloon, or have everyone stand and sit down according to certain criteria.

The advantage of a “think, pair, and share” exercise is that everyone participates. It accommodates those learners who initially need more time to think or have trouble speaking before others. They have rehearsed what they will say and can choose to enhance their response with their partners’ comments. You also facilitate interaction with the material because participants must conceive it, write it, speak it, hear it, and work with it.

Multi-sensory learning

Most learning occurs through visual means, then hearing, with some touch. We all have our preferred style, but everyone will learn best when the logical left side and artistic right side of the brain are engaged.
Make sure your class varies the methods used to ensure multi-sensory learning. It’s been shown that retention goes up to 50% when you hear and see something.

**Effective use of discussion questions for class interaction**

Throughout all discussions, pose good questions to stimulate thinking. Questions include, How does that work? What does that mean? What is the worst-case scenario here? What else do you need to know to make a decision? What makes this presentation different from the ordinary presentation? What do you want to do next? Why?

Another tip is to use silence. It can be tempting to jump in with the answer to fill the quiet (often awkward) moment that follows after a question. Train yourself to wait 10 seconds to allow time for the learners to respond. Tell the audience why you are waiting. Literally count off your fingers because 10 seconds can seem like an eternity.

It can be particularly effective to wait and not respond even when the right answer is given. This prevents learners from becoming good at reading the instructor rather than thinking about the issue. Alternatives include confirming the answer, but asking the person to defend it or to play the devil’s advocate with the correct answer.

In the teaching scenarios, break the information down to what is essential, and also compare similarities or differences with a known concept. “How is this different from . . . ?”

**Exude passion, as well as purpose**

William Arthur Ward said, “The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires.” The key behind great, effective teaching is not knowledge or methodology. It is holding a genuine passion for the material and for teaching.

When teaching, pull in emotion: We often forget what we think, but almost always remember how something made us feel. The teacher’s excitement and belief about the material and its importance is infectious. The learner will either catch it or (at least) respect it.
References


Chapter 3

Sources for example cases


### Determining the need

Two components: history and physical assessment

#### History

Be disciplined to be consistent and thorough. Consider using a mnemonic.


- **P** Problem
- **O** Onset
- **S** Associated Symptoms
- **H** Previous History
- **P** Precipitating factors
- **A** Alleviating/Aggravating factors
- **T** Timing
- **E** Etiology

- Document key findings that allowed you to rule out the worst-case scenario or that made you think there was a problem.

- Compare to the patient’s normal, especially for a chronic or elderly condition. (“You look like you are having a little trouble breathing. Is that how you are feeling?”)

- Your concern should be heightened if the patient is concerned enough to complain about an “ordinary” condition (e.g., headache).
Assess before acting

Question: One-day postoperative patient complains of pain. Nurses should first

a. administer the ordered prn analgesic  c. obtain a description of the pain
b. assess for the presence of bowel sounds  d. check the vital signs

Answer: C. Do not assume the pain is postoperative. Postoperative patients can have MIs or cholecystitis.

Prioritization with individual patients

Maslow
Self-actualization needs
Esteem needs
Safety needs
Physiologic needs

ABCD: A before B before C before D

A Airway  If the patient is talking, the airway is intact
B Breathing  Normal respirations are quiet and effortless
C Circulation  Pink, warm, orientation r/t perfusion
D Disability  Pain
Neurological assessment
Mental status changes

Quick Tip: 30-2-CAN DO means patient is adequately oxygenated and perfused to allow you to proceed. (Respirations are less than 30, oriented to person and place, obeys commands.)

Among ABCD, level of severity is considered.
Question: All of these patients complain of being short of breath. Which patient should nurses provide care to first?

- a. Patient with bronchitis who can speak phrases
- b. Patient with emphysema with a PO2 of 92% on 2L/min
- c. Patient three days post-operative with a cough productive of green phlegm
- d. Patient with asthma on whom the nurse cannot auscultate breath sounds

Answer: D

AIRWAY

Risk for airway problems
- Decreased level of consciousness
- Sedated
- Vomiting
- Allergic reactions (unpredictable progression)

Signs of airway distress
- Hoarseness (after smoke inhalation, unrelated to a cold)
- Singed nasal hairs
- Snoring respirations (tongue falling back in an unconscious patient)
- Presence of vomitus, bleeding, secretions
- Edema of the lips/mouth tissues
- Preferred position (tripod)
- Drooling in an adult (throat is too swollen to swallow spit, epiglottis)
- Dysphagia
- Abnormal signs, such as strider, burgling, “death rattle” from secretions

Assess
- Look, listen, feel
- Level of consciousness r/t oxygenation
### Figure 3.1  
**Teaching critical thinking—Critical thinking course content and prioritization handout (cont.)**

<table>
<thead>
<tr>
<th><strong>Interventions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reposition</td>
</tr>
<tr>
<td>• Suction</td>
</tr>
</tbody>
</table>

**BREATHING**

**Assess**

- Respiration rate AND depth
- Symmetrical chest rise and fall
- Presence and quality of bilateral breath sounds
- Pulse oximeter

**Signs of respiratory problems**

- Increased work of breathing (nasal flaring, retractions, expiratory grunting, accessory muscle use, head bobbing)

- Paradoxical respirations

- Jugular vein distention

- Tracheal position

- Abnormal breath sounds (silent chest is the most ominous because air is not moving)

- Color, especially circumoral (cyanosis is a late sign)

- Lack of integrity in chest wall

- Speaks in words, phrases, incomplete sentences
### Related routine aspects to assess

- Is incentive spirometer within the patient’s reach? Can/does the patient use it properly and frequently enough?

- Is oxygen on properly, correct amount?

- Peak flow

- Patient’s self-rating on the work of the breathing (Borg scale)

### Interventions

- Position
- Oxygen
- Ventilation

### CIRCULATION

#### Assess

- Skin color, temperature
- Perfusion through blanching, capillary refill
- Pulse: rate, rhythm characteristics

#### General rule of thumb: Adults with a radial pulse have ≥ 80 systolic (brachial ≥ 70; jugular ≥ 60); low perfusion; respiratory and heart rate increase first, before blood pressure

#### Blood pressure: Adults must lose about 1500cc; children about 25% of volume before hypotension onsets
### Signs of circulation difficulties
- Early signs and symptoms: loss of consciousness (LOC)
- Children: loss of peripheral, then central pulses, extremity mottling
- Uncontrolled bleeding: spurting = arterial
- Distended jugular veins
- Distant heart tones
- Pitting dependent edema: pedal, sacral in a bedridden patient
- Most frequent sign of deep-vein thrombosis: unilateral extremity swelling
- Neurovascular (5 Ps)
  - Paresthesia is the early sign; nerves are more sensitive than pulse

### Interventions
- IV
  - Is the site intact?
  - Is the dressing intact?
  - Is the infusion “working” at the proper rate?
- Drainage
  - Dressing dry and intact?
- Circulation devices (foot pumps, SCDs, TED hose properly applied)

### DISABILITY
**Assess**
- Alteration of orientation x 3 (scales)
- Alertness
- Neuro checks (Glasgow Coma Scale, PERRLA, movement/strength in all extremities)
- Pain
  - Objective score.
  - PQRST.
- Effect on normal ADL.

- More concern if the pain wakes the patient up, reaches maximum intensity in the first minute, patient can recall the exact moment it started suddenly, or is similar to the pain the patient had for a serious etiology (e.g., “This feels like the last time I had a heart attack.”).

- If patient states it is the “worst pain in my life” but appears comfortable or has a minor complaint (e.g., sore throat), ask about the person’s previous worst pain experience. Any experience is the worst the first time you have it. If compared to significant event, such as childbirth, kidney stone, or broken bone, then accept it.

**Assessment guidelines**

Consider and rule out the worst-case scenario patients could have with this complaint.

**What area or problem is most likely to result with this patient’s condition?**

<table>
<thead>
<tr>
<th>Facial surgery</th>
<th>Airway/breathing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken arm</td>
<td>Compartment syndrome, loss of circulation</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Hypoglycemia, DKA, HHNK</td>
</tr>
<tr>
<td>Abdominal surgery</td>
<td>Dehiscence, evisceration; shock; infection; bowel obstruction</td>
</tr>
</tbody>
</table>

**Question: Which assessment is most important for a patient with a chest tube?**

a. Respiratory rate  
b. Pulse rate  
c. Pain level  
d. Temperature

**Answer:** A
Question: An elderly patient is four days postoperative from abdominal surgery. Today the patient has a temperature of 103.1°F (39.5°C), 104/60, 110/20. This morning’s WBC results are 20,000. It is most important for nurses to

- a. administer a prn antipyretic
- b. monitor the vital signs every hour
- c. assess for bowel sounds
- d. call the physician for antibiotics

Answer: D

Go for the most common problem first. “When you hear hoof beats, think horses, not zebras.”

Question: The patient presents with a forearm deformity from falling 3 hours ago. He complains of severe pain.

What is the most likely explanation? Pain from a fracture
What must be ruled out? Compartment syndrome, loss of circulation
How will you assess this? 5 Ps; passive stretching, if relief obtained from analgesic

Patients before paperwork.

Stop any procedure causing harm.

Question: While the nurse is administering an IV antibiotic, the patient becomes flushed and complains of feeling hot. The nurses should first

- a. complete an Adverse Drug Reaction form
- b. call the doctor for an order for an antihistamine
- c. stop the infusion
- d. check the client's allergic history

Answer: C
### Question: The charge nurse notices the new nursing assistant placing the patient's urine Foley bag on a hook at the height of the patient's chest. What is the best response for the nurse to make?

- a. Move the bag and speak to the assistant now.
- b. Speak to the nursing assistant at the end of the shift.
- c. Discuss the need for additional inservicing with the nurse educator.
- d. Write an incident report and inform the nurse manager.

**Answer: A**

Medications tend to be a priority, especially for anti-diabetic and antibiotic medications because of the lack of effectiveness if not given in a timely manner.

### Question: The patient is admitted from the emergency department with a diagnosis of bacterial meningitis. Which of the following orders is most important for the nurse to do first?

- a. Obtain a set of vital signs.
- b. Administer the IV antibiotic.
- c. Perform a neuro assessment
- d. Administer the prn antipyretic.

**Answer: B**

*Consider the timing/type of medication*

Two antibiotics are ordered for 1:00 p.m. One is every 24 hours, one is every 4 hours. The nurse should administer the one ordered every 4 hours first at 1:00 pm to allow for the best interval.
Question: A nurse had been involved with an emergency on the patient unit and is late in administering the team’s 9:00 a.m. medications. Which of the 9:00 a.m. medications is most important for the nurse to administer first?

a. Ampicillin 1000mg IVPB every 6 hours  
b. Vancomycin 1 gram IVPB every 36 hours  
c. Lanoxin (Digoxin) 0.125mg daily  
d. Aspirin 81mg daily

**Answer:** A

Question: A nurse was involved with another patient’s cardiac arrest and is behind schedule with medications. It is now 8:00 a.m. Which medication is most important?

a. Colace  
b. Ferrous sulfate  
c. Erythromycin po  
d. 70/30 insulin

**Answer:** D

**Prioritization principles**

Acute before chronic.

Question: Which of the following patients is most important for the nurse to follow up with first?

a. Reports unilateral blurry central vision for one year.  
b. States has a veil starting to come across the vision in one eye.  
c. Yellow discharge noted from right eye, relates had it for one day.  
d. Complains of itching eyes during the spring.

**Answer:** B

Sudden onset is usually more serious than gradual onset. Actual over potential.
**Figure 3.1**

Teaching critical thinking—Critical thinking course content and prioritization handout (cont.)

**Trends**

- **Any symptom associated with other definitive changes** (e.g., not feeling well, and a fever, and feeling short of breath)

- **Any minor symptoms that tend to recur repeatedly or intensify in severity** (“nagging” cough that won’t go away, smoker)

- **Steady progressive decline**

**Question:** Which patient with these findings is most important for the nurse to check on first?

a. Respirations: 16, 18, 20  
b. Radial pulse: 80, 86, 92  
c. Blood pressure: 150/80, 130/78, 110/70  
d. Pulse oximeter: 99%, 97%, 96%

**Answer:** C

Life before limb (systemic before local).

**Question:** Which patient should the nurse take care of first?

a. Patient with Billroth II procedure complaining of incisional discomfort rated “6.”  
b. Patient with deep-vein thrombosis complaining of shortness of breath.  
c. Patient with low-back pain complaining that it radiates down the right leg.  
d. Patient with chronic arterial insufficiency complaining of leg pain while walking.

**Answer:** B
Patient demographics

**Presence of other risk factors increase this patient’s priority**

- Elderly (decreased immunity, decreased reserves to fight other stresses)
- Very young (decreased immunity)
- Altered immunity (leukemia, HIV+ or AIDS, taking steroids, splenectomy)
- Transplanted organs (risk of electrolyte imbalance, immunosuppressed)
- Multiple comorbidities (especially diabetes because less immunity)
- Pregnancy (risk to fetus)
- Reaction that has a potential to worsen (overdose, allergic response)

Avoid exposure of susceptible individuals.

**Question:** The unit will receive a new admission from the emergency department diagnosed with bacterial pneumonia. Which of the following patients would be the best choice for a roommate?

a. 19-year-old with diabetic ketoacidosis (DKA)  
b. 80-year-old who had abdominal surgery  
c. 15-year-old with a broken leg in traction.  
d. 60-year-old stroke victim with right-sided paralysis

**Answer:** C

Remember a “known” patient can develop a new problem
Avoid the “Oh my GOD!” distracter (red herring)

Question: A nurse decides to help out when coming upon a head-on collision car accident that just occurred. The nurse notes the victim has bright red blood spurting from the shoulder and a detached arm is lying at the patient’s side. The right leg is turned 180 degrees, facing backwards. The nurse should first

a. apply direct pressure to the source of the spurting blood.
b. assess for a pedal pulse in the deformed leg.
c. check for a carotid pulse
d. verify that the airway is open.

Answer: D

Remember to avoid WHO rather than “what”
Just because someone is more demanding or “ranked” higher should not distract from a more urgent patient need. Express your limit. “I understand you need me. I have to take care of this urgent need first and then I can work with you.”

Question: Which of the following should the nurse take care of first?

a. The bathroom sink has a leak.
b. An irate family member is in the hall, demanding to see the supervisor.
c. A patient is lying on the floor, having fallen and hit her head.
d. A physician is at the nurse’s station and wants to discuss an order.

Answer: C

Remember, prioritization does not mean a person’s need is not met. It is first things first so the right care is given to the right person at the right time for the right reason.

Source: Polly Gerber Zimmermann, RN, MS, MBA, CEN
Sample course objectives

1. Identify four mechanisms or thought processes that are examples of critical thinking.

2. List two validations for the need of accurate baseline assessments.

3. Describe the hospital policy on patient reassessments.

4. Relate an atypical geriatric patient scenario that involves the cardiopulmonary system.

5. Identify two medications commonly prescribed to the geriatric patient that may mask signs/symptoms of shock.

6. Relate two responsibilities of the nurse that require critical thinking skills.

7. Describe the use of pertinent negatives and positives in nursing documentation.

Sample course content

- Patient assessment
  - Reviewing collected data and making a decision
  - Using pertinent negatives and positives
  - Common errors
  - How vital are vital signs?

- Documentation
  - When to document
  - What not to document
  - Where to document
Teaching critical thinking skills—
Sample course content, objectives, and scenarios (cont.)

- When to call the physician
  - Age-specific concerns

- Red flags of assessment
  - Case scenarios

- Incorporating policy and procedure

- Professional responsibilities
  - Scope of practice
  - Risk management

Sample scenarios for student workbook or discussion

Case 1
Temp 97.4° (rectal)  Pulse 118  Respirations 26  Blood Pressure 128/72

Which vital sign is not only out of the normal range, but of most concern to you?
What are you concerned about with this adult patient?
What should you assess on this patient to determine if there is a potential for demise?

Case 2
Temp 102.4° (oral)  Pulse 78  Respirations 14  Blood Pressure 78/52

In the adult patient, what is of concern to you with these vital signs?
What other information do you need to determine if there is a potential for demise?

Source: Shelley Cohen, RN, BS, CEN
## Tips for a Successful Class

1. **Incorporate anatomy and physiology**
   - Hand out crayons or colored pencils
   - Use applicable anatomy sheets from [www.enchantedlearning.com](http://www.enchantedlearning.com)
   - Display (slide or poster) the anatomy section you want them to fill in
   - Identify a specific area (for example, the brain) and have them color it a certain color
   - When completed, display a correct completed anatomy picture and have learners self-correct their drawings

2. **Incorporate policy and procedures**
   - Identify policy/procedure appropriate to case scenarios you are using
   - Ask if they know where to retrieve/access the policy/procedure
   - Emphasize standards of practice

3. **Case scenarios**
   - Use as many as you can fit into the time period
   - If multiple specialty areas are in the class, vary the scenarios
   - Relate critical-thinking strategies as you go through the cases
Teaching critical thinking skills—
Classroom tips (cont.)

4. Documentation

- Use your standard nursing documentation forms or a printout of your electronic form
- Give them a case scenario and have them document the patient assessment
- Go around the room and have a few participants read their charts
- Display a correct documentation note for the patient case
- Discuss risk-management concerns related to documentation

5. Resources

- If you can access the Internet in your classroom setting, search for clinical scenarios that have photos (e.g., a rash, EKG and pose questions to the participants)
- Use tools such as crossword puzzles to help participants improve their prioritizing skills

6. Evaluation

Obtain feedback from participants to determine if they would like a follow-up to this critical thinking–skills course. Give them course content options and let them check off which they are interested in:

- More anatomy and physiology
- Laboratory results
- IV fluids
- Critical situation scenarios
- Interventions for an emergency

7. Self assessment tools

Incorporate a self-assessment tool that participants can complete and use to work with preceptors or managers (Figure 3.4). Consider having them complete the same form before and after the class to validate the need for the course and to show them how attending has improved their critical thinking skills.

Source: Shelley Cohen, RN, BS, CEN
## CRITICAL THINKING SELF-ASSESSMENT

Use the following scale to respond to each statement:

4 = I feel very comfortable with this  
3 = I feel somewhat comfortable with this  
2 = I feel somewhat uncomfortable with this  
1 = I feel very uncomfortable with this

1. Calling the physician at 3 a.m. regarding a patient’s status  
2. Identifying a patient at risk for an immediate demise  
3. Initiating emergency measures until help arrives  
4. Relating changes in vital signs to the individual patient scenario  
5. Knowing when to bring a patient-care concern to the attention of the charge nurse/team leader  
6. Identifying age-specific red flags that would alert me to reassess the patient  
7. Knowing what to document and what not to document  
8. Identifying patient situations that may be a risk for myself or the organization  
9. Verbally relaying to another professional my concerns regarding a patient’s status

Source: Shelley Cohen, RN, BS, CEN
### Attributes of a critical thinker

- Asks pertinent questions
- Assesses statements and arguments
- Is curious about things
- Listens to others and is able to give feedback
- Looks for evidence or proof
- Examines problems closely
- Can reject information that is not relevant or is incorrect
- Wants to find the solution
- Thinks independently
- Questions deeply
- Has intellectual integrity
- Is confident in rationale for actions
- Analyzes arguments
- Evaluates evidence and facts
- Explores consequences before taking action
- Recognizes a contradiction
- Evaluates policy

### When to call the provider

- Perfusion problem
- Pain issue
- Standing-order concern
- Atypical presentation complaints
- Risk-management potential
- What's going in isn't coming out
- Negative response to intervention
- Social concerns / family issues affecting patient care

---

**Source:** Shelley Cohen, RN, BS, CEN

Moving from the classroom to the bedside

As educators and nurse leaders start to think about developing a process to move teaching critical thinking from the classroom to the work setting, consider these questions:

• Can nurses who learn critical thinking in the classroom setting apply it in the clinical environment?

• How do you evaluate their ability to apply this knowledge?

• Does your orientation process incorporate critical thinking and how you do a baseline assessment on the new staff you hire?
Chapter 4

- Are experienced nursing staff given the education they need so they may learn to identify key opportunities to develop critical thinking in your new staff?

If you focus on critical thinking from the beginning of orientation through to the annual review process, nurses will understand the vital role it plays in delivering safe patient care. Incorporating critical thinking into ongoing orientation processes allows you to build a nursing culture that embraces the concept of critical thinking from the date of hire.

Beginning with orientation

When you mention orientation to a new nursing staff members they typically think of sitting in a classroom to learn specifics about your organization. They expect you to address medication policies, fire safety, and The Joint Commission, among other regulatory requirements. They also expect to take a medication test to validate that they can apply their skills in the clinical arena.

Since nurses know these items will be addressed as part of the orientation process, this is an ideal setting to introduce your expectations on critical thinking abilities, both for new graduate nurses and for those with more experience.

Self-assessment

Once orientees have undergone classroom education regarding critical thinking, they will naturally conduct their own internal review of the information to figure out how well they function with the concepts. It is to be expected that new graduate nurses will demonstrate the most hesitancy in this area.

Regardless of the years of experience of your new hires, conducting a self assessment is a valuable tool to measure their perception of their ability to perform at the critical-thinking level. Figure 4.1, on page 55, is an example of a tool that can be used to measure nurses’ critical thinking skills for general nursing responsibilities. Figure 4.2, on page 57, is tailored for ICU-specific skills during the ICU part of orientation. Give either or both of these forms to new hires to complete at the start of orientation. The forms should be reviewed by the new hires and by their preceptors, and occasionally even their managers.
This self-assessment tool will help guide your preceptor and manager throughout your orientation process to ensure we provide you with the tools and resources you need for success.

**How comfortable are you at doing the things listed below?**

<table>
<thead>
<tr>
<th></th>
<th>I feel very comfortable with this</th>
<th>I feel somewhat comfortable with this</th>
<th>I feel somewhat uncomfortable with this</th>
<th>I feel very uncomfortable with this</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Calling the doctor at 3:00 a.m. about a patient’s status</td>
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<tr>
<td>Identifying a patient at risk for immediate demise</td>
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<tr>
<td>Initiating emergency measures until help arrives</td>
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<tr>
<td>Identifying possible causes of vital sign changes related to the patient’s condition</td>
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<td></td>
<td>I feel very comfortable with this</td>
<td>I feel somewhat comfortable with this</td>
<td>I feel somewhat uncomfortable with this</td>
<td>I feel very uncomfortable with this</td>
<td>Comments</td>
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<tr>
<td>Knowing when to bring a patient-care concern to the attention of the charge nurse</td>
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<tr>
<td>Identifying age-specific alerts that indicate the patient needs reevaluation</td>
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<tr>
<td>Knowing what to document and what not to document</td>
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<tr>
<td>Identifying patient scenarios that may be a risk-management concern</td>
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<tr>
<td>Verbally relaying concerns to another professional</td>
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</tbody>
</table>

Source: Shelley Cohen, RN, BS, CEN
**Employee name:** ________________________________________________________________________________

**Date of hire:** ____________________________________________________________________________________

**Position hired for:** ________________________________________________________________________________

This self-assessment tool will help guide your preceptor and manager throughout your orientation process to ensure we provide you with the tools and resources you need for success.

**How comfortable are you at doing the things listed below?**

<table>
<thead>
<tr>
<th></th>
<th>I feel very comfortable with this</th>
<th>I feel somewhat comfortable with this</th>
<th>I feel somewhat uncomfortable with this</th>
<th>I feel very uncomfortable with this</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Identifying red flags that a patient is not perfusing well</td>
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<tr>
<td>Defining my role when a patient has a critical lab value</td>
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<tr>
<td>Making a decision during acute patient decompensation that reflects the seriousness of the presentation</td>
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<tr>
<td>Anticipating the needs of critically ill patients</td>
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</table>
### Critical Thinking Self-Assessment Tool—ICU Nursing Skills (Cont.)

<table>
<thead>
<tr>
<th>Activity</th>
<th>I feel very comfortable with this</th>
<th>I feel somewhat comfortable with this</th>
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<th>I feel very uncomfortable with this</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Identifying non-verbal clues that my patient may be a victim of violence</td>
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<tr>
<td>Recognizing signals that a patient or visitor has the potential for violent behavior</td>
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<tr>
<td>Redirecting the critical care physician to the patient in greatest need of intervention</td>
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<tr>
<td>Caring for the critically ill patient during drug withdrawal</td>
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<tr>
<td>Caring for the patient and family during withdrawal of care</td>
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</tbody>
</table>

Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN
When developing your own self-assessment tool, or adapting the ones included, make sure to include items that reflect

- generic nursing skill
- specialty-area questions
- questions for both the novice and experienced nurse

New hires should be asked to complete the same self-assessment tools when they conclude their orientation period, or after about three months. You can then compare the responses to the initial assessment, which also could be reviewed by the preceptor and/or manager. Keep in mind that the responses may show no difference when the experience or knowledge level of nurses is at its peak performance level. Others should show marked improvements during this period, particularly new graduate nurses.

Having new employees conduct a self-assessment at the beginning of orientation and again after they have been at your facility for a few months helps by

- clarifying and defining their critical thinking abilities and identifying areas that require more attention during orientation
- providing a documentation process that validates areas of strength and weakness
- becoming a resource tool from which you and the nurse may develop goals
- providing a record of the dates that orientees demonstrated these proficiencies

**The role of preceptors**

As new hires transition through the orientation process, their assigned preceptors will be key to the application of critical thinking in the clinical practice area. Regardless of experience level, new hires will look to their preceptors as role models for critical thinking skills.
Before preceptors can teach critical thinking to orientees, they must first be practicing the skills themselves. Therefore, make sure you pick clinically competent critical thinkers who will be suitable role models for the type of nursing care you want practiced. It is also important that the organization invest time and education in training preceptors so they can meet your expectations.

Preceptors should be provided with guidelines and goals to follow as they orient new employees. This will help them to

- validate successful goals in the new hire
- clearly identify areas that require remediation
- present organized documentation to show that the new hire is able to meet the requirements of the job for which they were hired

New hires who quickly display critical thinking skills will bring a great sense of relief to their preceptors. All new hires should display skills as they progress through their development, but those who show evidence earlier than others take quite a load off the mind of the preceptor.

**How can preceptors teach critical thinking?**

Preceptors can help orientees develop and stimulate the use of critical thinking skills by following some of these suggestions.

**Minimizing the emphasis on ability to perform skills and tasks:** New hires are eager to complete the required “check-offs” for competencies related to performing clinical tasks. Preceptors should encourage them to focus on other aspects of their orientation as well, for example, finding the facility’s policy on dealing with patients who want to leave AMA.

**Maximizing emphasis on the ability to recognize when the skill or task is needed:** As new hires request to be “checked off” on various skills or tasks, preceptors should ask questions to demonstrate whether new hires have the ability to critically think through why the patient needs this particular task or skill performed.
Encourage a realistic time frame and expectations: Display time-related goals for the new hire so the peer group will not have unrealistic expectations of when the new hire will be comfortable with something. Post a spreadsheet that lists the names of the orientees and goals for the next 30 days. Affix dates to the items so preceptors may check them off when successfully completed. This serves to keep all staff up to date on what orientees are competent to do, and ensures they do not delegate a task for which an orientee is not yet prepared. It also keeps a check on any unrealistic expectations staff nurses may have for new hires. Staff nurses can look at the list and know that orientees cannot admit a patient on their own because that skill will not be taught until the next time sheet.

Do not assume the new hire understands the what, why, how, or when of delivering nursing care: If the orientee is a seasoned nurse, the preceptor should not make assumptions that length of experience is directly related to knowledge and ability to use critical thinking skills. Instead, all new hires should be required to demonstrate the same knowledge. The preceptor can use prompting questions to begin the what, why, how, and when questioning to allow the new hire to demonstrate appropriate reasoning.

Figure 4.3 serves as a helpful guide for both the preceptor and the orientee to validate this process of finding out the what, why, how, and when.
### Preceptor tool—Relating skills to critical thinking for new graduate nurses

<table>
<thead>
<tr>
<th>Medical Device</th>
<th>Why does my patient need this?</th>
<th>How will I know if it is working?</th>
<th>What else should I consider/observe?</th>
<th>How long will my patient need it for?</th>
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</thead>
<tbody>
<tr>
<td>Intravenous access with large bore catheter</td>
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<td>Foley catheter</td>
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<td>Pulmonary artery catheter</td>
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<td>Endotracheal tube</td>
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<tr>
<td>Ventilator</td>
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<td>Arterial line</td>
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<td>Epidural</td>
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<tr>
<td>Nasogastric tube</td>
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<tr>
<td>PCA</td>
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</tbody>
</table>

Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN
Teachable moments

Once new hires are in the clinical setting, there are numerous opportunities for the preceptor to teach and demonstrate the application of critical thinking with actual patients. This is also the time when new hires reveal their ability to apply the knowledge they started learning in the orientation classroom.

Examples of “teachable moments” include

- preparation of assignment/organization during their shift
- information shared during shift report
- early identification of patients in need of specific interventions that can involve new hires
- prompting the what/why/how/when questions for specific patient scenarios

Figure 4.4 is a tool to encourage the critical thinking of the orientee, and can be filled in to provide further examples of situations that present teachable moments. Adapt the problem list in this figure to include items directly related to your clinical practice area.
### Dealing with Problems or Situations

<table>
<thead>
<tr>
<th>Problem or situation</th>
<th>What does the patient need?</th>
<th>Why does the patient need this?</th>
<th>How do I do this?</th>
<th>When should I do this?</th>
<th>What should I document?</th>
<th>Where do I document?</th>
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<tr>
<td>Patient urinary output is poor</td>
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<td>Provider orders medication dose that is out of normal range</td>
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<td>Patient has become tachypnic with agonal breaths</td>
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<td>The patient has an acute mental status change</td>
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<td>Lab calls a critical lab value to your attention</td>
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<td>Patient presents with decreased mean arterial pressure and increased heart rate</td>
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Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN
Sometimes nursing staff other than the preceptor may be working with the orientee. During these times, it is essential that the preceptor educate all staff on the importance of their role in assisting with the transition process of the newly hired nurse.

The preceptor can promote and encourage positive behaviors among staff that will help to promote and motivate the critical thinking process. Figure 4.5 is a tool preceptors can share with other staff to encourage their understanding and support for developing new employees’ critical thinking. It has essential reminders that include

- faster is not always clinically better
- checking things off for a new hire indicates you observed them perform it
- proactively involve new hires in challenging patient scenarios—but be there to support them
- ask prompting questions that validate they can apply knowledge
- knowing where your department resources are is as important as learning tasks and skills
EVERYONE CAN PROMOTE AND SUPPORT CRITICAL THINKING

To encourage newly hired nurses in their orientation process, we all need to provide a supportive and nurturing clinical environment. We want team members who can answer the what/why/how/when of nursing process.

Here’s how you can help to create this environment.

1. Faster is not necessarily better, as long as it’s done correctly

   Does it really matter—in many situations—if it takes new hires a few minutes longer to get in the IV? Yes, you could have done it faster—but how fast did you do it when you were a new nurse?

2. Make no assumptions about skills

   If you are asked to check off a new hire on a skill, be sure you actually observe the performance of this skill and then ask:

   · Why does/did this patient need a _____?
   · How did you know the correct way to perform this?
   · Where did you find the information?
   · How will you tell if the procedure is helpful for the patient?
   · What and where will you document what you have done?

3. When you identify a challenging patient scenario or a procedure not commonly performed, invite the new hire to participate

   This will help increase the experience of the new hire, as well as help the team identify the new hire’s willingness to learn.
4. At shift change report ask prompting questions in a non-defensive manner

- What do you think is going on with this patient?
- Are you comfortable with what the provider told you after you spoke with him or her?

5. Observe new hires’ ability to prioritize and organize their assignments

- Is there a particular reason you have not done the pre-op teaching yet on Mrs. Jones?

- You look concerned. Is everything ok? Let’s go over your assignment and talk about priorities for the shift. I’d like to hear what you think are the most important issues in these patients and why.

6. When questions arise, do they know where to look for the answers or are they simply expecting coworkers to answer them?

- I am not sure about these medicines being compatible. How could you find out?

- When you are not sure whether a permit is needed for a procedure, where could you find that information?

Source: Shelley Cohen, RN, BS, CEN
Evaluating skills

As new nurses work their way through the orientation process, evaluating their ability to apply critical thinking in their clinical setting needs to be accomplished. Sometimes knowing what to do is as important as knowing what not to do. The preceptor needs evidence of new hires’ abilities to assess the needs of each patient.

The following should be assessed:

- Evaluate a patient’s health status: Are their patient assessment skills targeted to the patient’s presentation?

- Identify potential scenarios based on the patient’s health status: Are they aware of potential problems or complications this patient may be at risk for?

- Evaluate a patient’s response to interventions: Are they performing an appropriate reassessment? Can they identify if the patient is the same, worse, or better?

- Evaluate the need for higher skill level: If patient is not responding to intervention, do they know what to do next?

- Take action when indicated: Can they initiate actions needed by patients, such as standing orders? Are they able to prioritize these actions?

Handling judgment or action errors during orientation

In any moment of decision the best thing to do is the right thing, the next best thing is the wrong thing, and the worst thing you can do is nothing.

—Theodore Roosevelt

It is more encouraging to see an orientee taking action in the clinical setting than those who elect to do nothing about a patient situation. The fact that they are willing to do something shows they are making progress. And the reality is that an error of judgment may be made by an experienced nurse as well as a new graduate.
It’s important to understand that placing an experienced nurse in a new and unfamiliar clinical specialty area creates an opportunity for judgment or action errors, just as new graduates may make errors due to their unfamiliarity with nursing. Experienced nurses who have moved to a new clinical specialty will be exposed to unfamiliar medications, procedures, and age-specific considerations. For example, an experienced medical-surgical nurse who transitions to the intensive care unit is going into a world of very different patients. The nurse will be faced with extremely critical patients and will experience different situations and interactions with patients. He or she will have to interact with stressed and anxious families, while dealing with the fast-paced ICU environment.

Accept that errors will occur and lay the groundwork for making sure errors are handled in the correct manner. Preceptors and the entire peer group play a large role in the recovery process when errors occur, and should help ensure that incidents become an opportunity to develop critical thinking skills that will reduce such incidents in the future.

In addition, the response of the preceptor and peers to these scenarios will determine whether new hires feel supported during what is a challenging time for them. Nurses are often quick to “quarterback” incidents with comments about how “We would never have done that” or “I would never have done that first.” Remember that orientation is a time of learning, setting goals, and identifying areas of strength and weakness. Newly hired nurses should not be left with a feeling of “being chewed up and spit out” by their peer group.

All incidents can be used as learning experiences. When errors occur, they may reveal some positive attributes about the new hire:

- The nurse was willing to be held accountable and identified the error to you
- The nurse was grateful and appreciative that you pointed out the error
- The nurse requested resources for self-learning to better understand the red flags that he or she missed with the patient
• The nurse asked questions to better understand how the patient got to this point

• The nurse sought guidance in completing a reporting form if one was needed

Preceptors or mentors of new employees must identify the decisions that were or were not made by the nurse that reflect a lack of critical thinking. Once these are recognized, then the preceptor can become the teacher to guide the nurse as he or she learns so that a similar situation is not replayed in the future.

**Remediation**

Working with new hires on remediation after an event is a delicate job. How you handle the situation will greatly affect how much they learn, how they feel and whether they can accept what happened, and whether they develop their critical thinking skills so as to understand the situation.

These teaching qualities will help you have a successful interaction:

**Patience:** What is obvious critical thinking to you may not be for others. You may need to provide repetition in the learning process and allow time for the nurse to digest the information before requiring him or her to demonstrate understanding.

**Support:** Being supportive after an error in judgment does not mean you minimize the importance of what occurred. It simply reflects that you support the nurse. Some words to use to send a supportive and reassuring message include

• I understand you are upset about what happened with Mr. Smith

• I realize this material is all new to you—let’s go over it again

• Take a step back and look at all the things you have accomplished

• Good for you for recognizing and notifying me of the error—it takes courage and strong ethics to do so
Clarification: Define in writing for the new hire what you expect of him or her in light of what has occurred. If you discussed timelines, include those in the written expectations. For the new hire who simply does not have the capacity to apply critical thinking, it is essential that your documentation reflect what happened, what steps were taken, and what improvements were expected to occur so as to validate any future employment decisions. Examples of written expectations include

- all medication doses requiring calculations will be reviewed with the preceptor prior to administering to the patient.

- there will be no further incidents of patients signing out AMA without nursing documentation that “tells the story” of these events. The orientee will develop a list of other risk-management scenarios related to the department and present these at our next scheduled orientation meeting.

Realism: Keep in mind the reality of the situation. It is not about what you learned in nursing school or when you went through orientation years ago. It is about the present situation and the circumstances and experiences of the new nurse.

- Remember that not all new grads are clinically prepared at the same level

- Review critical thinking goals and timelines to ensure they are appropriate

- Recognize those nurses who may never be able to meet these goals successfully, and deal with the situation appropriately

Orientation sets critical-thinking expectations

The orientation process and critical thinking should go hand in hand. Orientation allows new hires to see how the critical thinking skills they learned in the classroom can be integrated into practice. It is the foundation upon which they can build on their development from novice to expert.
Successful critical thinking starts at the point of hire with the orientation process. It takes the entire team and each of these components to develop critical thinking.

Assess current critical thinking skills related to assigned specialty area

Assess current critical thinking skills related to general nursing principles

Educate clinical staff on how to assess and develop critical thinking

Reassess during clinical orientation and reevaluate ability to apply critical thinking skills

Source: Shelley Cohen, RN, BS, CEN
Maintaining momentum

Once nurses have finished with orientation, the journey to critical thinking becomes more subtle. After spending time and money to teach nursing staff about critical thinking skills, you probably have high hopes for seeing these skills translated into improvements in patient care. Yet if you do not create an environment that supports and motivates ongoing development of critical thinking, it is unrealistic to expect most staff to continue to practice it.

Immediately after completing a course on critical thinking, most experienced nurses will independently implement critical thinking in their daily practice. But without a setting that supports the ongoing development and use of these skills, nurses will easily fall back into practice patterns that do not involve a higher level of reasoning. New graduate nurses have no previous
Chapter 5

experiences or practices to fall back on, but the reality of practice may reduce their ability to think critically. How they are mentored and the role models of experienced nurses around them will determine what they will offer for patient care.

Nurses respond well to challenging work environments and practice settings that embrace critical thinking. Nurses who practice critical thinking operate at a higher level, meaning they are more likely to be stimulated and fulfilled professionally. This may be demonstrated by

- interest in committee involvement
- support for quality improvement efforts
- proactively seeking to attend ongoing education
- initiating more collaborate efforts with other members of the team
- early identification of acute changes in patients

In addition to the preceptor/mentor, the following people and practices play important roles in encouraging the ongoing development and implementation of critical thinking and practice standards. Identify the areas in which you can implement the most immediate change.

- Nurse manager

- Nurse educator

- Defining critical-thinking expectations in a written format through
  - job descriptions
  - clinical guidelines
  - policy and procedure

Nurse managers and staff educators

Newly hired and seasoned staff will look to nurse managers, as the leader of the department(s), to validate how much importance they should place on this “critical thinking stuff.” They will look to staff educators to provide leadership and ongoing education.
Nursing practice that promotes and motivates critical thinking

Nurse managers and staff educators should set expectations for critical thinking by expecting staff to have the ability to

- organize
- prioritize
- delegate
- practice safely
- apply reasoning when making decisions

These are the skills of nurses who have the ability to make appropriate decisions, and they will have been discussed through classroom sessions and during orientation. But if managers and educators do not maintain the momentum through a culture that requires ongoing development of critical thinking, your orientation efforts will fall short. You need to ensure a patient-care environment that nurtures critical thinkers, that stimulates them and motivates them to engage in a discussion in their minds. This discussion is all about one question: *Is this in the best interest of the patient?*

Take out one of your time sheets, and as you look down the list of names, ask yourself how you really feel about each nurse's ability to demonstrate these attributes. Use Figure 5.1 to assist you as you validate educational and remediation needs of individual staff. This tool also may be used by preceptors and senior staff—such as charge nurses—who are involved in assessing staff performance.
### Critical thinking skills assessment—Nurse manager/staff educator tool

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<th>Staff name</th>
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1. Asks pertinent questions
2. Assesses statements/arguments
3. Displays curiosity
4. Listens to others and gives feedback
5. Looks for evidence or proof
6. Examines problems closely
7. Rejects incorrect information
8. Wants to find answers
9. Independently thinks things through
10. Displays confidence about actions
11. Can analyze an argument
12. Looks at the evidence and facts
13. Considers consequences before acting
14. Recognizes contradictions
15. Evaluates policy and considers appropriateness for patient

Source: Shelley Cohen, RN, BS, CEN
Making critical thinking part of the culture

For critical thinking to be a part of your nursing culture, it has to be more than something that is simply “checked off” once a year. The concepts of reasoning should be ingrained in the following:

- job descriptions
- clinical guidelines
- policy and procedure
- performance reviews
- processes that incorporate goal setting

Job descriptions

Job descriptions that do not reflect the reality of what staff members actually do or are expected to do provide no foundation for staff accountability, but it is impossible to include every item, task, or responsibility that nurses will be expected to perform. Therefore, using terminology related to critical thinking sends a clear message that “other duties” may be required.

To improve the content of your job descriptions, consider

- Involving staff in the process of updating and reviewing job descriptions on a regular basis. Ask prompting questions to assist staff in this process:
  - What are you doing on a regular basis that is not on the job description?
  - What is on the job description that you no longer do?
  - What do you feel should be added that will help hold all nurses more accountable?

- Identify patient scenarios that demonstrated a lack of critical thinking:
  - Was there anything absent from the job description that made it difficult to hold staff accountable for their action or lack of action?
Chapter 5

- Were there practice standards related to the scenario that were not followed? If so, do the current job descriptions define the expectation that staff members are responsible for maintaining a current knowledge base for the specialty in which they provide nursing care?

Job description examples

- Nurses will use critical thinking skills to determine action needed for risk management concerns such as medical restraint of patients, violent or combative patients, visitor or family behavior, and/or suspected abuse or neglect.

- The reassessment process for critically ill patients who are post cardio-pulmonary arrest recovery. Critical care nurses are expected to critically think through the needs of each post-arrest patient who may require more frequent monitoring than policy dictates.

- Critical care nurses will use critical thinking skills when implementing evidence-based practice into the care of the patient.

- Critical care nurses will use critical thinking skills to manage their workload and offer support to other team members as indicated by patient acuity and staff skill mix on the unit.

Clinical guidelines

We all know staff members who attend training events and seminars, yet do not have the ability to apply what they learned in the clinical setting. An example of this may be the nurse who successfully passes the ACLS written exam and the testing stations, yet he or she is disorganized and lacks knowledge in an actual resuscitative event. The same principle applies to critical thinking concepts. The nurse may have been taught critical thinking principles, yet when performing patient care he or she does not appear to “have it together.” This may present itself as disorganization or even in an actual patient error from a lack of judgment.
Nursing practice that promotes and motivates critical thinking

Clinical guidelines—also referred to as care paths and clinical pathways—provide evidence-based interventions and direction to set standards of practice for specific patient clinical presentations. These models require the nurse to use reasoning and prioritization to determine when to take each step in the guideline. (If nurses are unable to follow clinical guidelines, they need remediation and further help.)

The implementation of clinical guidelines demonstrates the use of standards of practice, as well as implying that nurses possess the critical thinking needed to apply the guidelines.

Policy and procedure
When relating policy and procedure to critical thinking, you should expect nurses to grasp the following:

- Know where policies and procedures are kept
- Read the policies and procedures
- Understand what each policy is asking/requiring
- Identify the patient/situation for which to engage each policy or procedure

Policy and procedure examples

Reassessment of the critically ill patient
The ICU nurse will use critical thinking skills in determining what aspect of the patient's presentation requires reassessment, and how often this should occur and be documented.

Patient visitors in the ICU
The ICU nurse will employ critical thinking to identify those situations that may require an exception to the visitor policy. These scenarios may include a patient death or impending death, a victim of abuse/neglect, a family member also ill or injured, etc.
**Employee name:** ____________________________ **Date of self-assessment:** ______________________

Please rate your ability to apply critical thinking in the following areas:

5 = I always do this  
4 = I do this most of the time  
3 = I sometimes do this  
2 = I rarely do this and realize I need to be more aware in this area  
1 = I never do this and realize I need some help to improve on this

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<tr>
<td>1.</td>
<td>I ask pertinent questions.</td>
<td>5</td>
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<td>2.</td>
<td>I assess statements/arguments before making decisions.</td>
<td>5</td>
<td>4</td>
<td>3</td>
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<tr>
<td>3.</td>
<td>I am always curious about things and want to learn.</td>
<td>5</td>
<td>4</td>
<td>3</td>
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<td>4.</td>
<td>I listen to others and give feedback.</td>
<td>5</td>
<td>4</td>
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<td>5.</td>
<td>I look for evidence or proof before doing what someone else says I should do.</td>
<td>5</td>
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<tr>
<td>6.</td>
<td>I examine problems closely.</td>
<td>5</td>
<td>4</td>
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<td>7.</td>
<td>I know when information is incorrect and I reject it.</td>
<td>5</td>
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<td>8.</td>
<td>I want to find answers.</td>
<td>5</td>
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<td>9.</td>
<td>I independently think things through.</td>
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<td>10.</td>
<td>I am confident in my actions.</td>
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<td>11.</td>
<td>I can analyze an argument.</td>
<td>5</td>
<td>4</td>
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<tr>
<td>12.</td>
<td>I look at the evidence and facts.</td>
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<tr>
<td>13.</td>
<td>I consider consequences before acting.</td>
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<td>14.</td>
<td>I recognize contradictions.</td>
<td>5</td>
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<td>15.</td>
<td>I evaluate policy and consider its appropriateness for the patient.</td>
<td>5</td>
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Source: Shelley Cohen, RN, BS, CEN
Performance reviews

The annual review is an opportunity for the manager to reinforce expectations regarding critical thinking with each member of the nursing staff. Again, Figure 5.1 can be used or adapted to outline areas of strength and weakness for each nurse. You also may want to have the nursing staff perform a self-assessment of their ability to think critically prior to the annual review. Figure 5.2 is an example of a self-assessment tool.

This self-assessment tool can be compared to the worksheet you prepared for the employee’s performance review and the employee’s goals for the coming year (Figure 5.3 can be used to plan short- and long-term goals), and can be specific to discuss judgment and reasoning when appropriate. Other benefits of staff performing a self-assessment of their abilities are:

- It details specific expectations from both you and the patient
- In the process of completing the tool, questions should and will arise regarding critical-thinking concepts, prompting further discussion
- It requires them to consider specific patient scenarios when they have actually displayed these abilities

As you and the nurse identify areas that need improvement, first prompt the nurse to offer suggestions and resources before you do. Remember, part of your role is to coach staff—if you provide all the answers all the time, you are stifling their critical thinking.

Goal setting

When staff demonstrate unacceptable behavior or unsafe patient practices, take the opportunity to discuss the importance of critical thinking. From point of hire to annual review to daily patient care, judgment will always play a central role. When setting new goals in response to unacceptable behavior or unsafe patient events, relate the goals to the nurse developing better judgment and displaying higher levels of critical thinking.

Figure 5.4 contains examples of what to consider saying and how to document the conversation and conclusions reached.
### Goals worksheet

**Name:**

**Job title:**

**Today’s date:**

#### Short-term goals

In the next year, I would like to do the following:

- Add _________________ to my job description
- Take _________________ continuing education classes
- Work on projects related to improving _________________

#### Long-term goals

In the next 2–5 years I would like to do the following:

- Have completed _________________
- Make these changes in my job _________________
- Have accomplished _________________
- Obtain certification in _________________

*Source: Shelley Cohen, RN, BS, CEN*
Nursing practice that promotes and motivates critical thinking

Figure 5.4

Setting goals for improvement

Should Nancy present to the department late on another shift between today’s date and _____ she will know that

• an off-going shift member will be delayed
• an oncoming shift nurse will have to take an additional assignment
• patient care will be directly affected

Nancy has the ability to critically think through the ramifications for when staff do not present on time for their shift and she has outlined these in our meeting today.

Timothy is aware of the resources available to nurses in the department when they are in need of detailed medication information. He agrees that if he had looked up the information on ______ and applied nursing judgment, the patient would not have been given the dose.

Timothy will demonstrate appropriate nursing judgment when administering medication by

• using available resources in the department such as reference books by or calling the pharmacy.

• successfully completing a written medication assessment tool, achieving a grade of 90% or better. This will be done within the next 15 days.

• having the charge nurse check all calculations for medications for the next 30 days.

Source: Shelley Cohen, RN, BS, CEN
Chapter 6

Novice to expert: Setting realistic expectations for critical thinking

LEARNING OBJECTIVE

After reading this section, the participant should be able to

- analyze the challenges that both new and experienced nurses face in the incorporation of critical thinking skills in the practice setting
- explain interventions to help both new and experienced nurses meet their managers and preceptors expectations for critical thinking

Setting realistic expectations

As you approach and consider methods not only to teach but also to motivate critical thinking, it is essential that your expectations meet the abilities of the nurse. The last thing you want is an environment that creates fear of critical-thinking expectations. We want staff to embrace the concept, confident in their abilities to develop their thinking and reasoning skills.

Align your expectations more with what it is realistic to expect from nurses, rather than what you hope they can do. As you set your expectations, consider each nurse’s potential, opportunities to perform, opportunities to reach goals, and the outcomes you hope each nurse will achieve.
Make sure your expectations are

- realistic
- supported with appropriate tools and resources
- appropriate for the specialty area in which the nurse works
- flexible to meet a variety of learning needs
- clarified in writing
- related to the performance review

**Novice to competent: New graduate nurses**

It may seem obvious that the expectations for critical thinking displayed by new graduate nurses would not be the same as those for experienced nurses. Yet many new graduate nurses are facing peer groups who have already decided what they should/should not know. Preceptors, nurse educators, and nurse managers are the ones who must set the expectations for new graduates, not the experienced nurses on the unit. Preceptors, nurse educators, and nurse managers should be the ones who communicate the expectations for new graduates to the rest of the staff.

When new graduate nurses join the unit, use the opportunity for the team to consider the experience of new nurses and what new graduates have to cope with. Include the following points in the discussion to enlighten staff and help them have a better understanding of why the expectations on new graduates are different today than they were in previous decades:

- Many students today have fewer clinical opportunities than most current nurses had in school.
- Students today have to contend with a chronic shortage of nursing faculty across the country.
- Many nursing schools “teach to the boards” and great focus is placed on successful completion of the NCLEX.
Novice to expert: Setting realistic expectations for critical thinking

- Students’ limited clinical time may not have exposed them to challenging patients similar to those seen in your environment.

- In years past, nurses gained several years of experience before becoming specialty nurses. Now many enter a specialty straight out of school.

Let it be known that you will not tolerate staff members who are unwilling to accept today’s realities for new graduates. Do not allow statements such as, “Back in my day we were expected to . . . ” The manager, preceptor, and educator need to promptly address individuals who make such comments so the message is clear: This is unacceptable behavior. Work together to script appropriate responses that hold those individuals accountable, such as, “We are not practicing 1962 nursing care here. Are you?”

As new graduates move further along and out of their orientation period, assist in the transition from novice staff nurse to competent staff nurse by considering the following:

- Use tools that allow new graduates to self-assess their level of critical thinking

- Reevaluate decision-making skills throughout the orientation process

- Promptly clarify all questions regarding expectations

- Promote a culture and environment that encourage critical thinking

- Remember that critical thinking is a process that develops and grows throughout the career

- Bear in mind that new graduates who do not employ critical thinking in their personal lives will face the greatest challenges in incorporating it into their nursing care
Greatest challenges for new graduate nurses

Among the many challenges new graduates will face—and obstacles to the development of their critical thinking—are the patients in their care who have bad outcomes and the providers who are unwilling to collaborate with them. The first makes them ask the question, “What should I have done?” The second makes them unwilling to use their critical thinking skills, because they feel they are not needed.

The first year after graduation is a time for education, and care must be taken that new graduates are not frightened to make a decision or feel constantly indecisive in the care they provide.

Coaching new graduates through bad patient outcomes

• Allow them to grieve through their error or omission. Whether patients are in their care for one hour or one week, in their minds, they are still “my patient.”

• As nurses we tend to beat ourselves up when we make a medication or other error. After we are done whipping ourselves, we move on. New graduate nurses need time to go through a process where they review what happened and how they would approach it differently next time. Our job is to coach them away from the blame and move them toward learning experiences.

• Provide them with more than one opportunity to sit with a supportive mentor or preceptor to review the scenario that led to the patient outcome.

• Make sure you are the person who debriefs the nurses. Don’t expose them to the nurse who says, “I told you this would happen if you let new grads in here.”

• Even if the bad outcome was not related to something they did or did not do, they still may feel like it was their fault. Coach them that a guilt trip will not change the outcome of the scenario.
Novice to expert: Setting realistic expectations for critical thinking

• If they are not willing to take responsibility or accountability for something they did or did not do for the patient, recognize this as a patient safety warning. These nurses will require further assessment of their critical-thinking capabilities and ongoing involvement with the nurse manager.

Growing collaborative relationships with the medical staff

Working with the medical staff can be intimidating for new graduates if steps are not taken to develop relationships. Simple steps can help promote the new relationship and build a basis of good feeling so that both sides may build trust.

• Have someone introduce new graduates to the medical staff as they arrive on the unit.

• If medical staff members have had previous negative experiences with new graduate nurses, make time to discuss the critical-thinking training you are providing these new graduates.

• Circulate a memo to the medical staff introducing the new graduates and briefly outlining expectations, the critical thinking training, and names of the preceptors.

• Ask the members of the medical staff to think back to their own internships and remind them that critical thinking will develop with their support.

• If the new graduates are in a specialty area, see if they can spend some shifts in the offices of those specialties where they can observe and work alongside the practitioner.

• In your critical-thinking training, include scenarios that allow novice nurses to explore options for how to respond to challenging times and conversations with providers. This is part of teaching them how to respond professionally to any challenge in the healthcare environment.
Growing collaborative relationships with the interdisciplinary team

New graduates also face expectations from other team members, which may include ancillary services such as radiology, respiratory therapy, laboratory, and pharmacy. Build a pattern of success for new graduates nurse by communicating with other services:

- Dates of new graduates’ arrivals and the departments/areas to which they are assigned
- Include time for new nurses to partner with other services
- Discuss the time frame of the orientation process and give a list of realistic expectations related to their services
- Incorporate interdisciplinary team members’ skills and experiences as part of the new graduate’s education by including them as faculty for classroom time

When new graduates fail to reach competent levels of critical thinking

For managers and preceptors, one of the greatest challenges is when you are confronted with newly graduated nurses who just don’t seem to “get it.” There will be times, despite your best efforts and resources, when the concept of critical thinking will not be grasped in a realistic time frame. This situation must be addressed promptly to be fair to the newly hired nurse, the preceptor, the staff, and, of course, the patients.

While it’s important to understand the emotional elements involved for new graduate nurses, this does not change the fact that the level of nursing practice being displayed is unsafe and unacceptable. It is misleading to allow the new graduate to carry on believing that “things will just work out.”

Key steps to take when new graduates are not progressing with critical thinking development include:

- Identifying early on those new graduates who are not meeting expectations
- Defining which expectations they are not meeting and providing examples
Novice to expert: Setting realistic expectations for critical thinking

- Offering and providing remediation with new expectations and a written timeline for meeting the expectations
- If remediation does not change nursing practice, the manager should meet with human resources to determine the next appropriate step

For new graduates who continue to fail to progress, consider options such as these:

- Transferring the nurse, depending on his or her weaknesses, to a department outside of the intensive care unit that has
  - less-complex patients
  - fewer multitasking skills needed
  - fewer unplanned scenarios
- Extending the probationary period
- Collaborating with faculty from his or her school of nursing for mediation direction

In all of this, do not disregard your obligations to patients and the State Board of Nursing as they relate to patient safety.

Competent to expert: Experienced nurses

Many of the principles that relate to new graduate nurses also apply to those with more experience. One of the challenges with experienced nurses is that many in the peer group have higher expectations and often believe these expectations are being met, even if they have no evidence to show this. For example, they see the experienced nurse demonstrate a particular skill or task well, and then assume all the nurse’s skills are at that level. This type of assumption can be dangerous, and can mean experienced nurses receive less support and training for them to develop their critical thinking skills.
Once again, it is important to define realistic expectations for all newly hired nursing staff and establish timelines for when they should accomplish these expectations.

When experienced nurses join your unit, remind the team of the following concepts:

- Just because someone successfully completes an ACLS course does not mean he or she can function in a cardiopulmonary-arrest situation
- If team members do not share concerns related to new nurse performance with the preceptor, educator, or manager, then issues cannot be addressed
- Doing a procedure faster does not imply you understand why you are doing it
- People can “talk” a great story; the test is whether they can perform at that level
- If staff nurses don’t get involved in the process of orienting newly hired nurses, we cannot truly assess their abilities to think critically and act critically

In addition to experienced nurses who have just joined the unit, you should also assess and support the critical thinking development of nurses who have long been there.

Use assessment tools such as Figures 4.1, 4.2, and 5.2 to validate the ability of experienced nurses to apply critical thinking in their practice settings. For those who are unable to demonstrate their ability, initiate a remediation process in conjunction with the nurse manager.

**Handling experienced nurses who need remediation**

When you are confronted with seasoned nurses who are unable to meet your expectations, consider the following:

- If a new hire, do they need a different preceptor?
- If a new hire, are they still in their probationary period?
- Is there one area in which they are unable to attain a skill, or is it an overall care issue?
- If they have been staff members for a while, how has this been handled in the past?
Novice to expert: Setting realistic expectations for critical thinking

Your facility needs to use consistency when addressing this sensitive issue. If nurses are long past the orientation period and are not meeting critical-thinking expectations, find out how this has been handled with other nurses in the past. You may want to set a new precedent for how it will be handled in the future.

Because the ability to think critically is one that is ongoing and constantly being developed, it requires ongoing reevaluation. For example, just because the nurse you hired four years ago demonstrated good strategies in nursing care when he or she was hired, does not mean he or she still practices within those same principles. Consider these elements that occur in your patient care areas:

- New procedures
- New evidence and research that demonstrates a different approach to particular diagnoses
- The multitude of new medications added to the formulary each year
- New standards of practice from regulatory agencies and authorities

With this list in mind, and considering that healthcare is in constant flux, it makes sense to design a process to continually reassess nurses’ ability to think critically. You can directly involve staff in this process by

- incorporating critical-thinking language and expectations in written documents such as policies and procedures, employee handbook, clinical pathways/guidelines, job descriptions, performance reviews
- having staff review these written expectations annually and offer suggestions for change
- having staff complete self-assessment sheets (see Figures 4.1, 4.2, and 5.2)
- requiring staff to present examples of how they have displayed critical thinking in their patient care at their performance reviews
Chapter 6

Measuring critical thinking in daily practice

How do you know whether nurses are thinking critically in their practice? Regardless of their level of experience, once they have completed orientation and have been “checked off” you are implying they no longer need daily precepting. You are making a statement that they have demonstrated the ability to meet their job description. If you do not feel they can perform their job description/requirements independently, then the orientation process needs to be extended.

Demonstrating they can think critically is more than being checked off on being able to perform a task or procedure. Use and adapt the sample tools throughout the book—such as Figure 4.4, which assesses their ability to think through what patients are telling them—to evaluate their level of performance. Using standard criteria for the evaluation will help you validate whether critical thinking is part of their nursing practice, for both experienced and inexperienced nurses.

Examples of demonstrating critical thinking

Critical care nurses demonstrate critical thinking by

- identifying early signs and symptoms of hypovolemic shock in a patient with a recent history of aspiration
- asking every parent safety questions to identify risk factors in the home environment
- evaluating the intake and output of patients
- asking the provider if he or she noticed the bruises on the patient’s extremities
- obtaining information about the family system and cultural beliefs during the assessment process
- recognizing the behavioral signs of chemical abuse in both the patient and their provider
Turning critical thinking into critical writing

Critical writing is as important as critical thinking. Good documentation is a vital part of patient care and nurses need to be able to validate in the written medical record what they did or what they chose not to do. We think of the medical record as a storybook that tells what happened to the patient from the point of entry into the healthcare system to the point of exit from the system. With all of today’s risk management and legal concerns that challenge healthcare delivery systems as well as the caregivers, it is vital to demonstrate steps and actions taken to support the patient.

Identifying a patient problem, potential consequences, and necessary actions are vital elements of critical thinking for nurses. However, without appropriate and timely documentation, there is no written record of what has occurred.
Transforming critical thinking into the written format provides

- a legal record to support a nurse’s
  - identification of a problem
  - actions taken in response to the problem
  - patient outcomes related to any intervention
  - collaboration with other members of the healthcare team
  - compliance with nursing standards of practice

- a timetable of the events to reference as a tool in determining ongoing care and needs of the patient

- validation of the nursing process that incorporated critical thinking
Applying critical thinking to nursing documentation

Figure 7.1

Eight common charting errors

Accurate and complete nursing documentation is essential for demonstrating compliance with standards, delivery of state-of-the-art nursing care, and the ability to communicate effectively with everyone involved in patient care. Therefore, it is important to recognize common charting mistakes and ways to educate your staff about them.

Charting mistakes can lead to allegations of negligence. The following list describes the eight most common charting mistakes, along with how and why you should avoid them.

1. **Failure to document pertinent health or drug information**

Nurses conducting admission assessments are responsible for acquiring all pertinent health data that will influence the plan of care. As silly as this mistake may seem, nursing admission assessments and transfer notes are often left incomplete.

Good history-taking skills are especially important during the initial admission assessment, as the assessment is important to the safety and well-being of the patient. Any health information that is not gathered when taking the history or not documented in the appropriate location on the clinical record can lead to adverse consequences.

To avoid this kind of mistake, ensure that your staff members know how to take thorough histories and focus particularly on patients who cannot communicate effectively, are poor historians, or have dementia. Remind staff members to document conversations with significant others, the transferring agency, or any other source of information. Provide them with continuing education regarding communication skills needed to ascertain a complete and thorough patient history.

Also ensure that any important health or medication information is documented and communicated to others effectively. Neglecting to communicate an important piece of patient information can leave a nurse open to allegations of negligence. To avoid this, record the information in all of the locations designated by your policies. Also, encourage the use of bright labels and other accepted means of communicating the information.
2. Failure to record nursing actions

There needs to be a way to communicate every nursing action, and nurses must get into the habit of documenting them as close as possible to the time they occur. Unfortunately, charting is often left to the end of many nurses’ busy days. This is not a good habit, but often difficult to break. Here are some guidelines to follow:

- Record all observations, assessments, and actions on the flow sheet or designated form.
- You must chart as close to the time as possible, even if it is a one- or two-line entry.
- Reduce redundancy and only chart the fact once. You do not need to repeat the same data in more than one place. Just be sure it can be found in the clinical record. If there is redundancy in your documentation system, revise it.

3. Failure to record medications given

This may seem obvious, but how many times have you reviewed a medication administration record (MAR) and found that the previous shift’s nurse said in his or her report that the patient had been medicated even though you could not find it documented in the medical record?

Avoid nursing negligence by recording all medications given and the rationale for those not given, even if you may perceive them as insignificant. Always investigate when you suspect that a medication may have been administered but not recorded.

4. Recording on the wrong chart

Sometimes, a simple mistake of misfiling can lead a nurse to chart on the wrong patient. Staff are especially vulnerable to this error when patients with similar names are on the same unit, so you need a system of identification that is clear and as foolproof as possible.
Applying critical thinking to nursing documentation

Errors in this category include

• transcribing medication orders onto the wrong patient’s chart.

• writing progress notes without confirming the accuracy of the chart you chose. To prevent this error, look at the external name on the chart and always look at the name stamped at the top of the document.

Whenever possible, do not assign the same nurse to patients with the same name. And always ensure compliance with the National Patient Safety Goal that refers to proper patient identification prior to procedures and medication administration.

5. **Failure to document a discontinued medication**

Nurses are responsible for ensuring safe patient care at all levels. When a medication has been ordered to be discontinued, the change must be appropriately noted according to policy and communicated to the next shift’s nurse. Nurses also need to comply with the organization’s policies concerning cross-checking the physician orders with the MAR. Doing so can prevent serious complications.

6. **Failure to document drug reactions/changes in patient’s condition**

The literature on “failure to rescue” points to this potential error. Nurses are responsible for the assessment of a patient’s reaction to medication and for the identification of any change in a patient’s condition. They must have the skill and knowledge to anticipate the clinical needs of a patient. They must also possess critical thinking skills to intervene appropriately in any adverse reaction or worsening of the patient’s condition. But performing this assessment, identification, and intervention is not enough. Nurses must also document that they have done so.
7. Improper transcription of orders or transcription of improper orders

The registered nurse can be held liable for transcribing improper doses that led to a patient's injury. The nurse can also be held liable for transcribing and carrying out an order they know to be inaccurate or suspect to be incorrect.

If the nurses discuss both the order and their concerns with physicians, they must document these conversations. In addition, if nurses still maintain that administration of the medication or proceeding with a procedure is not in the best interest of the patient, they must activate the chain of command and document that as well.

In contemporary nursing practice, all nurses must know medications or research a new medication prior to administration. If a nurse is not familiar with a procedure and does not seek supervision or assistance with it, questions of clinical competence and ensuring patient safety will come into play if there is any question of malpractice. The public expects that we will continue to keep our professional skills and knowledge up to date. Falling short of this will put a nurse in a difficult position from which to defend her- or himself.

8. Writing illegible or incomplete records

Illegible handwriting is no longer tolerated by regulatory and accreditation surveyors. With the goal of improving patient safety, the days of laughing at someone’s handwriting are over. All providers who document in the clinical record must ensure that what they have written is readable. Should the clinical record be reviewed, it is essential that the author of the record be able to clearly read it. Some hospitals have instituted illegible handwriting policies to improve compliance with legible-documentation standards and to improve patient safety.

Examples of critical writing skills

The following are examples of the application of critical writing skills in patient documentation.

**Patient case 1**

You are working in the surgical ICU and are caring for a patient who is recovering from a motor vehicle crash from a week ago. The patient is a 50-year-old male. His only medical history is obesity. He is on RA and on cervical and thoracic precautions.

The documentation shows that the ICU nurse used critical thinking. Patient presentation had changed and appropriate interventions were performed. Realizing respiratory distress, the nurse provided the patient with supplemental oxygen. Realizing the need to elevate the head, but also maintaining spinal precautions, the nurse placed the patient in the Reverse Trendelenberg position. The nurse was proactive in promptly notifying the physician and respiratory therapist of a change in clinical presentation.

Furthermore, the nurse correctly reassessed the patient after performing the documented interventions.
**Patient case 2**

The ICU nurse is caring for a 54-year-old male who has been admitted to the coronary ICU due to chest pain.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Mr. Smith with complaint of chest pain 9/10. Vital signs as follows: HR 90 bpm, irregular, BP 140/60, RR 26, regular. Two liters of oxygen provided via nasal canula and 2mg morphine IV given per standing order protocol.</td>
</tr>
<tr>
<td>08:10</td>
<td>Dr. Cairns notified of patient’s complaint of pain, vital signs, and administered oxygen and morphine. 12-lead EKG and nitroglycerin drip ordered.</td>
</tr>
<tr>
<td>08:15</td>
<td>12-lead EKG performed per physician order. Nitroglycerin drip initiated at 50mcg/min per physician order. Patient complaint of chest pain 5/10. Vital signs as follows: HR 72 bpm, regular, BP 122/50, RR 24, regular. Cardiac enzymes obtained per physician order.</td>
</tr>
<tr>
<td>08:20</td>
<td>Dr. Cairns notified of 12-lead results and vital signs reassessments.</td>
</tr>
</tbody>
</table>

The ICU nurse demonstrates critical thinking skills by obtaining all pertinent information before reporting results. Standing-order interventions (oxygen and morphine) are immediately performed. Clear communication to the provider was done effectively and quickly. Furthermore, the nurse performed a reassessment of all pertinent findings and reported these to the provider.

**Patient case 3**

The ICU nurse is caring for a patient whose status is post small bowel resection in the surgical ICU.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:20</td>
<td>Mr. Simpson arrived to surgical ICU from PACU. Patient noted to be combative and verbally abusive, stating, “Stay away from me” and “Get your hands off me.” Patient denying any pain, but swinging arms violently. 10 liters non-rebreather mask administered to patient. 2mg of morphine IV and 2mg midazolam IV given per standing orders. Arterial blood sample drawn per standing order protocol.</td>
</tr>
<tr>
<td>09:25</td>
<td>Dr. Mason notified of combative nature of patient, of interventions performed, and of ABG results.</td>
</tr>
<tr>
<td>09:30</td>
<td>Patient continues to be combative. Hospital police called to help restrain patient. Dr. Mason at bedside. Patient sedated and intubated by anesthesia.</td>
</tr>
</tbody>
</table>
Applying critical thinking to nursing documentation

The ICU nurse has related events of potential or actual violence/harm to the patient or others. Documentation of performed intervention demonstrates that the nurse has identified the patient interaction could be attributable to hypoxia and appropriate interventions were performed.

**Patient case 4**

A 60-year-old male patient with septic shock and Acute Respiratory Distress Syndrome (ARDS) is in the medicine ICU. The patient is ventilated and on multiple vasopressors and antibiotics. Despite aggressive medical therapies, the patient continues to decompensate.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:36</td>
<td>Entered room 2720 to find patient’s wife, Mrs. Pardus, crying inconsolably. Mrs. Pardus stated “I just don’t know what to do. I don’t think he would want to live like this.” Patient’s wife comforted and encouraged to verbalize her concerns. Mrs. Pardus verbalizing her desire to speak with the doctor and a chaplain.</td>
</tr>
<tr>
<td>10:45</td>
<td>Dr. Doerflein and hospital chaplain paged. Mrs. Pardus’ concerns expressed and family conference arranged for 1600.</td>
</tr>
<tr>
<td>16:30</td>
<td>Mrs. Pardus, Dr. Doerflein, Chaplain Price, and myself met. Dr. Doerflein verbalized patient’s prognosis as being very poor. Mrs. Pardus comforted by myself and Chaplain Price. After discussion, the decision was made to provide patient comfort care only.</td>
</tr>
</tbody>
</table>

Documentation reflects nurse’s use of critical thinking in recognizing the patient’s family member was not seeing the aggressive care as being an acceptable outcome. By understanding that what is important to the family is a significant part of patient care, the nurse has synergized optimal patient outcome.
In nursing, we tend to work toward achieving goals as the end of a process, when many times meeting the goal is just the beginning. In this book, Polly Gerber Zimmermann reminds us that learning to think critically is a journey, not a destination. The foundation of critical thinking skills you build for nurses will be directly reflected in your ability to continue on this path. The ability to meet the needs of our patients is a moving walkway that seems to go on forever. Each specialty of healthcare delivery is faced with having to provide care to more patients at a faster pace with fewer resources.

Whether you work in acute care, rehab, home health, or medical-office settings, or in any other environment, nurses are the people patients and families turn to. They turn to us for clarification, guidance, hope, and the truth.

While driving home from the hospital, I was listening to a postal worker in New Orleans being interviewed on public radio. The postal worker was delivering mail to a district recently reopened after Hurricane Katrina. The interview went along these lines:

**Q: What kind of challenges are you facing with this delivery area?**

*A: Well, there are lots of challenges, such as the debris and trash.*

**Q: Is it difficult to tell whether or not it is the right house you are delivering to?**

*A: If the number is no longer there or the mailbox is gone we are supposed to use deductive reasoning to determine if it is the right house. For example, I might look to see if it is a consecutive number.*
Chapter 8

This interview reminds us that we use critical thinking in our daily lives without realizing it. For example, we think critically

- at the grocery store to determine if the sale price is really a sale or just a cheaper price on a smaller container

- when our child tells us, “I did study for that exam,” yet you never saw a book in his or her room

- at the dentist office when we decide whether to pay to fix the tooth or have it pulled

We cannot continue to improve the quality of care we deliver without engaging our reasoning. The ability to reason and consider actions or inactions is a feature of critical thinking that provides a safe patient-care environment. Recognizing the best interest of the patient is paramount in quality-improvement processes. As you consider all of the efforts in which your organization is engaged regarding meeting regulatory standards remember this:

Staff members cannot meet the needs of patients if they cannot recognize those needs.
Chapter 9

Resources and tools

This chapter contains additional tools and resources to assist you in assessing and developing ICU nurses’ critical thinking capabilities at the point of hire, during orientation, and through ongoing development and review. This chapter contains

• a list of further reading and resources

• additional sample ICU-related questions

• Figure 9.1, which is a handout that can be given to attendees of a general nursing skills critical thinking class who want further information and study materials

• Figure 9.2, which contains ICU unfolding teaching scenarios that can be used for discussing critical thinking

• Figure 9.3, which contains examples of ICU teachable moments

• Figure 9.4, which contains additional ICU case studies

• Figure 9.5, which is a sample general nursing skills critical thinking class agenda that can be customized for any facility

• Figures 9.6–9.12, which are ICU-related worksheets that can be used or adapted for critical thinking classes, during orientation, or for ongoing critical thinking development.
Chapter 9

Resources and further reading

Publications


Chapter 9


Web sites

Enchanted Learning: www.enchantedlearning.com
  - Anatomy diagrams/glossaries and more

North Central Regional Educational Laboratory (NCREL®): www.ncrel.org
  - Resources defining critical thinking

The Advisory Board Company: www.advisory.com
  - Multiple resources: search under new graduate nurse

National Council of State Boards of Nursing: www.ncsbn.org
  - Access to all state Boards of Nursing rules and regulations

Healthy People 2010: www.HealthyPeople.gov
  - Federally funded series of national health objectives that aims to identify preventable threats to health and set goals to reduce them; look for professional resources including sections on the Best Practice Initiative, Implementations, and Leading Health Indicators

American Nurses Association: www.NursingWorld.org
  - Information on many issues facing the professional nurse today

Foundation for Critical Thinking: www.criticalthinking.org
  - Non-profit organization that works to promote educational reform and promote critical thinking; non-healthcare specific

Medi-Smart Nursing Education Resources: www.medi-smart.com
  - Offers a variety of learning programs and opportunities for nurses
  - Go to www.medi-smart.com/tut-11.htm for critical care online learning modules
Resources and tools

Pulmonary Artery Catheter Education Project: www.pacep.org
  • Online learning module for understanding pulmonary artery catheters

American Association of Critical-Care Nurses: www.aacn.org
  • Professional association for critical care nurses

The Cochrane Collaboration: www.cochrane.org
  • A regularly updated evidence-based healthcare database

Additional sample questions

Source: Eric Wolak, BSN, RN, CCRN

These questions may be used either for discussion or for a test. Remove answers before providing them to learners. (File can be found under “Questions” on the accompanying CD-ROM.)

Question: While helping a new orientee pull a patient up in the bed, you notice that after she lowers the side rail, the low-pressure alarm on the ventilator is activated. After this event, the orientee is concerned that she would not have known what to do if you had not been in the room. What would be the best course of action to treat low pressure if the cause were not immediately evident?

  a. Suction the endotracheal tube
  b. Increase the FiO₂ from the ventilator
  c. Increase the tidal volume from the ventilator and call respiratory therapy for assistance
  d. Remove the ventilator and use a manual resuscitator (e.g., Ambu bag) until assistance arrives

Answer: D

Any time a ventilator is alarming from an unknown cause, the critical care nurse should always manually bag the patient. This action has a two-fold advantage: 1) it bypasses a malfunctioning ventilator, and 2) it allows the critical care nurse to assess the function of the endotracheal tube.
Whenever you are manually bagging a patient, always look for chest rise. This will be a probable indicator of appropriate ventilation.

**Question:** After administration of midazolam, the patient's respiratory rate decreased from 40 to 10. What is the possible effect of this change in respiratory rate?

a. Development of metabolic acidosis  
b. Development of a respiratory acidosis  
c. No major effect will occur as long as the SpO₂ is normal  
d. No major effect will occur as long as the ventilator rate is maintained at least at 10

**Answer:** B

A primary means by which the body regulates blood pH is through the respiratory system. As we exhale, we blow out CO₂. Carbon dioxide is an acid, so the more we have in our body, the lower our pH will go. If someone's respiratory rate decreases substantially, the amount of carbon dioxide in his or her body will increase (since they are not blowing it out). This will cause a respiratory acidosis. Metabolic acidosis typically occurs in the kidneys through increased excretion of bicarb. This takes a while to have an effect on the body. SpO₂ demonstrates how much oxygen is bound to hemoglobin and has no direct relationship to blood pH.

The critical care nurse uses critical thinking to relate how multiple processes interrelate. In this situation, the critical care nurse uses critical thinking to anticipate a respiratory acidosis as a consequence of decreased respiratory rate.

**The next two questions refer to the following scenario:**

A 38-year-old female is on your unit with a fever of unknown origin. She became acutely short of breath on the step-down floor and was transferred to your unit. She required intubation and mechanical ventilation when her shortness of breath could not be relieved. Her present ventilator settings are assisted mandatory ventilation (AMV, assist/control), rate 12 (total rate 34), tidal volume 700mL, FiO₂ 0.7. Her mental status is confused and she is restless and pulling at her tubes, requiring her to be restrained. She currently has the following vital signs and laboratory data:
Blood pressure 136/82mmHg
Pulse 127
Respiratory rate 34
Temperature 38.8 degrees Celsius
PaO₂ 65
PaCO₂ 34
pH 7.31
HCO₃ 17

Question: One of your fellow nurses states that in systemic inflammatory responses, as in the preceding situation, oxygen consumption and energy requirements are increased. Which of the preceding pieces of information suggests that this patient has increased energy expenditure and oxygen consumption?

a. Respiratory rate of 34 and PaO₂ of 65
b. Respiratory rate of 34 and temperature of 38.8 degrees Celsius
c. PaO₂ of 65 and temperature of 38.8 degrees Celsius
d. All of the above

Answer: B
The nurse should use critical thinking and apply his or her knowledge of physiology to the change in the patient’s condition. Increased energy expenditure will occur with any increase in patient movement or metabolism (e.g., restlessness, tachypnea, tachycardia, fever). The PaO₂ demonstrates how well (or poorly) someone is oxygenating—it does not provide any information on metabolism.

Question: Which of the following therapies would be designed to help reduce the energy expenditure in this patient?

a. Changing to intermittent mandatory ventilation (IMV) from AMV and administering sedation, such as benzodiazepine
b. Changing to IMV from AMV and administering an antipyretic, such as acetaminophen
c. Administering sedation and an antipyretic
d. All of the above
Answer: C
Critical thinking involves inquisitiveness. In this scenario, changing the mode of ventilation from AMV to IMV would not reduce the work of breathing (both modes provide a set baseline rate and volume). For this patient, the best way to reduce energy expenditure is to reduce unnecessary movement and metabolism. Anxiolytics would calm the patient and reduce restlessness. Antipyretics would help decrease her fever and subsequently slow her heart rate (which increases with fevers).

Question: A female patient admitted with Acute Respiratory Distress Syndrome (ARDS) has become progressively worse despite mechanical ventilation and aggressive medical therapies. Her husband asks that their 9-year-old son be allowed to visit. Which of the following would be the best action by the nurse?

a. Explain to the husband that visitation in the ICU is limited to adults
b. Suggest to the husband that the child might be frightened by the ICU environment and that the husband take a picture of the patient instead
c. Allow the son to visit at midnight, when activity on the unit is slow
d. Arrange for a patient care conference with the husband and members of the healthcare team to discuss possible options

Answer: D
The critical care nurse demonstrates critical thinking in this scenario by not being limited to current hospital/unit policy. The nurse synergizes with the patient’s and family’s needs and subsequently initiates discussion with the entire team so that all needs can be met.
Question: You are caring for a 78-year-old female with exacerbation of congestive heart failure. The following data are available for assessment:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure</td>
<td>124/74 mmHg</td>
</tr>
<tr>
<td>Cardiac output</td>
<td>3.6 L/min</td>
</tr>
<tr>
<td>Cardiac index</td>
<td>1.8 L/min</td>
</tr>
<tr>
<td>PAWP</td>
<td>16 mmHg</td>
</tr>
<tr>
<td>CVP</td>
<td>12 mmHg</td>
</tr>
<tr>
<td>Stroke volume</td>
<td>33 mL</td>
</tr>
<tr>
<td>Ejection fraction</td>
<td>31%</td>
</tr>
</tbody>
</table>

Give an example of a therapy that would be most effective in treating these hemodynamics.

a. Dopamine
b. Milrinone
c. Epinephrine
d. Simvastatin

Answer: B

The critical care nurse must have an intimate knowledge of hemodynamic parameters. Furthermore, the critical care nurse uses critical thinking to relate assessment data to possible therapies and associated outcomes. In this scenario, the patient has congestive heart failure, and as a result the heart is not pumping effectively. This is evident by low cardiac output, low cardiac index, low stroke volume, low ejection fraction, and high pulmonary capillary wedge pressure. Possible therapies to improve the contractile force of the heart are inotropes. Milrinone is a powerful inotrope and will improve the function of the heart as pump. Dopamine and epinephrine are used for vasoconstriction, and would be seen in hypotension and/or shock. Simvastatin is a lipid lowering agent and has no effect on the heart as a pump.

This question forces the critical care nurse to combine multiple thought processes. Here assessment identified the patient as having poor cardiac function. So an appropriate therapy would involve medications that would be used to improve heart function (e.g., inotropes). Remember,
after every intervention a reassessment must be done. So the next step in this scenario, after milrinone is started per physician orders would be to reassess the patient and his or her cardiac function.
Dorothy Del Bueno’s article about critical thinking displayed by nurses:

American Association of Critical-Care Nursing (AACN) decision tree for delegation decisions: Available from 101 Columbia, Alisa Viejo, CA 92656-1491; 800/899-2226

Give new graduates “rules” for “telling somebody” by using the criteria developed for Rapid Response Team Activation (a concept introduced by the Institute for Healthcare Improvement [IHI] as part of the “100,000 Lives Campaign.”)

- IHI recommendations: [www.ihi.org/IHI/Programs/TransformingCareattheBedside](http://www.ihi.org/IHI/Programs/TransformingCareattheBedside).

  - Mean arterial pressure < 70 or > 130 mmHg
  - Heart rate < 45 or > 125
  - Respiratory rate < 10 or > 30
  - Complaints of chest pain
  - Change in mental status (lasting more than 10 minutes)

According to one study, 66% of patients had signs of instability for up to eight hours prior to the event. Studies have shown that up to 70% of the calls to a Rapid Response Team were based on concerns about the patient’s respiratory status, accompanied by staff concern about a patient’s deteriorating condition.
“Brains in our Pocket” resources for nurses

- PDA programs

- Print:

Good sources of test questions


Aids for writing better test questions


Concept mapping

### Critical thinking skills course—Additional resources handout (cont.)


#### Critical thinking books


#### Generation X/multigeneration work force


#### Example of a worst-case scenario


*Source: Polly Gerber Zimmermann, RN, MS, MBA, CEN*
These scenarios can be used as discussion areas during critical thinking classes or adapted and given to nurses for further reading.

**Scenario 1**
A 64-year-old male patient with a primary diagnosis of resolving pneumonia is brought to your ICU unit from the acute care floor secondary to altered mental status changes. The transferring nurse reports that the patient had been lucid the day before, but stated that he had starting becoming more and more confused as the morning progressed. The transferring nurse reports a blood pressure of 100/60 and a HR 106 bpm.

What else do you want to know?

If the learner asks: What is the patient's BG? Respond with: Glucose was 170 mg/dL
What has the patient’s UOP been over the past 4 hours? 150 mL
What is the patient’s pulse ox? 97% on RA
What is the patient’s temperature 39.0 degrees Celsius
Had the patient received any sedation recently? None

How do you want to handle this?

What essential etiology do you need to rule out?

What essential piece of information do you want to ask?

What are your impressions of this scenario?

- Worsening pneumonia?
- ARDS?
- TIA?
- New source of infection?
Possible intervention/diagnostic tests:
- Supplemental oxygen
- Chest x-ray
- Arterial blood gas sample
- Head CT
- Blood, urine, and sputum cultures
- 12-lead EKG
- CBC, electrolyte panel, cardiac enzymes
- Fluids
- Initiation of broad spectrum antibiotics
- Other interventions?

Outcome of this case:
- This patient had a new onset of a urinary tract infection, which often presents in the elderly with confusion
- The patient was started on antibiotics specific to the infection and given antipyretics
- Eventual outcome was resolution of infection and return to baseline mental status

Lesson:
It is important to never assume anything. Think of every possible etiology and then systematically rule those out. At the same time, do everything necessary to meet the patient’s immediate needs.
**Scenario 2**

A 31-year-old male motor vehicle crash patient is in the trauma ICU. He is intubated and has remained hemodynamically stable all day. The overhead monitor red alarm goes off and the patient’s pulse oximeter is reading 66%.

**What else do you want to know?**

**If the learner asks:**
- Is the ventilator alarming?
- Does the pulse oximeter have a good waveform?

**Respond with:**
- Yes it is. It is reading a high pressure alarm.
- Yes it does.

**How do you want to handle this?**

**What essential etiology do you need to rule out?**

**What essential piece of information do you want to ask?**

**What are your impressions of this scenario?**

- Patient has mucous plug occluding endotracheal tube?
- Patient has increased secretions?
- Patient is biting down on endotracheal tube?
- Endotracheal tube is kinked?
- Ventilator has malfunctioned?
- Other possibilities?

**Possible intervention/diagnostic tests:**

- Remove patient from ventilator and manually Ambu-bag him
- Auscultate lung sounds to ensure adequate ventilation
- Provide sedation if patient is biting down on ventilator
- Un-kink endotracheal tube if kink is noted
### Figure 9.2

**Unfolding teaching scenarios for ICU nurses (cont.)**

- Assess for endotracheal tube placement
- Other interventions?

**Outcome of this case:**
- The patient is noted to be anxious and biting on the endotracheal tube
- The patient is difficult to manually Ambu-bag due to him biting down
- Sedation is given and patient calms

Once the patient calms, you are able to easily manually bag the patient. However, the pulse oximeter is only reading 75%.

**What else do you want to know?**

**If the learner asks:**

<table>
<thead>
<tr>
<th>Question</th>
<th>Respond with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the pulse oximeter have a good waveform?</td>
<td>Yes it does.</td>
</tr>
<tr>
<td>Does the chest have good rise with manual bagging?</td>
<td>Yes it does.</td>
</tr>
</tbody>
</table>

**How do you want to handle this?**

**What essential etiology do you need to rule out?**

**What essential piece of information do you want to ask?**

**What are your impressions of this scenario?**

- Displaced endotracheal tube?
- Pulmonary embolism?
- Pneumo/hemothorax?
- The Ambu bag is not connected to flowing oxygen?
- Other possibilities?
Figure 9.2  

Unfolding teaching scenarios for ICU nurses (cont.)

Possible intervention/diagnostic tests:
- Assess Ambu bag to ensure that it is connected to flowing oxygen
- Auscultate lung sounds as you bag to ensure adequate ventilation
- Ensure that physician and respiratory therapy have been paged
- Assess endotracheal tube markings to ensure that it is in the right location
- Possible chest x-ray
- Possible arterial blood gas sample
- Other interventions?

Outcome of this case:
- You notice that the Ambu bag is not connected to an oxygen source
- Once connected to flowing oxygen and manually bagged, the patient’s pulse oximeter reads 100%
- Lung sounds are clear and equal bilaterally
- There is good chest rise with manual bagging
- The patient is placed back on the ventilator at previous settings, and the patient returns to baseline oxygen saturation

Lesson:
It is important to never assume anything. Think of every possible etiology and then systematically rule those out. At the same time, do everything necessary to meet the patient’s immediate needs. In this scenario, although the first problem was resolved, the nurse encountered another problem and was faced with a whole new set of etiologies, interventions, and choices.

Scenario 3
You get report on a 50-year-old male patient who is recovering from thermal burns. It is reported that the patient is alert and oriented, on RA, sinus rhythm, and hemodynamically stable. For pain control the patient is on morphine patient controlled analgesia (PCA) with both demand mode and continuous mode. The patient has been stable for days, is not on any drips (except for his morphine PCA), and has orders to transfer to the acute care floor later this morning. When you go into the patient’s room, you notice that the patient does not arouse with stimulation.
### Figure 9.2 Unfolding teaching scenarios for ICU nurses (cont.)

**What else do you want to know?**

**If the learner asks:**
- What is the patient’s respiratory rate?
- What is his pulse oximeter?
- What is his heart rate?
- What is his BP?

**Respond with:**
- 6 breaths/minute
- 92% on RA
- 70 bpm
- 90 / 50 mmHg

**How do you want to handle this?**

**What essential etiology do you need to rule out?**

**What essential piece of information do you want to ask?**

**What are your impressions of this scenario?**
- Hypoglycemia?
- Narcotic overdose?
- Sepsis?
- Other possibilities?

**Possible intervention/diagnostic tests:**
- Provide supplemental oxygen
- Check blood glucose
- Ensure that physician and respiratory therapy have been paged
- Possible chest x-ray
- Possible arterial blood gas sample
- Ensure PCA is programmed correctly
- Other interventions?
Outcome of this case:

- A non-rebreather at 10 liters/minute is placed on the patient and the oximeter increases to 99%.
- A capillary blood glucose (CBG) is run and the result is 107 mg/dL.
- The physician and respiratory therapist are paged.
- The chest x-ray is benign.
- The ABG reveals metabolic acidosis. What is the physiology behind this?
- The PCA is programmed correctly, but the continuous mode is turned off due to decreased mental status of the patient.
- Review of the patient’s medication records reveals that the patient was started on methadone the day before. The concurrent PCA along with the methadone has caused an overdose. The patient is given narcan per physician order and recovers without adverse effects.

Lesson:
It is important to never assume anything. Think of every possible etiology and then systematically rule those out. At the same time, do everything necessary to meet the patient’s immediate needs. This scenario emphasizes the importance of reviewing any new therapies for patients who have been stable for a long time and then have an acute change in status, especially when it involves mental status changes.

Source: Eric Wolak, BSN, RN, CCRN
**Case 1**

You are the preceptor for a new orientee who is working your assignment for the shift with you. As you do your initial assessment of a patient you notice that there is no Ambu bag or mask for your intubated patient and partially empty narcotic medications on the bedside table.

- Can the new orientee verbalize how noncompliance with medications left at bedside can affect patient care?

- Does the new orientee understand the importance of appropriately wasting unused narcotics and documenting narcotic waste?

- Does the new orientee know where and how to obtain replacement items for those missing?

**Case 2**

A patient who has coded on the acute care floor is en route to your unit and you are orienting a new graduate nurse who is not assigned to this patient.

- Approach primary nurse receiving the patient prior to patient’s arrival regarding the role your preceptee can play under your supervision

- Roles may include documentation, observation, initiating EKG monitor, preparing IV lines, drawing and labeling laboratory specimens, initiating Foley catheter, etc.

- After the patient care is completed, meet with the new grad to discuss
  - what priorities he or she noticed the nurse attend to and why
  - the role he or she played and how it felt being a part of this team
  - what aspects he or she would have felt comfortable participating in without your observation
Case 3

A nurse is caring for a septic patient who is on multiple vasopressor. Despite aggressive therapies, the patient’s blood pressure is only 80/40mmHg with a mean arterial pressure (MAP) of 53mmHg. Before the patient became septic, he was receiving 5mg of metoprolol IV twice a day. No hemodynamic hold parameters are mentioned in the order.

- The nurse recognizes that metoprolol is an inappropriate medication for this patient with his current hemodynamic parameters
- The nurse collaboratively approaches provider with clarification of the metoprolol order
- The nurse takes measures to ensure that medication parameters are clearly defined
- The nurse takes measures to ensure that the following and subsequent shifts are aware of the parameters to give and to hold the metoprolol

Case 4

Your orientee approaches you to share that yesterday the nurse she was working with had a patient with a dissecting aortic aneurysm. The patient started to decompensate as evidenced by increased respiratory effort and a dramatic decrease in blood pressure. The orientee was surprised that the nurse insisted that the patient’s HOB be elevated while the blood pressure was so low and dropping.

Ask questions to reveal the critical thinking skills this nurse is or isn’t using:

- What do you think the nurse should have been doing?
Figure 9.3  

ICU teachable moments (cont.)

• Why do you think the blood pressure was dropping?

• How would you approach a coworker who is helping you with your patient when you feel that his or her priorities are out of order?

Case 5

You are orienting a new graduate nurse to the ICU. His patient is intubated and receiving tube feedings. The orientee walks into the patient’s room, and you hear him urgently calling for you. When you walk in you notice that the patient is supine with tube feed-like content coming out of his mouth.

Ask questions to reveal the critical thinking skills of your orientee:

• What is your first course of action?

• What is your second course of action?

• What diagnostic tests would you anticipate the provider ordering?

• What vital sign changes will you need to keep an eye out for over the next several days?

Source: Eric Wolak, BSN, RN, CCRN
Critical thinking skills and geriatric patients

Chapter 9

Critical Thinking in the Intensive Care Unit

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Figure 9.4

ICU case studies

ICU case studies displaying critical thinking

Critical thinking in the intensive care unit requires that a nurse displays the following attributes appropriate for the situation:

- Thinker
- Critically evaluates evidence and facts
- Explores consequences before making decisions or taking action
- Evaluates policies
- Has confidence in decisions
- Effectively communicates
- Reassesses after every intervention
- Displays critical analysis

Patient case 1

A 28-year-old patient has been admitted to the ICU after a motor vehicle crash (MVC). She is intubated and sedated. She has multiple broken bones, cuts, and lacerations. After a few hours, you notice that her heart rate has climbed 20 points (from 80 bpm to 100 bpm). Her blood pressure has steadily been declining (110/70mmHg to 80/35mmHg). Her urinary output has decreased from 75mL/hour to 20mL/hour. Her peripheral pulses are thready to palpation, and her skin is cool to touch. Her bowel sounds have become absent and her abdomen, which was soft and palpable, is now tight.

The patient’s husband has just found out his wife was injured and has arrived at the hospital. It is currently 2200 and visiting hours ended at 2100.
**Critical thinking skills**

**Thinker**

- What do you think is the pathology of the presenting signs and symptoms?

- Knows that this scenario is more than likely hypovolemic shock, probably from internal bleeding.

- Understands that the patient will require fluid bolus and possibly blood transfusion.

**Critically evaluates evidence and facts**

- Understands that as blood volume is being lost, the patient’s BP and UOP drops as the heart rate increases to try to maintain perfusion.

- Asks if other contributing factors could be creating a false picture:
  - Could pain be contributing to the increased HR?
  - Is the BP cuff the appropriate size for the patient?
  - If the patient has an arterial line, is it leveled and zeroed properly?
  - Is the Foley catheter functioning properly?

**Explores consequences before making decisions and taking action**

- Assesses and potentially eliminates other contributory factors:
  - Assesses the Non-verbal Adult Pain Scale (NAPS) for this patient
  - Zeros transducer and evaluates for square-test wave
  - Bladder scans patient and flushes Foley catheter
Before allowing the husband to visit, meets with him outside the unit to prepare him for the critical care environment:

- Monitors
- Ventilators
- Noises
- His wife may not respond due to sedation and/or sustained injury
- His wife will have a breathing tube and will not be able to talk

Evaluates policy

- Despite the fact that visiting hours are over, understands the importance of the patient’s husband being allowed to visit and see his wife

Has confidence in decisions

- Initiates action by paging the physician.
- Knows that by placing the patient with HOB down and legs up (modified Trendelenburg) that the filling volume of the heart will increase and temporarily improve perfusion.

Effective communication

- Clearly communicates to the provider the clinical situation, background, assessment, and recommendations.

Example: “This is Nurse ABC and I am calling regarding Mrs. XYZ who is s/p MVC from earlier today and is in the trauma ICU. Over the past two hours her HR has climbed from 80 to 100 bpm, her BP has decreased from 110/70mmHg to 80/35mmHg. Her urinary output has decreased from 75 mL/hour to 20 mL/hour. Her peripheral pulses are thready to palpation, and her skin is cool to touch. Her bowel sounds have become absent and her abdomen,
which was soft and palpable, is now tight. I am concerned that she might be internally bleeding. I would recommend getting a CBC, giving a bolus of fluid, and sending her for an abdominal CT. What would you like done?"

**Reassesses after every intervention**

- A liter of Ringers Lactate is ordered. After giving the bolus, you reassess the patient’s HR, BP, UOP, and pulses.

- A CBC has been ordered. You check with lab to find out the results.

**Displays critical analysis**

- At the end of your shift you critique your performance.

- You request feedback from your colleagues and peers regarding your assessments and interventions.

**Patient case 2**

Mr. JL is a 65-year-old male who was admitted for complaint of chest pain. Several hours later, Mr. JL becomes confused and lethargic. You notice neck vein distention. Auscultation of heart sounds reveals high pitch systolic murmur. Auscultation of lung sounds reveals diffuse coarse crackles. Peripheral pulses have become thready to palpation. Vital signs reveal a decrease in heart rate from 100 bpm to 70 bpm and his blood pressure has dropped from 130/88mmHg to 80/40mmHg. Urinary output for this past hour has dropped from 70mL (1mL/kg/hr) to 35mL (0.5mL/kg/hr).

The patient is unable to make any healthcare decisions. The patient's wife wants everything done, while the patient's daughter does not want her dad on a ventilator or to have any heroic measures performed, such as chest compressions, code drugs, etc.
### Critical thinking skills

#### Thinker

- Changes in vital signs and clinical assessment demonstrates decreased organ perfusion.

- Understands that the patient will probably need medication to increase force of heart contraction (inotropes).

#### Critically evaluates evidence and facts

- When the heart fails to function as a pump, the BP begins to drop and blood begins to back up from the left ventricle to the right atrium. This “traffic jam” of blood causes accumulation of volume in the lungs (thus creating crackles) and jugular venous distention. Also, with less blood being ejected, the kidneys are not getting perfused, and UOP drops.

- Asks if other contributing factors could be creating a false picture.

#### Explores consequences before making decisions and taking action

- Assesses for and potentially eliminates other contributory factors.

- Despite the fact that the patient’s BP is dropping, the ICU nurse understands that by placing the patient supine, the symptoms could be exacerbated, as the heart is having trouble pumping blood effectively.

#### Evaluates policy

- Knows that in this situation the patient’s wife has legal precedence over healthcare decisions.
<table>
<thead>
<tr>
<th>Figure 9.4</th>
<th>ICU case studies (cont.)</th>
</tr>
</thead>
</table>

- Encourages the family to have a family conference with the healthcare team and work toward an agreed-upon and unanimous course of action.

**Has confidence in decisions**

- Initiates action by paging the physician.
- Knowing that by placing the patient with the HOB elevated, cardiovascular and pulmonary congestion can be minimized.

**Effective communication**

- Clearly communicates to the provider the clinical situation, background, assessment, and recommendations.

Example: “This is Nurse ABC and I am calling regarding Mr. XYZ who was admitted for complaints of chest pain and is in the coronary care ICU. He has recently become confused and lethargic. His HR has dropped 100 bpm to 70 bpm and his blood pressure has dropped from 130/88mmHg to 80/40mmHg. Urinary output for this past hour has dropped from 70mL/hr to 35mL/hr. Also, I have noticed new neck vein distention and a new murmur. His lungs have new diffuse crackles and his pulses have become thready. I would recommend getting a 12-lead EKG, cardiac enzymes, and possibly starting a cardiac inotrope. What would you like done?”

**Reassesses after every intervention**

- A dobutamine infusion has been ordered. After initiation of its infusion, you reassess for signs of improved perfusion (increased UOP, decreased jugular venous distention, improved pulses, etc.)
A 12-lead EKG is ordered. You assess results.

Cardiac enzymes have been ordered. You follow up with lab on their results.

Display critical analysis

At the end of your shift you critique your performance.

You request feedback from your colleagues and peers regarding your assessments and interventions.

Patient case 3

You are caring for a 70-year-old female status post spinal fusion. The only significant medical history of the patient is rheumatoid arthritis. In response to continued pain ratings of 7-9/10, the provider has ordered a morphine PCA of 1mg every 10 minutes on demand only. Since implementation of the PCA, the patient’s pain rating has been 2-3/10. During your physical assessment you notice the patient’s daughter hitting the patient’s pain button at the request of the patient. Shortly after shift change, the patient’s daughter goes home for the night. During the course of the night, the patient’s pain rating has increased back to 7-9/10.

Critical thinking skills

Thinker

This method of pain management appears inappropriate for this patient.

Critically evaluates evidence and facts

The patient’s rheumatoid arthritis is potentially limiting the patient’s ability to utilize the PCA.
• Confirm this speculation by asking the patient:
  - “Are you able to hit your pain button on your own?”
  - “Can you show that you are able to hit the pain button?”

• Ensure IV access is benign and patent.

Explores consequences before making decisions and taking action

• Ensure that the pain is not a new onset.

• Assess quality of pain, location, onset, and duration before providing additional PRN pain medication.

Evaluates policy

• Educate patient and her family members that only the patient is allowed to hit the PCA button.

Has confidence in decisions

• Initiates action by paging the physician.

• Knows that the current pain management is not adequate for this patient.

Effective communication

• Clearly communicates to the provider the clinical situation, background, assessment, and recommendations.
Example: “This is Nurse ABC and I am calling regarding Ms. XYZ who was admitted status post spinal fusion and is in the surgical ICU. Although her pain was being controlled before with the PCA, I believe that her family was hitting the button for her. After my assessment, I believe that due to her history of rheumatoid arthritis she is unable to effectively use the PCA button. Since her family has left for the night, her pain has increased to 7-9/10. I would recommend increasing PRN pain medication and reevaluating her for a more appropriate pain control regimen. What would you like to be done at this time?”

**Reassesses after every intervention**

- After every administration of pain medication, reassess quality of pain, location, onset, and duration of pain.

**Displays critical analysis**

- At the end of your shift you critique your performance.

- You request feedback from your colleagues and peers regarding your assessments and interventions.

Source: Eric Wolak, BSN, RN, CCRN
### Sample agenda

#### [Your facility] Critical Thinking Skills  
#### [Date of program]

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00–9:15</td>
<td>Introduction to critical thinking and course overview</td>
</tr>
<tr>
<td>9:15–10:00</td>
<td>Patient assessments</td>
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<td></td>
<td>Anatomy/physiology review</td>
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<td>Establishing the baseline</td>
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<td>Reassessments</td>
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<tr>
<td>10:00–10:15</td>
<td>Stretch break</td>
</tr>
<tr>
<td>10:15–11:30</td>
<td>Age-specific patients</td>
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<td></td>
<td><em>Include pediatric and/or geriatric specifics</em></td>
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<td></td>
<td><strong>Geriatric</strong></td>
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<td></td>
<td>Polypharmacy issues</td>
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<td></td>
<td>Atypical presentations</td>
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<td></td>
<td>Elder misuse and reporting</td>
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<td><strong>Pediatric</strong></td>
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<td>Social challenges</td>
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<td></td>
<td>Children as victims and reporting suspicion</td>
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<td></td>
<td>Medication specifics for children</td>
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<td>11:30–12:15</td>
<td>Lunch</td>
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<td>12:15–1:15</td>
<td>Red flags</td>
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<td>Patient statements/comments</td>
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<td>Family input</td>
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<td>Documentation specifics</td>
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<td></td>
<td>Case scenarios</td>
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<td>1:15–1:30</td>
<td>Stretch break</td>
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<td>1:30–2:30</td>
<td>Applying the knowledge</td>
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<td></td>
<td>When to call the doctor</td>
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<td></td>
<td>More case scenarios</td>
</tr>
<tr>
<td>2:30</td>
<td>Course evaluations</td>
</tr>
</tbody>
</table>

Source: Shelley Cohen, RN, BS, CEN
### Instructor worksheet—Connecting words to spark critical thinking

Following each of these patient statements/scenarios, what question(s) should you consider?
(Instructor notes: What to ask or what you want the nurse to consider.)

1. Patient states he or she has had no pain relief after the medication you gave him or her.
   (Instructor note: Why is there no pain relief?)

2. A patient who aspirated three days prior presents with a BP of 80/50 and HR of 110 bpm.
   (Instructor note: Any other signs and symptoms of note? What other assessment skills should you do to have a better understanding of the situation? What tests can be done to collect further data?)

3. The patient requires increased endotracheal suctioning than the previous day.
   (Instructor note: When did the increased secretions start? Is each nurse assessing by the same standard? What are some reasons that would cause an increase in secretions?)

4. The patient appears more confused today.
   (Instructor note: Compared to what? Why is there a neurological change? What do the words “confused” mean to the rest of the team?)

---

*Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN*
Following each of these patient statements/scenarios, what question(s) should you consider?

1. Patient states he or she has had no pain relief after the medication you gave him or her.

2. A patient who aspirated three days prior presents with a BP of 80/50 and HR of 110 bpm.

3. The patient requires increased endotracheal suctioning than the previous day.

4. The patient appears more confused today.

Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN
How does each of these items below relate to critical thinking? Give one patient example for each.

**Invasive therapy/treatment/indwelling devices**

- Intravenous
  - fluids
  - blood
- Catheters
  - Pulmonary Artery
  - Foley
- Dressings
- Nonverbal Adult Pain Scale (NAPS)
- Ventilator
  - arterial blood gas
  - endotracheal tube

Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN
In each set of adult vital signs below, what question would you ask? What other areas would you assess?

**Vital signs + Assessment = Critical thinking**

*A critical thinker is able to reject information that is incorrect or irrelevant.* — S. Ferrett

### Case 1
- **Temp**: 37.2°C (po)
- **Pulse**: 118
- **Respirations**: 26
- **Blood Pressure**: 156/72

### Case 2
- **Temp**: 39.2°C (rectal)
- **Pulse**: 116
- **Respirations**: 24
- **Blood Pressure**: 90/60

### Case 3
- **Temp**: 36.8°C (oral)
- **Pulse**: 104
- **Respirations**: 36
- **Blood Pressure**: 100/60

*Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN*
### Worksheet—Red flag alerts

<table>
<thead>
<tr>
<th>Patient statement/question</th>
<th>Makes you think . . .</th>
<th>Your response is . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can’t seem to catch my breath.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I just don’t feel right. I am not sure why.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you know why that other nurse wouldn’t give me anything for pain?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know that my husband can’t talk because of the endotracheal tube, but it looks like he is uncomfortable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My arthritis makes it hard for me to hit my pain button. Is it OK if my daughter hits it for me?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>That’s not what the other nurse told me to do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>That does not look like the pill I take at home.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am tired of being treated like a number. I want to go home! No one is telling me anything.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Figure 9.10

**Worksheet—Red flag alerts (cont.)**

<table>
<thead>
<tr>
<th>Patient statement/question</th>
<th>Makes you think . . .</th>
<th>Your response is . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>I didn’t know I was having this done today.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It looks like my mom is having trouble breathing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I suddenly am having a hard time concentrating.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t want to get addicted to these pain pills.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I just started feeling dizzy.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN*
Figure 9.11  
Worksheet—Relating nursing care to critical thinking

For each of the following skills, procedures, or interventions, answer the questions below:

- IV access
- Obtaining arterial blood sample
- Wedging pulmonary artery catheter
- Endotracheal suctioning
- Blood transfusion
- Chest compressions
- Postmortem care
- Chest tube placement and care
- Chest tube removal

1. Why would the patient need this?

2. What is my role in this?

3. How will I know it’s safe?

4. Will I be able to adequately assess the efficacy of this procedure/intervention?

5. What are the risks/benefits of this?

6. What observations/considerations should I make in regard to this intervention?

7. Does the patient have any cultural/ethnic beliefs or practices that will have an effect on this procedure/intervention?

8. Will this procedure/intervention impact negatively on the intra/interfamily privacy issues?

Source: Shelley Cohen, RN, BS, CEN and Eric Wolak, BSN, RN, CCRN
Critical care nurses demonstrate critical thinking by doing the following:

- Looking for early signs of septic shock
- Asking each patient safety questions with each admission to identify victims of abuse
- Identifying signs and symptoms of inadequate perfusion
- Evaluating EKG strips
- Knowing when a chemically paralyzed patient is in pain
- Identifying withdrawal symptoms and signs
- Recognizing signs of Acute Respiratory Distress Syndrome (ARDS)
- Researching a new procedure and writing an evidence-based protocol for its implementation
- Applying knowledge of anatomy, physiology, microbiology, and immunology when assessing a patient
- Anticipating the needs of the surgeon during a bedside procedure
- Delegating to team members
- Assessing the critically ill patient
- Smelling signs of infection from a wound
- Managing one or more critically ill patients
- Conveying information concisely, accurately, and efficiently

Source: Eric Wolak, BSN, RN, CCRN
Nursing education instructional guide

Target audience

- Chief nursing officers
- Directors of nursing
- Nurse managers
- Directors of education
- Staff development specialists
- VPs of nursing
- Nurse preceptors
- HR professionals

Statement of need

This practical guide to teaching and developing critical thinking includes strategies for designing and holding critical thinking courses, how to include critical thinking training in orientation, and how to encourage the ongoing development of critical thinking. Critical thinking skills help nurses become better decision makers and encourage independent practice. The book teaches nurse leaders, nurse managers, and staff educators how to develop critical thinking in the classroom and on the unit so they can incorporate critical thinking into everyday practice, both for novice nurses and ongoing development for advanced practitioners. (This activity is intended for individual use only.)
Educational objectives

Upon completion of this activity, participants should be able to

- Describe the characteristics of the intensive care unit that require good critical-thinking skills
- Identify key aspects of critical thinking
- Explain how nurses develop competency in critical thinking
- Analyze the factors that contribute to new graduates' lack of critical thinking
- Identify strategies to facilitate critical thinking in new graduates
- Determine classroom strategies to teach, promote, and support the development of critical thinking
- Determine ways to evaluate nurses' progress in critical thinking throughout orientation
- Develop strategies for the development of critical thinking skills during the orientation process
- Discuss the role played by managers and educators in promoting environments that support critical thinking
- Analyze the challenges that both new and experienced nurses face in the incorporation of critical thinking skills in the practice setting
- Explain interventions to help both new and experienced nurses meet their managers and preceptors expectations for critical thinking
- Apply critical thinking to nursing documentation

Faculty

Shelley Cohen, RN, BS, CEN, is the founder and president of Health Resources Unlimited, a Tennessee-based healthcare education and consulting company (www.bru.net). Through her seminars for nursing professionals, Cohen coaches and educates healthcare workers and leaders across the country to provide the very best in patient care. She frequently presents her work on leadership and triage at national conferences.

She has a background in emergency, critical care, and occupational medicine. Over the past 30 years, she has worked both as a staff nurse and nurse executive.

Polly Gerber Zimmermann, RN, MS, MBA, CEN, has been in active in emergency and medical-surgical nursing clinical practice for more than 29 years and involved in nurse educating for more
than 10 years. She was the senior course manager for the nursing division of the National Center for Advanced Medical Education, and is a tenured assistant professor in the Department of Nursing at the Harry S. Truman College (Chicago). Under her guidance, the school's curriculum instituted an integration of prioritization principles and critical thinking that resulted in the school's students improving from below to above national average results in these areas on standardized test scores.

**Eric Wolak, BSN, RN, CCRN**, has a background in critical care and nursing education. He is an assistant nurse manager for a cardiothoracic surgery intensive care unit and has previously been a clinical nurse education specialist for a regional burn/trauma center. He has spent the majority of his career focusing on staff development, staff education, and the development of protocols from evidence-based practice.

Wolak is a frequent speaker at international conferences and has written book chapters on the physiology of shock and hemodynamics. In addition, he has had numerous articles published in multiple peer-reviewed journals on his results from staff development and staff education nursing studies.

**Accreditation/designation statement**

HCPro is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center Commission on Accreditation.

This educational activity for three nursing contact hours is provided by HCPro, Inc.

**Disclosure statements**

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Shelley Cohen, Polly Gerber Zimmermann, and Eric Wolak have declared that they have no commercial/financial vested interest in this activity.


**Nursing education instructional guide**

**Instructions**

In order to be eligible to receive your nursing contact hours for this activity, you are required to do the following:

1. Read the book *Critical Thinking in the Intensive Care Unit: Skills to Assess, Analyze, and Act*
2. Complete the exam
3. Complete the evaluation
4. Provide your contact information on the exam and evaluation
5. Submit exam and evaluation to HCPro, Inc.

Please provide all of the information requested above and mail or fax your completed exam, program evaluation, and contact information to

Attention: Continuing Education Department  
HCPro, Inc.  
200 Hoods Lane  
P.O. Box 1168  
Marblehead, MA 01945  
Fax: 781/639-0179

**NOTE:**  
This book and associated exam are intended for individual use only. If you would like to provide this continuing education exam to other members of your nursing staff, please contact our customer service department at 877/727-1728 to place your order. The exam fee schedule is as follows:

<table>
<thead>
<tr>
<th>Exam quantity</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ 0</td>
</tr>
<tr>
<td>2–25</td>
<td>$15 per person</td>
</tr>
<tr>
<td>26–50</td>
<td>$12 per person</td>
</tr>
<tr>
<td>51–100</td>
<td>$ 8 per person</td>
</tr>
<tr>
<td>101+</td>
<td>$ 5 per person</td>
</tr>
</tbody>
</table>
1. Based on the premises of the Synergy Model, which of the following is not considered an acceptable outcome of patient care?

   a. death
   b. optimal wellness
   c. uncertain prognosis
   d. patient perceptions of a poor outcome

2. The most successful critical care nurses are those who

   a. are analytical and critically assess situations
   b. are technically competent and single minded
   c. have patience and good interpersonal skills
   d. have strong beliefs about the best way to care for critically ill patients
3. When nurses are working in the critical care arena, it is important that they possess the following skills:

a. Basic knowledge in various monitoring devices
b. Strong delegation
c. Good telephone communication
d. The ability to make rapid decisions under stressful conditions based on sound professional judgment

4. According to Del Bueno’s definition of critical thinking, which of the following is an essential aspect in a clinical setting?

a. The nurse thinks outside the box to create a novel nursing approach
b. The nurse can state the five rights of all types of medication administration
c. The nurse can define the meaning of ABCD prioritization
d. The nurse does the right thing for the right reason

5. A new graduate nurse that has little confidence in his or her skills and decision-making abilities has

a. unfamiliarity with the structure of the organization
b. lack of clinical judgment
c. lack of professional relationships
d. lack of professional training

6. To minimize the stress of new graduate nurses, consider

a. handing out stress balls during orientation
b. suggesting they wait, assess, and hope for a solution
c. using a mentor or assigning a buddy who builds a relationship and follows the nurse for at least one year
d. avoiding support groups that introduce graduate nurses to the worries and stresses of their peers

7. True sudden beginning of symptoms can signal a catastrophic event. Which prioritization principle can this be applied to?

a. Trends
b. Systemic over local
c. Actual over potential
d. Onset
8. **To help new graduates identify worst-case scenarios**

   a. give examples of actual cases and identify the worst-case complications  
   b. have the new graduates witness worst-case scenarios  
   c. discuss ethical consequences if worst-case scenarios are missed  
   d. teach basic pathophysiology  

9. **Aids to help create a classroom-learning environment include**

   a. use of a podium during presentations to communicate an air of expert authority  
   b. avoiding the use of color as it distracts the learner from paying attention to the speaker  
   c. having a break every 90-120 minutes to avoid breaking the learners' concentration  
   d. placement of posters around the classroom walls to promote learning even if the learners' eyes wander  

10. **Which of the following would be most likely to help motivate a Generation X nurse learn?**

    a. Relate the material to a sense of duty to keep current  
    b. Emphasize the role of authority of the expert instructor  
    c. Play games as a method to teach the material  
    d. Focus on the possibility of future promotions if learning is evident  

11. **When new graduates are asked about their biggest fears and concerns about becoming professional nurses, they frequently mention**

    a. how to communicate with physicians  
    b. they will be late for work  
    c. they will feel left out and have trouble making friends at work  
    d. they can't safely administer meds  

12. **Unfolding case scenarios provide information in staggered amounts, followed by**

    a. outcomes  
    b. results  
    c. answers  
    d. questions
13. In cooperative learning, the advantage of a “think, pair, and share” exercise is that everyone

a. participates
b. has an opinion
c. memorizes the objective
d. develops a relationship

14. Which of the following is an effective way to use questions in a classroom setting?

a. Ask trick questions
b. Pose questions to stimulate thinking rather than yes/no questions
c. Always let the most outspoken student answer
d. Limit all questions to the end of class

15. When developing a self-assessment tool for new graduate nurses to measure their perception of their ability to perform at the critical thinking level, it is best to include items that reflect

a. recall of information
b. personality traits
c. generic nursing skill
d. history of the institution

16. As new nurses work through the orientation process, evaluating their ability to apply critical thinking in their clinical setting needs to be

a. evidenced
b. difficult
c. strict
d. general

17. Preceptors can help orientees develop and stimulate the use of critical thinking skills by

a. minimizing emphasis on the ability to recognize when the skill or task is needed
b. discouraging realistic time frames
c. assuming the new hire understands the what, why, how, and when of delivering nursing care
d. minimizing the emphasis on ability to perform skills and tasks
18. When nursing staff other than the preceptor are working with the orientee, it is _______ that the preceptor educates all staff on the importance of their role in assisting with the transition process of the newly hired nurse.

   a. not important  
   b. essential       
   c. somewhat important 
   d. unnecessary      

19. Managers and educators need to ensure a patient care environment that nurtures critical thinkers, stimulates them, and motivates them to engage in a discussion in their minds. This discussion is all about which of the following questions?

   a. Is this in the best interest of the organization? 
   b. Is this in the best interest of myself?       
   c. Is this in the best interest of the patient? 
   d. Is this in the best interest of my learning process? 

20. When considering how to improve the content of job descriptions, nurse managers should ask staff

   a. what they do on a regular basis that is not part of the job description  
   b. to write a list of their favorite tasks       
   c. to edit the job description                   
   d. nothing—nurse managers should not ask staff for assistance in improving the content of job descriptions 

21. A challenge that new graduate nurses face upon entering the workplace that directly affects their critical thinking abilities is

   a. students have had too much clinical experience in school 
   b. many nurses today enter a specialty straight out of school, rather than gaining years of experience first  
   c. students have had so much clinical time that they have been exposed to too many challenging patients 
   d. students today do not have to contend with a shortage of nursing faculty
22. To coach new graduate nurses through bad patient outcomes

- do not allow them to have any grieving time through their error/omission
- even if the bad outcome was not related to something they did or did not do, allow a guilt trip to help them cope
- allow others to debrief the nurses before you do
- provide them with more than one opportunity to sit with a supportive mentor or preceptor to review the scenario that led to the patient outcome

23. To encourage collaborative efforts between the medical staff and new graduate nurses

- avoid introducing new graduates to too many members of the medical staff to avoid overwhelming the new graduates
- do not allow medical staff that has had previous negative experiences with new graduate nurses to interact with the new graduate nurses.
- ask the medical staff to think back to their own internships and remind them that new graduate's critical thinking will develop with their support
- have new graduates in specialty areas stay out of practitioner offices

24. Transforming critical thinking into the written format provides a legal record to support nurse’s

- patient outcomes related to any intervention
- right to work
- attendance
- ability to follow directions
Continuing education evaluation

Name: ________________________________________________________________

Title: ___________________________________________________________________________________

Facility name: __________________________________________________________________________ 

Address: ________________________________________________________________________________

Address: ________________________________________________________________________________

City: ______________________________________ State: ___________ Zip: _____________

Phone number: __________________________ Fax number: ____________________________

E-mail: __________________________________________________________________________________

Nursing license number: ____________________________________________________________________

(ANCC requires a unique identifier for each learner.)

Date completed: _________________________________________________________________________

1. This activity met the learning objectives stated:

   Strongly agree  Agree  Disagree  Strongly disagree

2. Objectives were related to the overall purpose/goal of the activity:

   Strongly agree  Agree  Disagree  Strongly disagree

3. This activity was related to my continuing education needs:

   Strongly agree  Agree  Disagree  Strongly disagree

4. The exam for the activity was an accurate test of the knowledge gained:

   Strongly agree  Agree  Disagree  Strongly disagree
**Nursing education instructional guide**

5. The activity avoided commercial bias or influence:

   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree

6. This activity met my expectations:

   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree

7. Will this activity enhance your professional practice?

   - Yes
   - No

8. The format was an appropriate method for delivery of the content for this activity:

   - Strongly agree
   - Agree
   - Disagree
   - Strongly disagree

9. If you have any comments on this activity, please note them here:

10. How much time did it take for you to complete this activity?

**Thank you for completing this evaluation of our continuing education activity!**

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