Critical Thinking *in the* Pediatric Unit

Skills to Assess, Analyze, and Act

Shelley Cohen, RN, BS, CEN

Critical Thinking in the Pediatric Unit: Skills to Assess, Analyze, and Act
by Shelley Cohen, RN, BS, CEN

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Contents

List of figures vii

About the authors ix

Introduction: Critical thinking in the pediatric unit xiii

Back to basics xiii
Critical thinking and the pediatric setting xiv
Admission xv
Attributes of critical thinking during the admission process xvi
Treatment xvii
Attributes of critical thinking during treatment xviii
Discharge xix
Attributes of critical thinking during discharge xxi
Encouraging the development of critical thinking in pediatric nurses xxii

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

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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

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Chapter 4: Orientation: Bringing critical thinking to the clinical environment 53

Moving from the classroom to the bedside 53
Beginning orientation 54
Self-assessment 54
The role of preceptors 59
How can preceptors teach critical thinking? 60
Teachable moments 63
Evaluating skills 69
Handling judgment or action errors during orientation 69
Remediation 71
Orientation sets critical-thinking expectations 72

Chapter 5: Nursing practice that promotes and motivates critical thinking 75

Maintaining momentum 75
Nurse managers and staff educators 76
Making critical thinking part of the culture 79
Job descriptions 79
Clinical guidelines 80
Policy and procedure 81
Performance reviews 83
Goal setting 85

Chapter 6: Novice to expert: Setting realistic expectations for critical thinking 87

Setting realistic expectations 87
Novice to competent: New graduate nurses 88
Greatest challenges for new graduate nurses 90
Coaching new graduates through bad patient outcomes 90
Growing collaborative relationships with the medical staff 91
Growing collaborative relationships with the interdisciplinary team 92
When new graduates fail to reach competent levels of critical thinking 92
Competent to expert: Experienced nurses 93
Handling experienced nurses who need remediation 94
Measuring critical thinking in daily practice 96

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Chapter 7: Applying critical thinking to nursing documentation 97

Turning critical thinking into critical writing 97
Examples of critical writing skills 103

Chapter 8: Relating critical thinking to its higher purpose 109

Chapter 9: Resources and tools 111

Resources and further reading 112
Additional sample questions 116

Nursing education instructional guide 153

Continuing education exam 157
Continuing education evaluation 163

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List of figures

Chapter 3

Figure 3.1: Teaching critical thinking—Critical thinking course content and prioritization handout 33
Figure 3.2: Teaching critical thinking skills—Sample course content, objectives, and scenarios 46
Figure 3.3: Teaching critical thinking skills—Classroom tips 48
Figure 3.4: Teaching critical thinking skills—Sample self-assessment tool 50
Figure 3.5: Teaching critical thinking skills—Handout 51

Chapter 4

Figure 4.1: Critical thinking self-assessment tool—General nursing skills 55
Figure 4.2: Critical thinking self-assessment tool—Pediatric Unit nursing skills 57
Figure 4.3: Preceptor tool—Relating skills to critical thinking for new graduate nurses . . . 62
Figure 4.4: Preceptor tool—Relating patient observations to critical thinking 64
Figure 4.5: Preceptor tool—Promote and support critical thinking 67
Figure 4.6: Successful orientation requires critical thinking 73

Chapter 5

Figure 5.1: Critical thinking skills assessment—Nurse manager/staff educator tool 78
Figure 5.2: Annual performance review—Self-assessment of critical thinking 82
Figure 5.3: Goals worksheet 84
Figure 5.4: Setting goals for improvement 86

Chapter 7

Figure 7.1: Eight common charting errors 99

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List of figures

Chapter 9

Figure 9.1: Critical thinking skills course—Additional resources handout 120
Figure 9.2: Unfolding teaching scenarios for pediatric nurses 123
Figure 9.3: Pediatric unit teachable moments 129
Figure 9.4: Pediatric case studies 135
Figure 9.5: Sample agenda 144
Figure 9.6: Instructor worksheet—Connecting words to spark critical thinking 145
Figure 9.7: Nurse worksheet—Connecting words to spark critical thinking 146
Figure 9.8: Worksheet—Relationship to critical thinking 147
Figure 9.9: Worksheet—Vital signs 148
Figure 9.10: Worksheet—Red flag alerts 149
Figure 9.11: Worksheet—Relating nursing care to critical thinking 150
Figure 9.12: Worksheet—Pediatric nurses and critical thinking .151

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Introduction

Critical thinking in the pediatric unit

LEARNING OBJECTIVE

After reading this section, the participant should be able to

- describe the characteristics of pediatric units that demand good critical thinking and decision-making skills

Back to basics

Whether nurses care for children in a pediatric specialty hospital or in a facility that treats primarily adult patient populations, they need to understand that children are not simply little adults. Pediatric nurses have a responsibility to understand the wide range of developmental needs that accompany each stage of life from infancy through adolescence. Critical thinking is the key to providing safe, effective nursing care for infants, children, and teens.

To be successful at mentoring and supporting critical thinking, you need to be willing to learn some basic principles involved in critical thinking. These fundamental concepts apply to all nurses, regardless of their specialty.

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To make the most of this book as your resource for critical thinking, take 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 dehydration and changes in electrolyte values in an infant without some foundational knowledge of pediatric anatomy and physiology. That same principle applies here. The tools do not provide answers: the answers lie in grasping the concepts of critical thinking.

Critical thinking and the pediatric setting

Pediatric units are places filled with "unknowns" that require nursing staff to display unique qualities and high levels of critical thinking, both as individuals and as part of a team.

The unknowns that make pediatric settings such interesting places include:

- How many patients will I have?
- Will their parents be here to help me take better care of them?
- Will my assignment be manageable?
- Do I have access to resources to address complex issues?
- Will I face parental conflict when caring for my patients?
- Do I have the skills necessary to address my patients' developmental needs?
- Will any of my patients require transfer to the ICU?

Many nurses are driven to pediatrics because of a love for children, coupled with the challenge of providing care for infants, children, and adolescents with a broad range of diagnoses. The multidisciplinary team whose members get to know one another's strengths and weaknesses quickly demonstrates good decision-making skills in providing child and family-centered care. A sense of unspoken trust usually develops among these team members, and individual team members' strengths contribute to quality patient outcomes. In this environment, the pediatric nurse needs to have all the attributes of a critical thinker, and needs to know how to use strategies that aid critical thinking to deal with patients' complex needs and multiple age groups and family systems, combined with a vast array of diagnoses.

Pediatric nurses will be faced with patients who present through a variety of points of entry including the emergency department, the operating room, and ambulatory care settings, and

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with an unlimited number of problems and needs. Pediatric nurses must be able to make decisions that apply to a multitude of scenarios for every age-specific patient category. Not only must these pediatric nurses have sound knowledge of normal growth and development from infancy through adolescence, they must understand a broad range of medical and surgical diagnoses. In addition, pediatric nurses must be sensitive to the needs of parents, siblings, and other family members in the face of the child's or adolescent's condition.

Pediatric nurses are also expected to manage busy patient assignments and function as effective multidisciplinary team members to meet these complex patient and family needs. This area of nursing practice requires not only critical thinking, but also intuitive judgment that comes from experience. The most successful pediatric nurses are those who possess strong critical thinking skills and can apply them for effective decision-making. Clearly, this level of experience is something that new graduate nurses are not prepared for without extensive training and work experience in pediatric settings.

The three main areas in which pediatric nurses apply critical thinking skills are admission, treatment, and discharge.

Admission

The admission process is a critical point in the child's hospitalization. Key facts gathered during the initial assessment help chart the course for all team members that subsequently provide care for this pediatric patient. Careful documentation of the child's history of present illness, past health history, growth and developmental status, and important family issues and concerns can assist the nurse in developing a plan of care that will address identified problems and best meet the child's and family's needs.

Critical thinking is essential to help the nurse view the big picture of the child's illness and family system and the impact on the hospitalization and treatment plan. During this admission period, the pediatric nurse also uses these critical thinking skills to identify, anticipate, and prioritize the patient's and family's needs based upon the child's diagnosis and current condition, as well as the family's issues, concerns, and coping mechanisms.

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Attributes of critical thinking during the admission process

The following examples demonstrate application of the concepts and approaches of critical thinking at this entry point of pediatric inpatient care. Strategies and attributes of critical thinking during the admission process include the following abilities:

Independent thinker

- Identifies and initiates appropriate interventions based on assessment findings and knowledge of the child's diagnosis or condition.

- Recognizes when patient assignments require additional personnel to provide safe care, facilitate efficient patient throughput, and make the unit run smoothly.

Evaluates evidence and facts

- Upon admission, the parent states the child has been congested and is irritable and vomiting and hasn't eaten solid foods in two days. The child's temperature is 103 degrees Fahrenheit.

Explores consequences before making decisions or taking action

- The nurse knows the resident on call is busy in the emergency department seeing other patients and that it will be at least an hour before the child will be evaluated and the admission orders written.

Evaluates policy

- The nurse recognizes that although the physician will be delayed in seeing the patient, there are some initial interventions the RN can implement to make the child more comfortable until the doctor arrives. The RN contacts the physician by phone to obtain a verbal order for an antipyretic and informs the charge nurse of the patient's condition.

Confident in decisions

- Knowing that the patient has not been tolerating oral liquids, the RN requests the physician to order an alternate route for the medication.

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Asks pertinent questions

- Understands that no assumptions should be made on admission. Despite the report given by the RN from the emergency department, the admitting nurse reviews the history with the mother to determine accuracy and ensure that all the details of the child's illness are documented in the assessment.

- Asks the parent what medicine and dose the child was given for the fever and when it was last given.

Displays curiosity

- Before the end of the shift, reads the physician's admission note and checks the patient's laboratory results.

Rejects incorrect information

- Despite the fact that the mother believes the child is more comfortable and should have something to eat now, the pediatric nurse observes the child is still gagging when awakened and encourages the mom to let the IV fluids and medications take effect before the child is given anything to drink or eat.

Treatment

Once children are admitted to the hospital and the treatment process begins, nurses are presented with a new set of challenges with multiple patient assignments and varying levels of patient acuity. With shortened lengths of stay, the need to facilitate patient throughput presents the critical thinker with the opportunity to demonstrate the ability to make decisions in a fast-paced environment. During this phase of pediatric care, nurses are more involved as a team of critical thinkers working together, contributing decision-making statements to physicians and other team members that lead to safe patient care and improved outcomes. Typically, a nurse serves in the role of charge or team leader to ensure the effective management of patient care and staff resources. Collaborative relationships with the medical staff provide opportunities for nurses to increase their clinical knowledge and impact their ability to think critically and make good patient care decisions.

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Attributes of critical thinking during treatment

Strategies and attributes of critical thinking during the treatment phase include the following abilities:

Independent thinker

- Prioritizes which patient situation requires urgent attention.

- Recognizes the need to call the pharmacy to ensure two IV medications ordered for the patient are compatible.

Evaluates evidence and facts

- Notes critical lab values, reassesses patient, and approaches provider with information and a request for orders.

Explores consequences before making decisions or taking action

- Patient's family is requesting fluids/food for an adolescent patient who is being evaluated for abdominal pain. Knowing that patients who may require surgery should be NPO, reviews lab and x-ray results with physician and communicates to patient and family that no oral intake is permitted at present.

Evaluates policy

- Mother requests that patient's father (from whom she is divorced, but who shares joint custody of this child) should not be notified of the hospital admission for a skull fracture. Nurse refers to hospital policy requiring informed consent of minor children to determine the course of action and contacts a social worker to speak with the mother about the social situation.

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 for Pediatric Advanced Life Support. Despite the urgent needs of the patient, the nurse reads the order back to the physician and questions the dose.

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Asks pertinent questions

- The nurse is comfortable saying, "This patient's work in breathing seems increased to me since my assessment an hour ago. Would you like for me to call radiology and get them to come up and do a stat chest x-ray while you are on your way to reevaluate the patient?"

Displays curiosity

- When caring for a child with asthma who has had repeated admissions to this unit, the nurse approaches the provider and, while updating him or her on the patient's status, inquires, "Do you know anything about the new treatment protocol that was published in *The Journal of Pediatrics* last month? I read the article last week, but have never seen it implemented in our facility. Are you willing to take a look at it? This child does not seem to respond well to what we have been doing for him. This is his third admission in the past couple of months."

Rejects incorrect information

- When reviewing laboratory results, notes a three-year-old patient with diabetes has dangerously low blood sugar after her morning dose of insulin. After re-evaluating the patient, the nurse performs a finger-stick glucose test and finds the patient to have slightly elevated blood sugar. Upon discussion with the lab, the lab reported a mistake in the medical record number and that the results reported belonged to a patient in the clinic with the same first and last name.

Discharge

After receiving treatment, the options for where a patient goes next include:

- Discharge home
- Transferred to another acute care facility
- Transferred to the ICU/NICU
- Transferred to another unit within the facility
- Admitted to a rehabilitation facility
- Referred to dentist or primary care physician's office for follow-up
- Transferred to skilled nursing facility

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- Discharged to juvenile detention facility
- Sent to the morgue

With more patients waiting for an empty room, there is always a push to move patients out of the unit as efficiently as we can. Nurses feel pressure as they try to ensure all the admission/transfer/discharge criteria are met for each patient. This is an additional obstacle for nurses trying to employ critical thinking as they work with the team to discharge patients to the appropriate setting. With so many risk-management and follow-up details to consider, nurses may at times overlook some details in such fast-paced environments.

As part of the discharge process, nurses need to consider the following:

- Reevaluate vital signs, pain status, neurological status

- Review documentation to ensure completeness and thoroughness

- Patients with limited English proficiency will require translation services to understand discharge instructions

- Some discharge instructions are complex and lengthy

- Time is needed to await parent/guardian to review discharge information and provide transportation home for patient

- Admissions being held on the unit that require ongoing nursing assessments and treatment after the patient is discharged

Pediatric nurses are expected to balance a number of complex tasks on busy inpatient units. They are often admitting and discharging a number of patients during the course of a shift. While balancing routine patient assignments, one or two critical incidents can demand the nurse's attention, upset the flow, and make routine aspects of care more challenging to accomplish during the course of the shift. Management must ensure these nurses have the time and resources they need to accomplish safe and effective patient care with all the elements of critical thinking, sound clinical interventions, and thorough documentation.

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Attributes of critical thinking during discharge

Strategies and attributes of critical thinking during the discharge process include the following abilities:

Independent thinker

- Recognizes the discharge orders from the provider are premature and the patient will need to wait for an evaluation by one of the pulmonary consultants.

Evaluates evidence and facts

- Although parent claims "I can handle this by myself," nurse notes parent is unable to demonstrate all aspects of nasogastric tube feeding. Suggests to provider that the parent be provided additional education and home care follow-up for nasogastric feeding of the child.

Explores consequences before making decisions or taking action

- Asks who will be providing/supervising respiratory treatments for the child in the school setting.

Confident in decisions

- Although a particular dressing is ordered for the patient's scald burns, the nurse recognizes the fragile skin of the infant and suggests another option that will not require tape on the patient's skin.

Asks pertinent questions

- Asks adolescent patient whose parents both work evening shifts, "Is there someone who can help you with these dressing changes in the afternoon when you get home from school?"

Displays curiosity

- While holding a patient being admitted for cystic fibrosis, the nurse asks the physician about the clues that led to this diagnosis.

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Listens to others and is able to give feedback

- Makes sure the new parents understand the discharge instructions for their eight-day-old newborn by asking them to repeat them back. The pediatric nurse has the parents demonstrate the correct method of administering oral medications and checking the baby's temperature.

Encouraging the development of critical thinking in pediatric nurses

Much of the critical thinking needed in the pediatric setting comes from work experiences and specific patient/family scenarios that nurses "bookmark" in their minds. All pediatric nurses should be actively involved in the orientation and development of both new graduate nurses and experienced adult nurses who join the pediatric setting. Without passing along these bookmarked events, we cannot help others to develop their critical thinking capabilities.

We want pediatric 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

Pediatric nurses know what outcomes they want for each patient and recognize how their nursing judgment and skills affect these outcomes. Recognizing the role critical thinking plays in achieving desired patient outcomes is the first step to creating and achieving an environment that promotes sound clinical judgments.

To promote critical thinking in pediatric settings, incorporate the ANA *Scope and Standards of Pediatric Nursing Practice* in the process of orientation and ongoing development by having all staff sign a commitment to these practice standards. Clearly communicate to all nurses what is expected of them regarding their abilities in decision-making, and then promote and encourage their ongoing development.

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It takes a special person to be a pediatric nurse. Being a pediatric nurse at the side of a patient and family when they face crises, are vulnerable, and are in need of medical/nursing care is a privilege. Along with that privilege comes tremendous responsibility and the power to make a difference in the lives of families entrusting their child's care to us.

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Chapter 1

Defining critical thinking

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

LEARNING OBJECTIVE

After reading this section, the participant should be able to

- identify the key aspects of critical thinking and how nurses develop competency

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.

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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.

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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.

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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.

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