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High-Acuity Nursing

SIXTH EDITION

Kathleen Dorman Wagner • Melanie G. Hardin-Pierce

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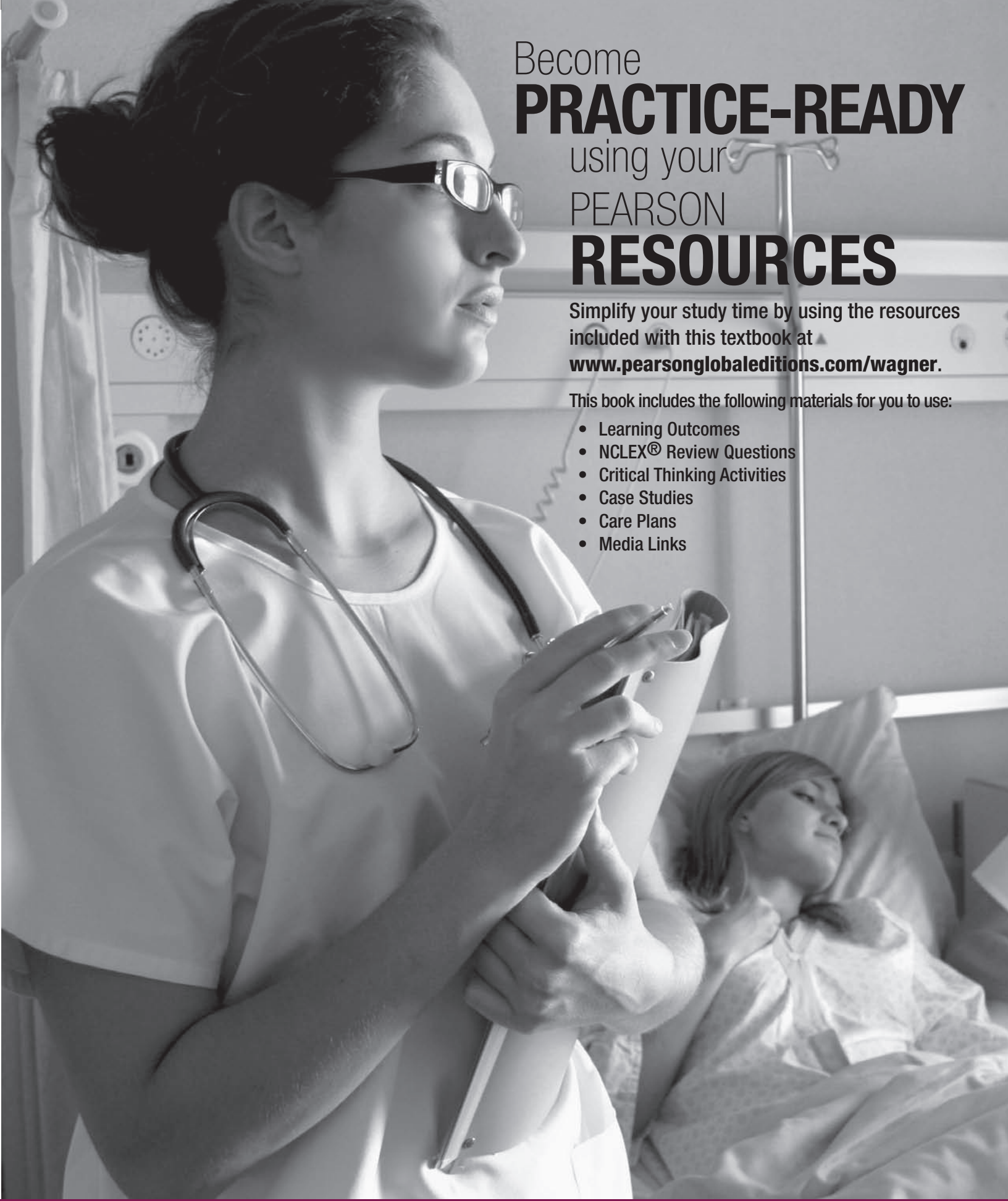

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High-Acuity Nursing

Sixth Edition
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Kathleen Dorman Wagner, EdD, MSN, RN
Faculty Emerita, University of Kentucky College of Nursing
Lexington, Kentucky

Melanie G. Hardin-Pierce, DNP, RN, APRN, ACNP-BC
University of Kentucky College of Nursing
Central Baptist Hospital
Lexington, Kentucky

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About the Authors

Kathleen Wagner, EdD, MSN, RN, is now faculty emerita, having recently retired from the University of Kentucky College of Nursing after many years of teaching pathophysiology, pathopharmacology and high-acuity nursing to undergraduate nursing students. She was also the educational consultant for the Undergraduate Nursing Program at the University of Kentucky. She has a doctorate in instructional systems design and continues to work on a team developing Web-based clinical simulations for nursing students.

Melanie Hardin-Pierce, DNP, RN, APRN, ACNP-BC, is an associate professor in the University of Kentucky College of Nursing, where she teaches in the Doctor of Nursing Practice program and coordinates the Acute Care Nurse Practitioner Track. She earned her Doctor of Nursing Practice degree at the University of Kentucky studying oral health in mechanically ventilated patients. She is a board-certified acute-care nurse practitioner who practices as a critical care intensivist in Central Baptist Hospital, Lexington. She is active in research of critically ill, mechanically ventilated patients, evidence-based practice, and interdisciplinary collaboration.

Thank You

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Contributors

Arzouman, Jill, MS, RN, ACNS, BC, CMSRN
University of Arizona Medical Center
Tucson, AZ
Chapter 1, High-Acuity Nursing
Chapter 2, Holistic Care of the Patient and Family

Bohnenkamp, Susan, RN, MS, ACNS-BC, CCM
University of Arizona Medical Center
Tucson, AZ
Chapter 29, Alterations in White Blood Cell Function and Oncologic Emergencies

Brenner, Zara R., MS, RN-BC, ACNS-BC
College at Brockport,
State University of New York
Brockport, NY
and
Rochester General Hospital
Rochester, NY
Chapter 23, Alterations in Pancreas Function (with Maureen Krenzer)

Cisney, Kathy Lea, MSN, APRN-BC, CWOCN, C Ped
University of Kentucky Chandler Medical Center
Lexington, KY
Chapter 29, Complex Wound Management

Dirkes, Susan, MSA, RN, CCRN
Nursing Resource Consultants LLC
Naples, FL
Chapter 25, Alterations in Fluid and Electrolyte Balance
Chapter 26, Acute Kidney Injury

Ecklund, Margaret M., MS, RN, CCRN, ACNP-BC
Rochester General Hospital
Rochester, NY
Chapter 6, Mechanical Ventilation

Eksterowicz, Nancy R., MSN, RNBC
University of Virginia Health System
Charlottesville, VA
Chapter 4, Acute Pain Management (with Donna Jarzyna)

Jarzyna, Donna, MS, RN-BC, CNS-BC
University of Arizona Medical Center
Tucson, AZ
Chapter 4, Acute Pain Management (with Nancy Eksterowicz)

Kelso, Lynn A., MSN, APRN, ACNP-BC, FCCM, FAANP
University of Kentucky
Lexington, KY
Chapter 22, Alterations in Liver Function

Krenzer, Maureen, MS, RN, ANP, ACNS-BC
Rochester General Hospital
Rochester, NY
Chapter 23, Alterations in Pancreas Function (with Zara Brenner)

Lach, Helen W., PhD, RN, GCNS-BC
Saint Louis University School of Nursing
St. Louis, MO
Chapter 3, The Older Adult High-Acuity Patient (with Kristine L'Ecuyer)

L'Ecuyer, Kristine M. RN, MSN, CCNS, CNL
Saint Louis University School of Nursing
St. Louis, MO
Chapter 3, The Older Adult High-Acuity Patient (with Helen W. Lach)

Moore, Kathryn, DNP, RN, ACNP-BC, GNP-BC, CCRN, CEN
Emory University
Atlanta, GA
Chapter 35, Acute Burn Injury

Muzzy, Angela C., MSN, RN, CCRN
University of Arizona Medical Center
Tucson, AZ
Chapter 8, Basic Cardiac Rhythm Monitoring

Nolde-Lopez, Grace, RN, MS, ANP-BC
Craig Hospital
Englewood, CO
Chapter 19, Acute Spinal Cord Injury

Priestley, Gail L., MSN, RN, ACNS-BC, CCRN
University of Arizona Medical Center
Tucson, AZ
Chapter 11, Alterations in Pulmonary Function

Snyder, Kara A., MS, RN, CCRN, CCNS
University of Arizona Medical Center
Tucson, AZ
Chapter 7, Basic Hemodynamic Monitoring

Thacker, Diana, BSN, RN
Kentucky Organ Donor Affiliates
Lexington, KY
Chapter 38, Solid Organ and Hematopoietic Stem Cell Transplantation (with Kathleen Wagner)

Welsh, Darlene, PhD, RN
University of Kentucky College of Nursing
Lexington, KY
Chapter 13, Alterations in Cardiac Function (with Kathleen Wagner)
Chapter 14, Alterations in Myocardial Tissue Perfusion

Accuracy Reviewer

Rachel Kinder, PhD, RN
Associate Professor
Western Michigan University
Bowling Green, KY

Reviewers

Angie Koller, MSN, RN
Ivy Tech Community College-Central Indiana
Indianapolis, IN

Deanna L. Reising, PhD, RN, ACNS-BC, ANEF
Indiana University School of Nursing
Bloomington, IN

Collin Bowman-Woodall, MS, RN
Samuel Merritt University
San Mateo, CA

Jody Crossman, RN BSN
City College of San Francisco
San Francisco, CA

Sandra Wolfe Citty, PhD, ARNP-BC
University of Florida
Gainesville, Florida

Diane Mulbrook, MA, RN
Mount Mercy University
Cedar Rapids, IA

Sheri Tesseyman, RN, MS
Westminster College School of Nursing and Health Sciences
Salt Lake City, Utah

Sue Gosse, Ph.D., RN
Eastern Illinois University
Charleston, IL

Barbara Farris, MSN, RN
Radford University School of Nursing
Radford, VA

Phyllis D. Wille, RN, MS, FNP-C, CNN
Danville Area Community College
Danville, Ilinois

Melissa A. Bathish, PhD(c), RN, CPNP-PC
University of Michigan School of Nursing
Ann Arbor, MI

Judy Stauder, MSN, RN
Stark State College
North Canton, Ohio

Elizabeth G. Mencel, RN, MSN, CNE
Montgomery County Community College,
Blue Bell, PA

Laura B. Sutton, PhD, ACNS-BC
University of Florida College of Nursing
Gainesville, FL

Kristiann T. Willliams, DNP, APRN, FNP-C
Weber State University
Ogden, Utah

Jennie M. Wood, PhD, RN, CNE
Youngstown State University
Youngstown, OH

Michele Ochoa Oross, RN, BS, MPA
City College of San Francisco
San Francisco, CA

Heather Kendall, RN, MSN, CCRN-CMC-CSC
Missouri Western State University
St. Joseph, MO

Antoinette France, MSNed, RN, CCRN
Salt Lake Community College
Salt Lake City, Utah

Donna Molyneaux, PhD, RN
Gwynedd-Mercy College
Gwynedd Valley, Pa

Karen Loving, MSN, RNC
Gwynedd-Mercy College
Gwynedd Valley, PA

Deborah Barlock, MSN, RN
Cleveland State University
Cleveland, OH

Becky Brown, MSN, BSN
College of Southern Idaho
Twin Falls, ID

Joni Goldwasser, MSN, APRN, FNP-BC
Radford University Waldron College School of Nursing
Radford, Virginia

Bonnie Kirkpatrick, RN, MS, CNS
The Ohio State University
Columbus, OH

Karen Kulhanek, MA, BSN
Kellogg Community College
Battle Creek, MI

Gail Nelson, MSN, BSN
Westminster College School of Nursing
Salt Lake City, UT

Raywattie Sooklall, PhD, MSN, BSN
Palm Beach State College
Lake Worth, FL

Preface

When the first edition of *High-Acuity Nursing* was published in 1992, the term *high-acuity* was largely confined to leveling patient acuity for determining hospital staffing needs rather than being applied to a type of nursing care or education. Since that time, the meaning of the term *high-acuity nursing* has been evolving to increasingly represent a distinct category of nursing that denotes care of complex patients outside of the critical care setting.

For the purposes of this textbook, we continue to define *high-acuity* in a way that is consistent with our original intent–that it represents a level of patient problems beyond uncomplicated acute illness on a health–illness continuum. The high-acuity nurse then, cares for complex patients with unpredictable outcomes across care settings (to include critical care). Today, high-acuity patients are found in many health care settings, from high-skill long-term facilities to critical-care units. The patient population is older and faces an increased number of health issues upon entering the health-care system. Hospitalized patients are being discharged earlier, often in a poorer state of health. In the home-health setting, nurses provide care to patients with mechanical ventilators, central venous catheter lines, IV antibiotic therapy, and complicated injuries. Whereas critical-care units are considered specialty areas within the hospital walls, much of the knowledge required to work within those specialties is generalist in nature. It is this generalist knowledge base that is needed by all nurses who work with patients experiencing complex care problems to assure competent and safe nursing practice.

New to This Edition

The sixth edition of the book has undergone a chapter reorganization based on feedback from faculty and students.

- All chapters have been updated and many have been reorganized and expanded.
- Bulleted chapter summaries are included on the Student Resources site.
- Answers to the Clinical Reasoning Checkpoint exercises are now available on the Student Resources site.
- Posttest items have been revised to reflect changes in content and are written using NCLEX style; answers and their rationales are located on the Student Resources website.
- Emerging Evidence boxes have been updated.
- Oncological emergencies, hypertensive crises, and acute aortic problems and crises have been added.
- A new chapter has been added focusing on metabolic responses to stress that complicate the patient's illness and recovery, such as thyroid and adrenal gland issues.
- The Table of Contents is now annotated with chapter section titles for ease of checking chapter contents.
- The Related Pharmacotherapy boxes now include adult dosages.

Purpose of the Text

The *High-Acuity Nursing* text delivers critical information focusing on the adult patient, using learner-focused, active learning principles, with concise language and a user-friendly format. The book's design breaks down complex information into small, discrete chunks for easy understanding. Self-testing is provided throughout the text, using short section quizzes and Posttests. All answers to the section review quizzes are provided to give learners immediate feedback on their command of section content before proceeding to the next chapter section.

The chapters in this book focus on the relationship between pathophysiology and the nursing process with the following goals in mind

1. To revisit and translate critical pathophysiological concepts pertaining to the high-acuity adult patient in a clinically applicable manner.
2. To examine the interrelationships among physiological concepts.
3. To enhance clinical decision-making skills.
4. To provide immediate feedback to the learner regarding assimilation of concepts and principles.
5. To provide self-paced learning.

Ultimately, the goal is for the learner to be able to approach patient care conceptually, so that care is provided with a strong underlying understanding of its rationale.

This book is appropriate for use in multiple educational settings, including undergraduate nursing students, novice nurses, novice critical-care nurses, and home-health nurses. It also serves as a review book for the experienced nurse wanting updated information about high-acuity nursing for continuing education purposes. Hospital staff development departments will find it useful as supplemental or required reading for nursing staff, or high-acuity/critical-care classes.

Organization of the Text

The book is divided into ten parts: Introduction to High-Acuity Nursing, Therapeutic Support of the High-Acuity Patient, Pulmonary, Cardiovascular, Neurological, Gastrointestinal, Fluid and Electrolytes, Hematologic, Nutrition and Metabolism, and Multisystem Dysfunction.

Part One: Introduction to High-Acuity Nursing is composed of three introductory chapters with topics that apply across high-acuity problems, including an introduction to high-acuity nursing and the care of high-acuity patients, and important considerations when caring for the high-acuity older adult. Part Two: Therapeutic Support of the High-Acuity Patient, is composed of six chapters that focus on supportive interventions, including pain management, nutrition support, mechanical ventilation, hemodynamic monitoring, basic cardiac rhythm

monitoring, and complex wound management. Parts Three through Ten cover topics that represent the more common complex health problems, assessments, and treatments associated with high-acuity adult patients.

All chapters contain Learning Outcomes, Section Review Questions, Clinical Reasoning Checkpoint, Chapter Summary and Posttest. Each chapter is divided into small sections that cover one facet of the chapter's topic (e.g., pathophysiology or nursing management), and each section ends with a short self-assessment review quiz. Key words are bolded throughout the chapters to indicate glossary terms defined in the textbook's Glossary. Parts 3 through 10 of the book are composed of two different types of chapters, including *Determinants and Assessment* chapters and *Alterations* chapters.

Determinants and Assessment Chapters Each part begins with an overview of normal concepts that provides a solid foundation for understanding the diseases being presented. Normal anatomy and physiology are reviewed and relevant diagnostic tests and assessments are profiled. The therapeutic support and disease-focused (Alterations) chapters draw heavily on the normal concepts, diagnostic tests, and assessments covered in their respective *Determinants and Assessment* chapters.

Alterations Chapters Following each *Determinants and Assessment* chapter is a series of organ- or concept-specific chapters that focus on a single topic area. The majority of *Alterations* chapters are based on body systems (e.g., Chapter 10, Alterations in Pulmonary Function) and include the pathophysiology, assessments, diagnostic testing, and collaborative management of disorders commonly seen in high-acuity adult patients. Several *Alterations* chapters focus on complications of high-acuity illness, such as multiple organ dysfunction syndrome and sensory motor complications of acute illness. The pathophysiologic basis of disease is emphasized in this textbook with the belief that strong foundational knowledge about the basis of disease improves learner understanding of the associated disease manifestations and rationales for treatment.

Summary

This text focuses on major problems and therapies frequently encountered in high-acuity patients. It is not designed as a comprehensive textbook of adult medical-surgical or critical-care nursing. The book's format reduces learner feelings of being overwhelmed by complex information. Learners are more apt to feel in command of the concepts, giving them the confidence to proceed to the more complex concepts. The sixth edition of *High-Acuity Nursing* has maintained the overall look and feel of the previous editions, with some valuable changes. Although the sixth edition has been reorganized, we have not compromised our interactive approach. The ultimate goal of this book continues to be to enhance the preparation of nurses for practice in today's health care settings.

Kathleen Dorman Wagner
Melanie G. Hardin-Pierce

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With any publication, there are several years of sweat and tears that go into its development. To our Development Editors, Pam Lappies and Elizabeth Cosgrove, thank you both so much for your patience, diligence, sense of humor and work ethic—the book would have never made it to fruition without your hard work. It has been a true pleasure to work with you! We would also like to warmly acknowledge the wonderful work of our Accuracy Reviewer, Dr. Rachel Kinder, PhD, RN, whose meticulous scrutiny of the information in the book chapters made our work much easier and significantly enhanced the quality and accuracy of the book. Finally, our warm thanks also to our Posttest item writer, Pamela Fowler, who significantly added to the value of the Posttests.

Contents

1

High-Acuity Nursing

LEARNING OUTCOMES

Following completion of this chapter, the learner will be able to

1. Discuss the various healthcare environments in which high-acuity patients receive care.
2. Identify the need for resource allocation and staffing strategies for high-acuity patients.
3. Examine the use of technology in high-acuity environments.
4. Identify the components of a healthy work environment.
5. Discuss the importance of patient safety in the high-acuity environment.

This chapter provides an introduction to the environments in which adult high-acuity nursing care is provided. High-acuity-care environments include any acute-care areas in which complex patients with unpredictable outcomes are managed regardless of the exact environment. The patient may be in a critical care unit or in an intermediate-care or general medical-surgical setting. This chapter also provides an overview of issues that nurses must deal with when working in high-acuity-care environments, particularly critical care, and emphasis is placed on the importance of developing a healthy work environment in which patient safety is paramount.

Author's note: The American College of Critical Care Medicine (ACCM) and American Association of Critical Care Nursing (AACN) guidelines presented in this chapter remain current although many of them were developed in the late 1990s to mid-2000s.

SECTION ONE: High-Acuity Environment

While care has always been provided for high-acuity patients, the creation of specialized units in which to care for them with specially trained personnel is a relatively recent development. This section provides an overview of how and why critical care units were initially developed, how patients are triaged into the correct level of care to best meet their needs, and the different levels of intensive care. The section ends with a profile of the high-acuity nurse.

Historical Perspective

Intensive care units (ICUs) were first developed in the early 1960s. There were multiple reasons for their development, including (1) the implementation of cardiopulmonary resuscitation (CPR) so that people might survive sudden-death events; (2) better understanding of the treatment of hypovolemic shock related to recent war experiences; (3) the implementation of emergency medical services, resulting in improved transport systems; (4) the development of technologic inventions that required close observation for effective use (electrocardiographic monitoring); and (5) the initiation of renal transplant surgery. The first ICUs were recovery rooms. Patients admitted were still anesthetized. Problems resulted, however, when the volume of surgical procedures increased, and recovery rooms quickly became full. The patient who required extra equipment and prolonged observation was placed in the newly created ICU.

Determining the Level of Care Needed

Although high-acuity patients are viewed historically as being in an acute care unit, because of the shortage of acute care beds this is no longer true. This shortage of beds combined with skyrocketing costs for healthcare requires practitioners to make decisions about where in the hospital high-acuity patients are placed so that they receive the most efficient and cost-effective care. This may mean the patient is placed in an ICU, an **intermediate-care unit (IMC),** or a medical–surgical acute care unit. These triage decisions require a systematic approach so that optimal outcomes and controlled costs are achieved.

TABLE 1–1 Prioritization of Admission, Discharge, and Triage of Acutely Ill Patients in an ICU

Priority for ICU Placement	Description of Patient Characteristics
Priority 1	The patient is acutely ill, unstable, and requires intensive treatment and monitoring that cannot be provided outside of the ICU (mechanical ventilation, continuous vasoactive drug infusions). There are no limits on the extent of intended interventions. Examples may include postoperative or acute respiratory failure patients requiring mechanical ventilator support, and shock or hemodynamically unstable patients receiving invasive monitoring and/or vasoactive drugs.
Priority 2	The patient requires intensive monitoring and may potentially need immediate intervention. There are no limits on the extent of intended interventions. Examples include patients with chronic comorbid conditions who develop acute severe medical or surgical illness.
Priority 3	The patient is critically ill and unstable, with a reduced likelihood of recovery because of underlying disease or the nature of the acute illness. The patient may receive intensive treatment to relieve acute illness; however, limits on therapeutic efforts may be set, such as no intubation or cardiopulmonary resuscitation. Examples include patients with metastatic malignancy complicated by infection, cardiac tamponade, or airway obstruction.
Priority 4	This patient is generally not appropriate for ICU admission. Determination of admission should be made on an individual basis, under unusual circumstances, and at the discretion of the ICU director. Examples include patients with peripheral vascular surgery, stable diabetic ketoacidosis, or conscious drug overdose, as well as patients with terminal and irreversible illness facing immediate death.

Data from ACCM (1999).

The use of intermediate-care or step-down units may provide an efficient distribution of resources for the patient whose acute illness requires less monitoring equipment and staffing than is provided in an ICU. The intermediate-care unit serves as a place for the monitoring and care of patients with moderate or potentially severe physiologic instability who require technical support but not necessarily artificial life support; it is reserved for those patients requiring less-than-standard intensive care but more-than-standard ward care. Guidelines for admission and discharge for adult intermediate-care units were originally established by the American College of Critical Care Medicine (ACCM) (ACCM, 1998).

The Society of Critical Care Medicine (SCCM) recommends using a prioritization model to help make decisions about appropriate admission, discharge, and triage of acutely ill patients in an ICU (ACCM, 1999). The model defines which patients may benefit most from receiving care in an ICU. This prioritization model is summarized in Table 1–1. Priority 1 includes the most critically ill, and Priority 4 includes those who are generally not appropriate candidates for ICU admission.

Levels of Intensive Care Units

ICUs vary from hospital to hospital in terms of the services provided, the personnel, and their level of expertise. Large medical centers frequently have multiple ICUs defined by specialty area (neurosurgical ICU, trauma ICU). Small hospitals may have only one ICU designed to care for a variety of patients with medical or surgical disease processes. Although the types and varieties of ICUs may differ from one hospital to the next, all ICUs have the responsibility of providing services and personnel to ensure optimal care. The American College of Critical Care Medicine has identified three levels of ICUs as determined by resources available to the hospital (Haupt et al., 2003). These levels are summarized in Table 1–2.

When an acutely ill patient requires more comprehensive or specialized care, a decision must be made to transfer the

TABLE 1–2 ACCM Definitions of ICU Levels of Care

ICU Level	Description of Services, Personnel
Level I	Hospitals with ICUs that provide comprehensive care for patients with a wide range of disorders. Sophisticated equipment is available. Units are staffed with specialized nurses and HCPs with critical care training. Comprehensive support services are available and include pharmacy, respiratory therapy, nutritional support, social services, and pastoral care. These units may be located within an academic teaching hospital or may be community based.
Level II	Hospitals with ICUs that have the capability of providing comprehensive care to most critically ill patients but not to specific patient populations (neurosurgical, cardiothoracic, trauma).
Level III	Hospitals with ICUs that have the ability to provide initial stabilization of critically ill patients but are limited in their ability to provide comprehensive care for all patients. These hospitals are able to care for ICU patients requiring routine care and monitoring.

Data from ACCM (2003).

patient to a higher level of ICU care where additional personnel and resources are available. Transporting a patient from one area of the hospital to another or from one hospital to another involves risk. The decision to transport a patient must include an assessment of the risk-to-benefit ratio. Guidelines for the transfer of critically ill patients are available to help make these important decisions (Warren, 2004). According to these guidelines, hospitals should have policies and procedures that address pretransport coordination and communication, personnel who must accompany the patient, equipment to accompany the patient, and the monitoring that will be required during the transport. It is recommended that clinicians use an algorithm (■ Fig. 1–1) in the decision-making process of transferring acutely ill patients to a higher level of care.

Profile of the High-Acuity Nurse

The nurse caring for the high-acuity patient must be able to analyze clinical situations, make decisions based on this analysis, and rapidly intervene to ensure optimal patient outcomes. It is required that the nurse be comfortable with uncertainty and patient instability. The nurse is instrumental in treating patients' health problems as well as their reactions to the healthcare environment. The nurse is the only member of the healthcare team who remains at the bedside and, as a result, is frequently the one who coordinates patient care. The practice of nursing is dynamic, and the role of the nurse continues to evolve. Nurses must be able to adapt to the changing healthcare environment.

The nurse is often the first member of the healthcare team to detect early signs of an impending complication. Constant surveillance by the nurse involves assessing and monitoring the patient for signs of subtle changes over time. Often such changes in a patient's condition are clues of a possible impending complication. The prevention of complications is one of the primary goals of the acute-care nurse. Evidence suggests that constant surveillance by nurses reduces mortality and life-threatening complications in the hospitalized patient (Shever, 2011).

Section One Review

1. Which statement about intermediate-care units is correct?
   - **A.** They are outdated and should not be used.
   - **B.** They are labor intensive and are not cost effective.
   - **C.** They provide an efficient distribution of resources.
   - **D.** They are reserved for patients with life-threatening illnesses.
2. Which priority level indicates that the patient is acutely ill and unstable and requires intensive treatment and monitoring that cannot be provided outside the ICU?
   - **A.** Priority 1
   - **B.** Priority 2
   - **C.** Priority 3
   - **D.** Priority 4
3. Which factor has been shown to reduce mortality and life-threatening complications in the hospitalized patient?
   - **A.** A nurse–patient ratio of 1:2
   - **B.** Constant surveillance of patients by nurses
   - **C.** High-technology ICUs
   - **D.** IMCs
4. A hospital with an ICU that has the capability of providing comprehensive care to most critically ill patients but not to trauma patients meets the criteria for which level ICU?
   - **A.** I
   - **B.** II
   - **C.** III
   - **D.** IV

Answers: 1. C, 2. A, 3. B, 4. B.

SECTION TWO: Resource Allocation

Providing safe, high-quality care to high-acuity patients requires lower nurse–patient ratios, which increases expenses. Furthermore, acute care facilities have limited numbers of beds for patients who require high levels of care. Thus resource allocation is an important consideration.

Nurse Staffing

Nurses willing to work with high-acuity patients are a precious commodity. Decreased third-party reimbursement and managed care encourage shorter hospital lengths of stay. As a cost-reducing measure, hospitals have reduced professional nursing staff positions. In the late 1990s, hospital restructuring and reengineering forced bedside nurses to embrace new concepts such as role redesign, work transformation, and patient-centered care (Boston-Fleischhauer, 2008). Hospital employees, including nurses, were required to cross-train and "float" to care for patients outside their specialty areas. Unlicensed assistive personnel (UAP) were trained and supervised by nurses to complete patient care tasks. All these changes led to decreased job satisfaction and nurses leaving practice in high-acuity areas.

Other factors have contributed to the shortage of nurses. The registered nurse (RN) workforce is rapidly aging and fewer young people are choosing nursing as a career. In addition, as the population continues to age, more patients will require high-acuity care. Nursing-shortage issues are multifaceted and will continue to require comprehensive solutions. These may include federal funding for nursing education, changes in state regulations related to staffing standards, and increased public awareness (Duvall & Andrews, 2010).

Nurse-Patient Ratios A decrease in the number of professional nurses has forced hospitals to increase nurse–patient ratios. The result: One nurse cares for more patients. What is the appropriate nurse–patient ratio in high-acuity settings? The Academy of Medical Surgical Nurses (AMSN) is not in favor of establishing predetermined ratios. Rather, the needs of the patient and the skill mix of the nursing staff must be considered when making decisions about staffing patterns. Adequate resources must be available to evaluate the patient/family response to treatment, education, and pharmacological interventions (AMSN, 2009). The position of the American Association of Critical Care Nurses (AACN) is consistent with that of AMSN.

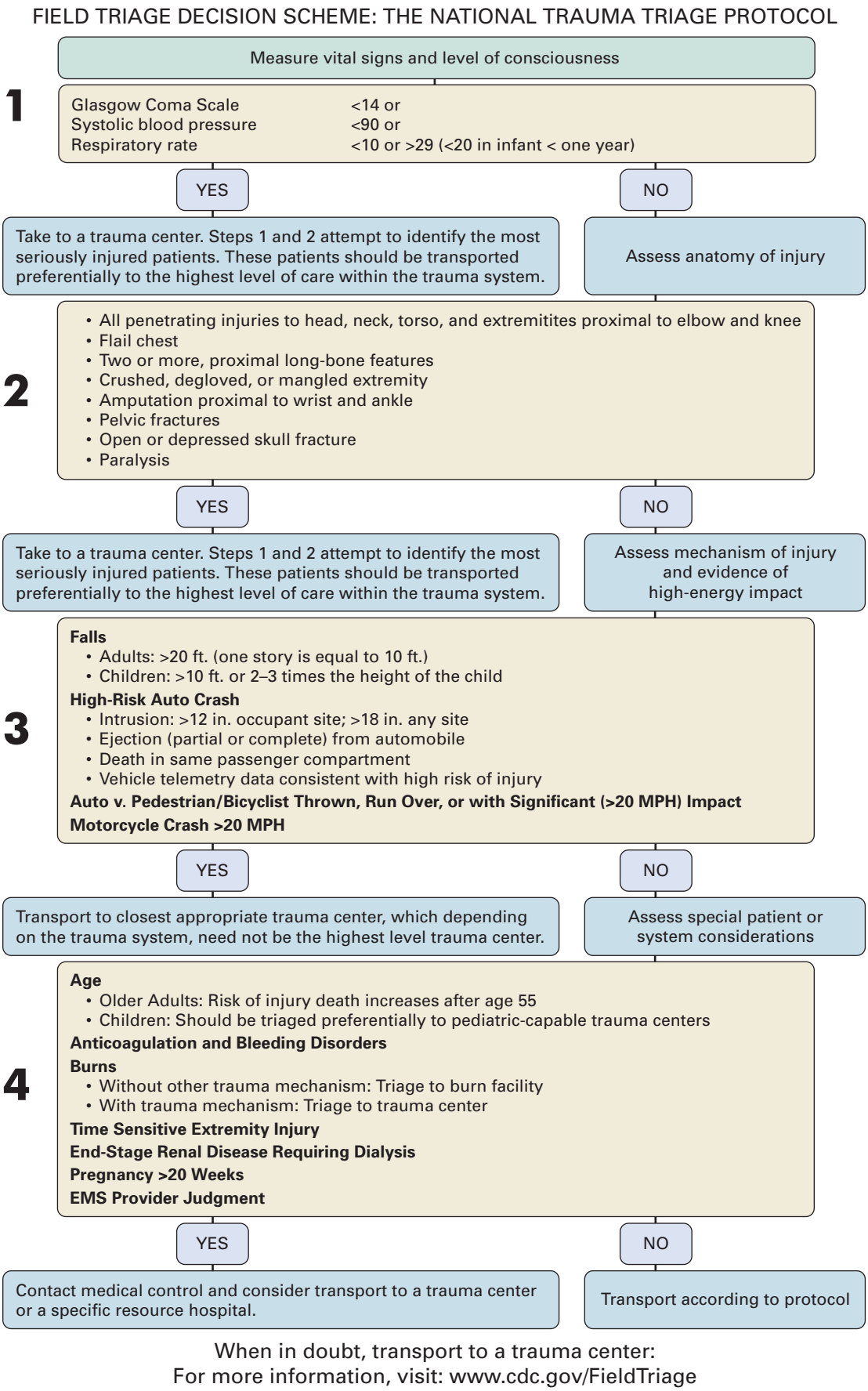

FIGURE 1–1 Field Triage Decision Scheme: The National Trauma Triage Protocol

Guidelines for the transfer of critically ill patients, Critical Care Medicine, American College of Critical Care Medicine (ACCM). Lippincott Williams and Wilkins, 1993, 21, 931–937.

Staffing is both a process and an outcome. Optimal care is provided when the patient's needs are matched with the caregiver's competencies. The first principle of staffing should be to provide safe and effective patient care. The patient's acuity level and the intensity of their nursing care requirements should determine the nurse–patient ratio (AACN, 2003; AACN, 2005).

The reduction in professional nursing staff has encouraged an upgrade of nursing assistant skills. The AMSN supports the use of UAP to enable the professional nurse to provide nursing care (AMSN, 2009). When UAP provide direct patient care, they are accountable to, and work under, the direct supervision of the professional nurse. The registered nurse must use leadership skills to safely and legally delegate tasks to the UAP.

Magnet Status: Recruiting and Retaining Nurses

One potential solution to the nursing shortage has been the Magnet Recognition Program®. This concept, originally developed in the 1980s by the American Nurses Credentialing Center, awards hospitals a **Magnet designation** if they are able to create working environments that are successful in recruiting and retaining professional nurses. In effect, these environments act like magnets to attract nurses. Hospitals that achieve "Magnet status" have practice models that promote professional nursing. Nurses who work at Magnet hospitals are more involved in decision making, report better relations with physicians, and have higher nurse–patient ratios. Hospitals with Magnet status report their patients have shorter ICU stays and shorter hospital stays. The Magnet hospital program has been successful over time, but it can be improved. Further studies are needed to evaluate the effects of Magnet hospital status on patient outcomes and to update and identify the essential components of Magnetism (Kramer & Schmalenberg, 2005; Ulrich, 2009).

Decreasing Resources, Increasing Care Needs

Decisions about allocation of resources must be made when there is a need to place patients in acute care areas (specifically in ICU or step-down), but there are no beds available. Who is in need of the greatest healthcare resources when they are acutely ill?

Who Belongs in an ICU?

The priority levels depicted in Table 1–1 were developed to assist clinicians in making these tough decisions about admission, discharge, and triage in high–acuity care areas. Some could argue that ICU resources should be used for patients who have the greatest probability of benefiting or have a higher quality of life. If resource allocation were based on these principles, the actual precipitating event that created the need for resources would be irrelevant. Therefore, oncology patients, trauma patients, the young, and the old would be considered equally. Futility of treatment and informed refusal by the patient may be acceptable reasons for healthcare providers (HCPs) to limit treatment. Although these issues occur daily in the care of high-acuity patients, they also occur in a larger context of society that includes ethical, economic, and legal considerations (Adhikari, Fowler, Bhagwanjee, & Rubenfeld, 2010).

Oncology patients are often stereotyped as not being candidates for aggressive treatment. However, they frequently become acutely ill from therapeutic interventions. Should these patients be denied access to resources when their conditions are induced? During a patient's final hours, high-acuity care may be deemed appropriate because intensive efforts may be required to ensure suffering is minimized during and after removal from life support. The improvement of the quality of the dying and death experience is recognized as an important goal in modern medicine (Hales, Zimmerman, & Rodin, 2010).

Age has been used to justify the withholding of resources from the elderly. Extended care in the ICU has been questioned because of the high mortality rate among older adult patients. However, some studies of healthy elderly patients have shown that they often fare as well as younger patients. Elderly patients with minimal comorbidities appear to have similar health benefits following coronary artery bypass surgery when compared with younger patients. The severity of illness episode, admitting diagnosis, and the patient's previous health status contribute to patient outcomes. A high-acuity patient admitted to the hospital with a preexisting chronic medical condition may pose a greater risk of dying when compared to a patient who is not chronically ill.

It is difficult to predict who will benefit from care in high-acuity areas. Severity-of-illness scales and probability models were developed for this purpose. The Injury Severity Scale, New Injury Severity Scale, Acute Physiologic and Chronic HealthCare Evaluation, and Trauma Registry Abbreviated Injury Scale are examples of severity of illness scales used in hospitals (Moore, 2008). However, the exclusive use of such indices has not been a completely accurate predictor of outcomes. Other factors must be taken into account. For example, functional capacity prior to illness, as well as age and physiologic status, have been associated with patient outcomes (Moore, 2008). Mortality is usually the outcome studied in high-acuity care. Outcomes may also include patient comfort, quality of life, functional status, and other variables in addition to living and dying. While the use of severity of illness scales is important to compare patient populations for research and resource allocation (Moore, 2008), patients and their families consider multiple outcomes when deciding whether to withdraw life support.

Making decisions about allocation of resources is a real, but unspecified, aspect of the nursing role with high-acuity patients. These decisions force healthcare providers to make comparisons based on personal beliefs. Technology alone cannot provide information about who may live and die. Families play an important role in resource utilization. Family involvement in these decisions may ultimately decrease the use of technological resources and increase comfort measures during the last hours before death. Goals for care must be discussed with the patient and family, allowing ample time for meaningful discussion; and facilitating these decisions requires adequate training, excellent communication skills, and a collaborative effort by the interdisciplinary team (Randall & Vincent, 2010). Patients who die in high-acuity areas consume significant resources. The value of end-of-life care is subjective and cost alone cannot be used to justify the use of healthcare resources. Each patient situation is different (Schneiderman, 2011).

Section Two Review

1. Which statement is accurate concerning unlicensed assistive personnel (UAP)?
   - **A.** UAP may not work in high-acuity environments.
   - **B.** UAP may work independently as long as they notify the RN at the end of their shifts.
   - **C.** UAP perform only those tasks delegated to them by a professional nurse.
   - **D.** UAP may obtain a patient health history.
2. What does the designation of Magnet status indicate?
   - **A.** The hospital uses UAP to deliver most nursing care.
   - **B.** The hospital uses practice models that promote professional nursing.
   - **C.** The hospital has low nurse–patient ratios.
   - **D.** The hospital is not a desirable place for professional nurses to work.
3. According to some, ICU resources should be used for which patients?
   - **A.** Those with cancer
   - **B.** Those of advanced age
   - **C.** Those with DNR orders
   - **D.** Those who have the greatest possibility of benefiting
4. Which statement is correct regarding the improvement of the death and dying experience?
   - **A.** It is a goal of modern medicine.
   - **B.** It is the sole responsibility of the high-acuity nurse.
   - **C.** It is not a standard of care in high-acuity units.
   - **D.** It is the sole responsibility of the palliative care team.

Answers: 1. C, 2. B, 3. D, 4. A

Emerging Evidence

- In a study involving 12,233 experienced nurses from 717 clinical units in 34 Magnet hospitals, investigators found that 82% of the nurses on 540 of the clinical units rated their work environment as very healthy or healthy. The nurses' rating of the quality of care directly correlated with the quality of the work environment. Visionary leadership, empowerment, and collaboration had an impact on the development and maintenance of a healthy work environment *(Kramer, Maguire, & Brewer, 2011).*
- Investigators surveyed 744 ICU nurses to explore whether psychological resilience (ability to thrive in the presence of adversity) was a characteristic of ICU nurses with a healthier psychological profile. They concluded that the prevalence of posttraumatic stress disorder (PTSD) was lower in nurses with high psychological resilience *(Mealer et al., 2012).*
- In a study of the effects of nurse staffing, nurse education, and work environments on patient outcomes, investigators concluded that outcomes were improved in hospitals in which a higher percentage of BSN nurses were employed. Furthermore, patient outcomes improved the most in hospitals with lower nurse–patient ratios—the most improved outcomes being associated with good work environments, moderately improved outcomes with average work environments, and no correlation with poor work environments *(Aiken et al., 2011).*
- A study of nursing students using PDAs throughout their educational process was conducted at three campus sites. From an initial sample of 105 participants, 75 had completed the study at the end of 2 years. The students were asked structured and open-ended questions to assess their perspectives on PDA usage. The researchers concluded that PDAs are useful clinical tools that provide quick and important information for safer care *(Hudson & Buell, 2011).*

SECTION THREE: Use of Technology in High-Acuity Environments

In medical, business, academic, and many other work environments, technology influences how we communicate, document, evaluate, and conduct business—whether that business is making a product or taking care of patients. A major advantage of having technology available in the high-acuity environment is that the patient's status can be monitored continuously, using sensitive physiologic indicators of changing status. In the unstable patient, the ability to assess a possible problem before it becomes a full-blown complication may make the difference between life and death for that patient.

Technology is also a useful tool that can assist high-acuity nurses and other healthcare professionals in making critical decisions. Although decision making is viewed as somewhat artful and intuitive, computers use a scientific, programmed approach based on a massive database and algorithmic decision-making trees. Computer software programs are available to help diagnose patient conditions. Furthermore, handheld computer devices, such as the personal digital assistant (PDA) can provide quick bedside access to drug and diagnostic information (Hudson & Buell, 2011). Cellular smartphones and tablet technology also provide rapid access to a wide variety of medical-related applications that can assist with conversions and calculations, drug and disease information, and diagnostics.

While technology has provided the nurse with many advantages and improved patient outcomes, it has also given rise to some important issues. Nurses who care for acutely ill patients must be able to use technology in the caring process and still recognize its limits.

Patient Depersonalization

A major criticism of nurses who work with high-acuity patients is that they are too technologically oriented. The focus of nursing care in high-acuity patient care units is on monitoring patients for subtle physiologic changes. This monitoring requires the nurse to use multiple technologies. The patient interfaces with members of the healthcare team and medical equipment in the diagnosis and management of the patient's

disease process. Difficulties arise when machines, rather than individual patient needs, become the focus of care of the high-acuity patient. Technology must be used to enhance care, not take the place of a nurse's personal knowledge, observation skills, and senses.

Technical devices present mechanical impediments to touching the patient. Little surface area may be available for physical contact, and this may lead to a feeling of depersonalization. Technology may evoke fear in patients and contribute to their anxiety about their recovery process.

Overload and Overreliance Issues

Having responsibility for multiple pieces of equipment can increase the nurse's stress level. Because of the massive amount of patient data available, nurses may be reaching a saturation point in data processing. "Alarm fatigue" occurs when the number and frequency of alarms becomes overwhelming, resulting in delayed alarm responses and deliberate alarm deactivations, both of which adversely affect patient safety (Solet & Barach, 2012).

Technology can be so intriguing that its primary purpose—to support the well-being of the patient—is lost. Technology may create demands where no demands existed before, such as that which occurs with the fragmentation of patients into subpopulations (e.g., bone marrow transplant unit, cardiac surgery unit). Each subpopulation has its own special staff competing for hospital resources. Machines compete with the patient for nursing surveillance. It is possible that nurses become so dependent on monitoring devices that they completely trust the equipment, even when the data conflict with their own clinical assessments.

Finding a Balance

The skilled nurse who practices in a high-acuity setting must be able to bridge the gap between complex technology and the art of caring. When new technologies are introduced at the bedside, it is commonplace for the nurse to focus initially on the technology because of the need to gain proficiency in the use of this technology to support patient care. To foster proficiency, it is important that the nurse be given the opportunity to become familiar with a technology before its actual use in patient care; thus, appropriate training in the use of high-tech equipment is crucial. A high degree of comfort with technology prevents it from becoming the focus of care. Nurses are at risk for becoming overly dependent on technology for clinical decision making, making it essential that the nurse validate the technologic data with nursing assessment data. The healthcare practitioner, not the technology, is ultimately responsible for clinical decisions. The element of human touch must never be removed from the bedside (Holmstrom, 2010).

Section Three Review

1. What are the hazards inherent in the use of technology? (Select all that apply.)
   - **A.** Fragmenting patients into subpopulations
   - **B.** Increasing the nurse's stress level
   - **C.** Allowing more time for patient contact
   - **D.** Making the patient overdependent on monitoring equipment
2. Which statements are correct regarding the use of technical devices in high-acuity care? (Select all that apply.)
   - **A.** They present mechanical impediments to touching.
   - **B.** They are usually well accepted by patients.
   - **C.** They may evoke fear in patients.
   - **D.** They lead to a feeling of depersonalization.
3. What should be the focus of care of the high-acuity patient?
   - **A.** Bedside machines
   - **B.** Individual patient needs
   - **C.** The alarms on the machines
   - **D.** The nurse's needs
4. What should the nurse use to validate the technologic data?
   - **A.** Nursing assessment data
   - **B.** The healthcare provider
   - **C.** Other technologic data
   - **D.** Another nurse

Answers: 1. (A, B), 2. (A, C, D), 3. B, 4. A

SECTION FOUR: Healthy Work Environment

Nurses work in demanding situations over long periods of time. The quest to provide high-quality patient care in a work environment that has decreasing resources and increasing responsibilities creates conflict. This conflict creates feelings of personal and professional frustration and results in burnout (Davies, 2008). Working in a healthy environment increases job satisfaction and provides a buffer against stress and burnout. This section presents a discussion of what constitutes a healthy high-acuity work environment, the issue of nurse burnout, and how nurses can learn to cope with work stress.

Healthy Work Environment

In 2001, the American Association of Critical Care Nurses (AACN) made a commitment to promote healthy work environments that support quality patient care and high levels of nurse satisfaction. Six standards were identified that are critical to create and sustain a **healthy work environment** (AACN, 2005). These standards are listed in Table 1–3. AACN believes that the implementation of these standards will be an important step in meeting the commitment for a healthy work environment. This will, in turn, lead to improved patient safety, enhanced recruitment and retention, and positive patient outcomes (AACN, 2005).

Organizations can implement strategies to improve the working environment, but it is the nurse who must validate their effectiveness. High-acuity nurses are the gatekeepers of patient safety. Structures, processes, and outcomes are required for quality care—that is, having the "right things in place" to do the "right things" so that the "right outcomes" will happen. A healthy and productive work environment allows the nurse to give excellent care to patients while achieving job satisfaction (Kramer, Schmalenberg, & Maguire, 2010).

TABLE 1–3 AACN Standards for Healthy Work Environments

Standard	Definition
Skilled communication	Nurses must be as proficient in communication skills as they are in clinical skills.
True collaboration	Nurses must be relentless in pursuing and fostering true collaboration.
Effective decision making	Nurses must be valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations.
Appropriate staffing	Staffing must ensure the effective match between patient needs and nurse competencies.
Meaningful recognition	Nurses must be recognized and recognize others for the value each brings to the work of the organization.
Authentic leadership	Nurse leaders must fully embrace the imperative of a healthy work environment, authentically live it, and engage others in its achievement.

Data from AACN (2005).

Stress and Burnout

The term **burnout** has been used to describe feelings of personal and professional frustration, job dissatisfaction, job insecurity, and emotional and physical exertion. It is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishments that occurs among individuals who work with people on a daily basis. When asked to describe burnout, healthcare professionals invariably talk about being overworked, feeling a lack of control, insufficient rewards, and conflicting values (Gabel, 2011). Symptoms indicative of burnout are summarized in Box 1–1.

Patients' conditions change rapidly in high-acuity units, and this may be a source of burnout for nurses who work in these areas because it requires philosophical flexibility. A patient with a poor prognosis may have a prolonged stay that involves the use of multiple technologies. Then, in the middle of a shift, a decision is made to cease these efforts. The patient may improve, requiring reevaluation and escalation of care. Conversely, a patient is declared dead by brain death criteria and immediately thereafter may become an organ donor. This requires the nurse to shift from caring for a patient to caring for organs for another patient. It is also quite common that within minutes after a patient's death, the nurse is told that a new patient is waiting to come into that very same bed. The nurse must mourn one patient's death and then minutes later invest energy in a new patient. A significant degree of uncertainty is confronted on a daily basis. A broad-based end-of-life-care curriculum may be instrumental in assisting the high-acuity nurse to cope with the daily stress of changing patient conditions.

Stress is a major component of burnout. A current reason for stress and subsequent burnout in nurses is the nursing shortage, long working hours, and loss of concentration (Davies, 2008). Other sources of stress include giving emotional support during patient suffering and dealing on a daily basis with pain and traumatic loss. Often this can lead to poor self-care, which can influence their ability to appropriately care for patients (Shiparski, Richards, & Nelson, 2011).

BOX 1–1 Symptoms of Burnout

Behavioral
- Withdrawal
- Risk taking and impulsiveness
- Ambivalence
- Decreased productivity
- Contemplating career change
- Increased use of caffeine, alcohol, and nicotine

Physiologic
- Chronic fatigue
- Frequent minor ailments
- Sleep changes
- Appetite change
- Sexual difficulty

Psychologic
- Attempts to blame others
- Stereotyping patients
- Nightmares
- Depression
- Hostility and negativism
- Loss of tolerance

Cognitive
- Decreased ability to make decisions
- Poor judgment
- Lack of initiative
- Forgetfulness

Coping with Stress and Burnout

The social environment of the nursing unit plays a role in nurses' perceived levels of stress. Stress can be labeled as either "good" or "bad" (Davies, 2008). A positive social climate, characterized by strong managerial support and cohesiveness among the staff, serves as a buffer against the negative effects of stress. Environmental uncertainty, as measured by the number of admissions, discharges, and transfers in the high-acuity area, can result in emotional exhaustion. Nurses must enhance self-awareness of personal sources of tension. Once these sources are identified, strategies for alleviating stressors can be developed.

Professional collegial relationships with healthcare providers as well as delegation can decrease stress and burnout. The nurse assumes the central role at the bedside. While the physician or pharmacist may have a snapshot of the patient's condition, it is the high-acuity nurse who holds the video camera. Coordinating effective communication among multiple healthcare providers provides positive patient outcomes (Kramer, Maguire, & Brewer, 2011).

Establishing critical incident stress debriefings (CISDs) may facilitate coping with specific situations. These are structured

group discussions, usually occurring within several days following a crisis, designed to address symptoms of stress, assess the need for follow-up, and provide a sense of closure. These sessions are a formal way of managing stress before it becomes debilitating or fosters burnout. The research is limited on the long-term benefits of CISD; however, participants perceive this debriefing as important (Magyar & Theophilos, 2010). Another strategy for preventing burnout is to assist nurses during orientation in formulating clear ideas of their professional roles and responsibilities within the high-acuity environment. Offering new nurses the opportunity to meet in small groups provides a safe, confidential environment to share experiences. Promoting a sense of community can also enhance the ability to share stresses and joys, seek feedback for continuing performance improvement, and develop critical thinking skills (Park & Jones, 2010).

Section Four Review

1. What are the components of a healthy work environment? (Select all that apply.)
   - **A.** True collaboration
   - **B.** Appropriate staffing
   - **C.** Authentic leadership
   - **D.** Individual priorities
2. Which factors can help buffer the negative effects of stress? (Select all that apply.)
   - **A.** Environmental uncertainty
   - **B.** Positive social climate
   - **C.** Managerial support
   - **D.** Cohesiveness among staff
3. CISDs can be used for which purposes? (Select all that apply.)
   - **A.** Assess high-acuity patients
   - **B.** Help families cope with stress
   - **C.** Address staff symptoms of stress
   - **D.** Provide staff with a sense of closure
4. The term *burnout* refers to which feelings? (Select all that apply.)
   - **A.** Personal and professional frustration
   - **B.** Loss of self-esteem
   - **C.** Physical and emotional exertion
   - **D.** Job dissatisfaction

Answers: 1. (A, B, C), 2. (B, C, D), 3. (C, D) 4. (A, C, D)

SECTION FIVE: Ensuring Patient Safety in High-Acuity Environments

Other than the operating room, there is no hospital environment in which the patient is more vulnerable than in high-acuity units, particularly critical care. For this reason, attendance to patient safety is of the upmost importance, as many patients cannot protect themselves and must rely fully on the competency of the nurse.

The Culture

Patient safety and healthy work environments are closely linked. For many years industry has examined work culture and its effect on job performance and outcomes; however, only recently has this been examined in healthcare. Reports from the Institute of Medicine highlighted unsafe patient conditions and were instrumental in launching patient safety initiatives. Research has shown a correlation between working conditions, teamwork, and patient outcomes. High levels of teamwork result in decreased length of stay and decreased mortality (Sammer, Lykens, Singh, Mains, & Lackan, 2010).

Healthcare errors have become recognized as a public health problem. Failure to disclose errors was part of the socialization process for many years. Now, errors are publicly reported in the media and on the Internet. While some argue that healthcare professionals are human and apt to make mistakes, others feel that any medical mistake is unacceptable. For many years the fear of making mistakes was linked to a culture of blame. A nurse experienced reprimands from nonsupportive administrators and loss of respect from colleagues when reporting an error. The gradual shift to a culture of caring and support has been shown to increase error reporting and lead to systems improvement (Sammer et al., 2010).

Patient Safety

The Joint Commission (TJC) is an accrediting organization committed to improving patient safety. TJC was originally named The Joint Commission for Accreditation of HealthCare Organizations (JCAHO) until 2007, when it formally shortened its name. TJC's mission is to continuously improve the safety and quality of care provided to the public through the provision of healthcare accreditation that supports process improvement in healthcare organizations. The TJC established "National Patient Safety Goals" for acute-care hospitals (TJC, 2009). The original goals are summarized in Box 1–2. Each year these goals are reviewed and revised.

To improve the accuracy of patient identification, the nurse should use at least two patient identifiers when providing care, treatment, and services. For example, a nurse should check the patient's name band and ask the patient to state his or her name before drawing blood or giving a medication.

BOX 1–2 National Patient Safety Goals for Acute-Care Hospitals

- Improve the accuracy of patient identification.
- Improve the effectiveness of communication among caregivers.
- Improve the safety of using medications.
- Reduce the risk of healthcare–associated infections.
- Accurately and completely reconcile medications across the continuum of care.
- Reduce the risk of patient harm resulting from falls.
- Encourage patients' active involvement in their own care as a patient safety strategy.
- Improve recognition and response to changes in patient condition.

Data from TJC (2009).

Effectiveness of communication among caregivers should be improved. One way to accomplish this safety goal is to use a "read-back" process. For example, when reporting critical laboratory test results, the person giving the test result should verify the test result by having the person receiving the information record and read back the test results. The Situation, Background, Assessment, and Recommendation (SBAR) technique has been shown to be an effective tool for all hand-off communications (Becket & Kipnis, 2009). To improve the safety of using medications, The Joint Commission recommends that all medication labels are verified both verbally and visually by two people when the person preparing the medication may not be the person who will be administering it. To reduce the risk of healthcare–associated infections, hospitals must implement evidence-based guidelines to prevent central-line–associated bloodstream infections. This includes annual education for healthcare workers who are involved with caring for patients with central lines. Education should include information about infections and the importance of prevention. Medication reconciliation across the continuum of care should be done accurately and completely. For example, when a patient is transferred from the ICU to a high-acuity unit, the ICU nurse informs the receiving nurse about the up-to-date reconciled medication list and documents the communication. To reduce the risk of patient harm resulting from falls, hospitals must implement a fall reduction program. Staff should receive education and training for this program.

As another safety strategy, patients should be encouraged to actively participate in their own care. The patient and family should be educated on available reporting methods for concerns related to care, treatment, services, and patient safety issues. The Joint Commission requires hospitals to improve recognition and response to changes in patient condition. This means that hospitals must have a method that enables healthcare staff members to directly request additional assistance from a specially trained individual when the patient's condition appears to be worsening. Many hospitals have implemented Rapid Response Teams (RRTs) to address this goal. While initial research is promising, further studies to determine effectiveness are warranted (Massey, 2010). The Joint Commission requires adherence to a Universal Protocol. For example, a time-out process must be performed prior to starting a procedure, such as the bedside insertion of a percutaneous tracheostomy. The purpose of this time-out is to conduct a formal assessment that the correct patient, site, positioning, and procedure are identified; all relevant documents (such as a consent form) have been signed; and necessary equipment is available. The completed components must be clearly documented.

To receive The Joint Commission accreditation, the hospital must demonstrate and provide evidence that it is meeting these safety goals. High-acuity nurses must actively participate in ensuring these goals are met.

Technology and Patient Safety

Technology has been introduced to prevent errors. One example is the implementation of computerized provider order entry (CPOE) systems. These systems block incorrect medication orders; warn against drug interactions, allergies, and overdoses; provide current, accurate drug information; and alert to sound-alike drug names. While the initial cost is high, many hospitals have implemented CPOE and benefited from cost savings and error reduction (Colpaert, 2009).

Manufactured devices may be a source of potential errors. Devices are carefully engineered to be fail-safe; however, adverse incidents do happen. The nurse must be competent in using the equipment. It is the responsibility of the nurse to report medical device failure when it occurs to the appropriate hospital department and remove the item from service.

Barcode point of care (BPOC) is another technology recently introduced to prevent errors. This system allows nurses to scan their badges as well as patient wristbands to access medication profiles. The nurse is then able to obtain the right medication, for the right patient, in the right dose, at the right time, and via the correct route (Poon, Keohane, Yoon, Ditmore, & Bane, 2010).

The use of personal digital assistants (PDAs) may help to improve practice and decrease errors. Nurses have found these devices essential for checking medications, calculating doses, and accessing reference material. Handheld devices date back to the Palm Pilot (Palm Inc., Sunnyvale, California) in 1997 and pharmaceutical look-up applications such as Epocrates (Epocrates Inc., San Mateo, California). Newer innovations include smartphones which allow for text messaging, email retrieval, and application stores. The tablet PC has a wealth of clinical applications yet untapped (Savel & Munro, 2011). While these systems have been effective in reducing errors, they are not infallible. The human component cannot be discounted.

Other Factors Contributing to Patient Safety

Patients trust their care to nurses who must deal with workforce shortages and ever-changing therapies and technologies. Since 2005, AACN's position is that the nursing shortage, overtime hours, and excessive documentation jeopardize patient safety. A strong educational foundation and solid orientation will allow for the high-acuity nurse to provide more efficient, safer care (AACN, 2005). Research has also shown that the educational level of the nurse is related to patient outcomes. Institutions with a higher percentage of nurses educated at the baccalaureate level or higher demonstrated lower mortality rates (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Aiken et al., 2011).

The Institute of Medicine has suggested performance standards for healthcare professionals that focus on patient safety. AACN (2005) believes that specialty certification addresses this need. Hospitals that create a culture of respect and professionalism are more likely to have experienced, certified nurses in an environment where safety is valued. Research continues to indicate that adequate staffing, well-educated nurses, positive physician–nurse relationships, and responsible management are the keys to decreasing errors. Collegial relationships among all healthcare providers will also contribute to patient safety (Sammer et al., 2010).

Section Five Review

1. What do the current patient safety and healthy work environment cultures in the high-acuity environment promote?
   - **A.** An increase in error reporting and systems improvement
   - **B.** A decrease in error reporting
   - **C.** A culture of blame
   - **D.** The failure to publicly disclose medical errors
2. Which factors contribute to medical errors? (Select all that apply.)
   - **A.** Staffing ratios
   - **B.** Overtime
   - **C.** Excessive documentation
   - **D.** Specialty certification
3. What must be done to ensure patient safety before a percutaneous tracheostomy is placed at the bedside?
   - **A.** One person should confirm the order.
   - **B.** The correct patient, site, and procedure should be identified during a time-out.
   - **C.** Two people should confirm the order.
   - **D.** Visitors should be asked to leave the room.
4. What is the proper procedure to ensure patient safety when the nurse is preparing a medication that will be administered to the patient by another person? (Select all that apply.)
   - **A.** This should never be done.
   - **B.** Confirm the order with the HCP.
   - **C.** Labels should be verbally verified by the two healthcare providers.
   - **D.** Labels should be visually verified by the two healthcare providers.

Answers: 1. A, 2. (A, B, C), 3. B, 4. (C, D)

Clinical Reasoning Checkpoint

Case 1: RM is a 64-year-old with stage 4 metastatic colon cancer. She presents to the emergency department with shortness of breath. A chest x-ray reveals right lower lobe pneumonia. She is admitted to the hospital. She has advance directives that include no intubation or CPR.

1. Is RM a candidate for admission to the ICU? Why or why not?
2. Using the SCCM prioritization model, identify the patient's priority level for ICU placement.

Case 2: A patient with a history of new-onset seizures is admitted to a Level III ICU. A diagnosis of brain tumor is made and surgery will be required. The healthcare provider (HCP) informs the patient that he needs to be transferred to another hospital that has a Level I ICU.

3. After the HCP leaves the room, the patient says he doesn't understand why he needs to be transferred. As his nurse, explain the reason for the need for transfer.

Case 3: You would like to work in a high-acuity unit that has a healthy work environment that supports quality patient care and high levels of nurse satisfaction. You are aware of the six standards identified by AACN that are critical to creating and sustaining a healthy work environment.

4. Provide at least one example of how you might see each of the six standards operationalized in the high-acuity unit.

Answers to the Clinical Reasoning Checkpoint questions can be found in the Wagner Student Resources at www.pearsonglobaleditions.com/wagner.

Pearson Nursing Student Resources Find additional review materials at: **www.pearsonglobaleditions.com/wagner**

Posttest

1) A nurse is interviewing for a position in a community hospital. Hospital brochures describe a Level III ICU. Which statement describes the resources the nurse would expect in this hospital?
   1. Those working in the ICU have specialty training and use specialized equipment to care for a wide variety of patient illnesses and injuries.
   2. Staff and equipment in the unit are capable of providing comprehensive care for patients with a variety of illnesses and injuries.
   3. Staff in the unit can provide initial stabilization of patients for transfer to more advanced care.
   4. The hospital is a teaching facility with sophisticated equipment and provider expertise.

2) The ICU nurse receives a call from the medical–surgical unit requesting transfer of a patient to the ICU. The patient is in acute respiratory failure and requires mechanical ventilation. He will require vasoactive drugs to help manage his profound hypotension. Based on the SCCM prioritization model, what is this patient's priority for ICU placement?
   1. Priority 1
   2. Priority 2
   3. Priority 3
   4. Priority 4

continued

3) A hospital has been working to achieve Magnet status. Which statements by an ICU nurse reflect the benefits of Magnet status? (Select all that apply.)
   1. "I feel more ownership in the decisions being made to run the unit."
   2. "I don't have to supervise UAPs anymore."
   3. "It would be so much easier to work here if the physicians were friendlier."
   4. "Taking care of one less patient each shift makes such a difference."
   5. "Our pay raise makes working here worth all the stress."

4) In the middle of a shift a nurse comes to the manager to discuss the acuity level and number of patients he has been assigned. Which statement would the manager interpret as indicating the nurse needs further education about nurse–patient ratios?
   1. "I cannot provide the amount of care that all these patients need."
   2. "Our professional organizations would not approve of exceeding their recommended ratios."
   3. "Is there someone who can be called in to help me with this patient load?"
   4. "I am worried I'm going to miss something with one of these patients."

5) New, fairly complex monitoring devices have been purchased to replace current monitors in the ICU. How should the nurse manager plan to introduce this equipment to the unit?
   1. Have one device placed in one room and rotate nurses through caring for patients on the monitor.
   2. Require that all nurses caring for patients on this monitor have extensive training on its use.
   3. Have all the old monitors replaced with the new devices so that nurses can learn by using the equipment.
   4. Tell the nurses to focus on how to use the monitor when caring for patients for the first few days.

6) What is the best advice an experienced ICU nurse can offer to new nurses on how to remain focused on the patient?
   1. "Learn about the equipment before caring for the patient."
   2. "Don't come to work in ICU until you are proficient on all the equipment we use."
   3. "Try to arrange equipment so you have ample opportunity to use the power of your touch with the patient."
   4. "Until you are comfortable with equipment, ask to be assigned with another nurse."

7) A coworker has become increasingly withdrawn from social activities on the unit. She is often late for work and is ambivalent about warnings from the nurse manager. She has become hostile and negative about proposed changes in the unit. The nurse should recognize that the coworker is exhibiting symptoms of which condition?
   1. Burnout
   2. Stress
   3. Job dissatisfaction
   4. Conflict

8) The nurse manager has made a commitment to improve the health of the ICU work environment. Which activities will help meet that goal? (Select all that apply.)
   1. Make every effort to assign patients so that their needs match the nurse's strengths.
   2. Set up a program in which a "nurse of the day" is chosen and honored each day.
   3. Engage the hospital nurse executive in efforts to improve the health of the entire environment.
   4. Role-model successful collaboration with healthcare providers.
   5. Communicate in a clear and effective manner.

9) The hospital is planning to implement a CPOE system. One of the nurses says, "I don't see how that is going to help." Which statement by another nurse is a good response to this concern?
   1. "You are right; these systems often contribute to medication errors."
   2. "I heard that these systems can cause drug–drug interactions."
   3. "Actually, hospitals that have used these systems generally see error reduction."
   4. "The systems may help prevent errors, but they are way too expensive for use in most hospitals."

10) The high-acuity unit's Operations Council is seeking suggestions concerning the use of technology to prevent errors on the unit. What statements by nurses are good responses to this request? (Select all that apply.)
   1. "Barcode point-of-care has been shown to reduce medication errors."
   2. "Using PDAs is so complicated that it increases errors."
   3. "We need more of the newest infusion pumps. They are always accurate."
   4. "Don't purchase anything that isn't fail-safe."
   5. "If we had smartphones, we could look up so much information."

Answers to the Posttest questions can be found in the Wagner Student Resources at www.pearsonglobaleditions.com/wagner.

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2

Holistic Care of the Patient and Family

LEARNING OUTCOMES

Following completion of this chapter, the learner will be able to

1. Discuss the impact of illness on the high-acuity patient and family.
2. Identify ways the nurse can help high-acuity patients cope with an illness and/or injury event.
3. Describe the principles of patient- and family-centered care in the high-acuity environment as it relates to educational needs of visitation and policies.
4. Discuss the importance of awareness of cultural diversity when caring for high-acuity patients.
5. Examine the role of palliative care in the high-acuity environment and discuss end-of-life issues to be considered in caring for high-acuity patients.
6. Identify environmental stressors, their impact on high-acuity patients, and strategies to alleviate those stressors.

This chapter focuses on the impact of hospitalization on patients who are admitted with a serious or critical illness and the role nurses play in providing holistic care to this vulnerable patient population. Admission to a high-acuity care environment is extremely stressful to both patient and family, and nurses are in a pivotal position to provide comfort and support that help buffer the patient and family from the environment. To reduce stress and increase comfort, complementary and alternative therapies may be attempted when the patient indicates an interest. While these therapies may require some modifications based on the patient's condition and environmental factors, such therapies may still produce the desired effects. Holistic care suggests the need to consider the patient in the context of family as a unit; therefore, the needs and desires of the family should be taken into consideration when planning and implementing care. Nurses in high-acuity areas also face changing patient care goals that may shift from maintaining life to providing comfort and preparing the patient and family for death. High-acuity care environments are often noisy, bright, and highly active areas that remain so 24 hours a day, every day. Such a hectic environment places additional sensory stresses on the patient that can negatively impact outcomes and therefore requires thoughtful and creative solutions for reducing environmental stressors.

SECTION ONE: Impact of Acute Illness on Patient and Family

High-acuity illness results in psychosocial as well as physiological crises. The high-acuity patient and family often must face loss of health, loss of limb, disfigurement, or necessary changes in lifestyle, which in turn may alter the patient's self-image and self-esteem. This section provides a brief review of Suchman's stages of illness in the context of high-acuity illness. It then presents nursing considerations regarding the importance of incorporating the family into the plan of care and describes the concept of family meetings as one holistic approach.

Suchman's Stages of Illness

According to Suchman (1965), patients may respond to losses in certain predictable phases. Table 2–1 summarizes Suchman's stages of illness, manifestations, and nursing interventions appropriate for each stage.

Shock, Disbelief, and Denial The first stage is shock and disbelief, because the diagnosis does not have an emotional meaning. The patient may be uncooperative because he is projecting difficulties onto hospital procedures, equipment,

TABLE 2–1 Suchman's Stages of Illness

Stage	Definition	Manifestations	Interventions
Shock and disbelief	Diagnosis does not have an emotional meaning	Patient may be uncooperative or worry excessively	Provide accurate information when asked
Denial	Patient rejects diagnosis	Patient may act like nothing is wrong	Nurse is noncritical; clarify statements but do not stress reality
Awareness	Patient attempts to regain control	Demanding and angry or quiet and withdrawn	Provide consistent nursing care; do not argue with patient
Restitution	Diagnosis is accepted	Sadness and crying; attempts to improve relationships with family and friends	Assist patient with problem solving
Resolution	Patient's identity is changed	Patient may openly participate in care	Promote self-care and independence

and personnel. In this stage, a patient may worry more about the equipment being used than about the diagnosis because the diagnosis may be a threat to life. The denial stage can have positive effects. It may protect the patient against the emotional impact of the illness and conserve energy by removing worry. The nurse should function as a noncritical listener.

Awareness, Restitution, and Resolution The awareness stage is characterized by an attempt to regain control. Patients may express guilt about the illness or injury as a gesture of assuming responsibility for events over which they may or may not have actual control. The patient may be demanding or exhibit signs of withdrawal. Both signs are indicative of anger toward self or others. The nurse should not argue with the patient. Consistent, dependable nursing care should be provided. During the restitution stage, the patient may verbalize fears about the future. New behaviors are initiated that reflect new limitations. The patient may feel sad and have frequent crying episodes. Relationships with family and friends may be reorganized. The nurse can assist by building communication to assist with problem solving. Resolution, the final stage, involves identity change. The patient may begin to think of the illness as a growing experience. Limitations are accepted as consequences and not as defects.

Suchman's stages are not fixed but reflect a dynamic process of adjusting to an acute situation. The patient may regress to an earlier stage during periods of heightened anxiety. One aim in caring for the high-acuity patient is to foster a feeling of security. A patient may feel vulnerable because of physiological changes, such as paralysis. Changes in patient care routines can increase patient anxiety, even when these changes mean the patient is getting better. Examples include removing cardiac electrodes, weaning from mechanical ventilation, reducing pain medication, and increasing mobility.

Nursing Considerations

As the nurse cares for the high-acuity patient in various stages of acute illness, the patient's family members must also be taken into consideration. The high-acuity patient cannot be considered in isolation. The patient alone defines the members of his or her family. The family may not always be the traditional mother, father, and children. Families may be composed of single parents, gay and lesbian partners, or close friends. The family is defined as the patient perceives it to be. Because the patient's support system is essential, the high-acuity nursing unit has evolved from a restrictive environment into a more inclusive environment for families. This change is the result of an increasing body of research that demonstrates positive outcomes when family members actively participate in the recovery process of their loved one. Because of this important role, the nurse must identify and meet family needs so that family members can fully participate in the care of the patient.

Families of high-acuity patients in ICUs frequently need information, comfort, support, assurance, and accessibility. ICU families have consistently ranked communication as their first priority. Poor communication is associated with adverse outcomes for patients, families, and all members of the healthcare team (Gay, Pronovost, Bassett, & Nelson, 2009). Families want frequent communication about the patient's condition. They want to know why particular interventions are initiated. They experience high levels of emotional distress and need to be reassured frequently and honestly that the patient is receiving the best care possible. Communication must be open, honest, direct, frequent, and ongoing. Proactive communication in the form of a family meeting, beginning early in the patient's ICU stay, helps the nurse to develop a family-centered plan of care (Hickman & Douglas, 2010).

An important aspect of the hospital stay is the family meeting, in which the patient's condition and prognosis are discussed, family concerns are addressed, and mutual decisions about treatment goals are made. Research has established the benefits of early and effective communication; however, despite the evidence, family meetings do not regularly occur in the high-acuity setting (Gay et al., 2009). Barriers to and strategies for organizing family meetings are summarized in Box 2–1.

BOX 2–1 Organizing Family Meetings

Barriers

- Physician schedules
- Multiple specialists
- Inadequate training in communication skills
- Culture and language differences
- Clinician emotional stress
- Lack of designated meeting space
- Poorly defined goals for meetings

Strategies for Facilitation

- Identify convenient blocks of time for all participants.
- Use printed materials to supplement discussion.
- Educate physicians about reimbursement for time spent meeting with families.
- Incorporate daily goal sheets into the family meeting.
- Engage and empower nurses to take an active role in the meeting process.
- Involve other disciplines—social work, pastoral care, PT/OT, palliative care.
- Provide positive reinforcement to clinicians who routinely participate in family meetings.
- Support training in communication skills.
- Encourage family presence in the high-acuity nursing unit.

Data from Gay et al. (2009).

Section One Review

1. A patient was involved in a motor vehicle crash and sustained multiple lower-extremity fractures. He will need additional surgery and prolonged physical therapy. The nurse finds the patient drawing plans for remodeling his porch to accommodate a wheelchair. This behavior reflects which stage of illness?
   A. Denial
   B. Awareness
   C. Restitution
   D. Resolution
2. When interacting with a patient in denial, what is the nurse's best strategy?
   A. Reinforce reality
   B. Function as a noncritical listener
   C. Explain the current treatment plan
   D. Help the patient recall the injury event
3. What is an appropriate nursing intervention for a patient experiencing high anxiety?
   A. Active listening
   B. Providing accurate information
   C. Exhibiting empathy
   D. Acknowledging loss
4. Which changes can induce anxiety in the high-acuity patient? (Select all that apply.)
   A. Weaning from mechanical ventilation
   B. Reducing pain medication
   C. Increasing mobility
   D. Family visitation

Answers: 1. D, 2. B, 3. B, 4. (A, B, C)

SECTION TWO: Coping with Acute Illness

There is a growing body of research on the importance of the search for meaning in life-changing events. **Spirituality,** a sense of faith and transcendence, and a sorting-out of old life views are frequently part of the experience of the patient and family during acute illness or injury. Questions such as *"Why me?"*, *"Why this?"*, and *"Why now?"* become part of the patient's and family's quest for meaning. The nurse can provide a sounding board for such questions and act as a nonjudgmental listener as patients and families sort out their answers.

Complementary and Alternative Therapies

Various strategies can be used to help patients cope with the psychological and physical stressors of an acute illness. **Complementary and alternative therapies (CAT)** may be beneficial to the high-acuity patient as a way of reducing stress. CAT may be used in lieu of, or as a complement to, standard medical treatment. It is important to remember that all patients are in need of healing, even if they cannot be cured. The decision to use CAT must be an informed decision. Some patients, because of personal feelings or cultural differences, may not be comfortable with massage or touch therapy. In this situation, the CAT will actually add stress and may inhibit relaxation.

Many patients who are using CAT do not tell their healthcare provider. As the numbers of patients using CAT increases, so does the risk for side effects. A patient may experience interactions from allopathic medications or adverse effects from overuse. The high-acuity nurse plays an important role in making sure the patient knows what to expect and in helping patients choose therapies that are safe and effective (Jaloba, 2011).

Aromatherapy

Aromatherapy is the use of oils to reduce stress and anxiety. Aromatic plant oils such as lavender, jasmine, and others have been shown in small, limited studies to reduce stress and anxiety in acutely ill patients. These oils may be inhaled or used as an enhancement to massage therapy. Aromatherapy is thought to work on physical, spiritual, and psychological levels, complementing medical treatment but not claiming to cure any condition (Chiu, 2010). Aromatherapy is recognized by many state boards of nursing as a component of holistic nursing. Research on the therapeutic effects of essential oils is limited and must be expanded. Aromatherapy and touch therapy will continue to play an essential role in promoting comfort and relaxation in patients.

Therapeutic Humor

Humor has been recognized for years as a way of relieving stress. Unlike aromatherapy, which is easy to apply, humor may be difficult for the high-acuity nurse to deliver. However, a skilled nurse may use humor as one complementary

and alternative therapy. Humor may be effective in reducing pain, showing the human side of the healthcare team and helping the patient and family cope. When used effectively, humor strengthens the bond between the patient, family, and nurse. Some patients may not be accepting of humor when facing a serious illness, and this makes humor a risky strategy (Starr, 2009).

Massage Therapy and Therapeutic Touch Massage and therapeutic touch may help patients relax, reduce anxiety, and promote sleep. In addition, these therapies are designed to have a positive effect on the vascular, muscular, and nervous systems. The use of massage therapy to relieve pain is widespread as an acceptable intervention. Older adults with persistent pain report better overall health when using massage therapy (Munk, Kruger, & Zanjani, 2011). The high-acuity nurse may use massage therapy to treat all components of pain, which include physical, spiritual, emotional, and social domains. Contraindications to massage therapy as summarized by Ernest, Pittler, and Wider (2006) are listed in Box 2–2.

Guided Imagery **Guided imagery** is a CAT that uses the patient's past positive experiences to promote a vision or fantasy that encourages relaxation. In imagery, the patient focuses on positive thoughts and experiences and blocks out negative thoughts. Nurses can guide patients through imagery by asking them to place themselves in environments where they remember feeling relaxed. Many people recall the beach or ocean as having a calming effect. An example of imagery is the thought of lying on a beach on a deserted island, listening to the pounding of the surf on the shore, watching the graceful sway of the palm trees, and feeling the cool breezes, while at the same time feeling the warmth of the sun on the skin. Imagery provides an opportunity for the patient to take a vacation or temporary mental escape from the day-to-day realities of the high-acuity environment. Imagery is a CAT that may be beneficial for patients experiencing extensive and painful dressing changes, anxiety, depression, mood disturbance, or pain. Relaxation and the ability to focus are essential for a successful imagery experience (Tracy & Chlan, 2011).

Box 2–3 provides a case example describing a complementary and alternative therapy (CAT) intervention.

In addition to the previously discussed therapies, the high-acuity patient may pursue other CAT, such as meditation, yoga, tai chi, hypnosis, relaxation techniques, or music therapy. Manipulation of energy fields and acupuncture, diet, and dietary supplements have also gained popularity. The high-acuity nurse must be able to provide evidence-based practice to guide the patient to receive benefit from CAT. Assessing the patient's perceptions of CAT is important to avoid increasing the patient's stress level rather than decreasing it (Tracy & Chlan, 2011).

BOX 2–2 Contraindications to Massage Therapy

- Advanced osteoporosis
- Bone fractures
- Burns
- Deep vein thrombosis
- Eczema
- Phlebitis
- Skin infections

BOX 2–3 Case Example 1: Using Imagery

Mrs. M, a 79-year-old woman, had an exploratory laparotomy for a perforated duodenal ulcer. She has a history of chronic airflow limitation and takes daily prednisolone. Her wound is healing by secondary intention, and she experiences significant pain during dressing changes.

The nurse prepares the environment by dimming lights and decreasing noise. He places a sign outside the patient's room indicating that an imagery session is in progress. The nurse promotes relaxation by encouraging the patient to imagine that each muscle is going limp starting at the top of her head. He describes it as a heavy, good feeling. The nurse tells the patient to concentrate on each body section separately (neck, shoulders, and so on). The patient closes her eyes and concentrates on her body.

Nurse: "As the old dressing is removed, your new tissue is getting fresh nutrients because dead skin and bacteria are being removed along with the gauze. Imagine a tiny skin cell with hands that reach out to join another skin cell to make a firm chain. Although you are a little uncomfortable, you want the dressing to be removed because the new skin cells cannot grow underneath the debris from the old cells. As the new cells get nutrients, there is less drainage and less discomfort. Now, imagine that the skin is completely together just like it was before surgery. There is no need for more dressing changes. Each time your dressing is changed, concentrate on this image of the skin cells joining hands to make a firm chain that is completely together and healed. Imagine the cells getting fresh air and food that make them strong."

The goal of this imagery session is to describe positive aspects of the dressing change and replace the patient's fear with a positive image of healing.

Section Two Review

1. How may complementary and alternative therapies be used? (Select all that apply.)
   - **A.** In lieu of standard medical treatment
   - **B.** As a complement to standard medical treatment
   - **C.** Only with a physician's order
   - **D.** In limited situations
2. Which statement best describes the use of humor as therapy?
   - **A.** Humor is not a way to relieve stress.
   - **B.** Humor is a CAT that can be used with high-acuity patients.
   - **C.** Humor is ineffective in reducing pain.
   - **D.** Humor interferes with the bond between patient and nurse.
3. Which conditions are contraindications to massage therapy? (Select all that apply.)
   - **A.** Advanced osteoporosis
   - **B.** Bone fractures
   - **C.** Burns
   - **D.** Deep vein thrombosis
4. Guided imagery may be a useful strategy for patients with which conditions? (Select all that apply.)
   - **A.** Anxiety
   - **B.** Depression
   - **C.** Pain
   - **D.** Hypotension

Answers: 1. (A, B), 2. B, 3. (A, B, C, D), 4. (A, B, C)

SECTION THREE: Patient- and Family-Centered Care

Providing patient- and family-centered care in high-acuity environments is a continuing challenge as nurses and hospital administrators grapple with the pros and cons of actively involving the family in care of the patient. In addition, providing for the educational needs of the patients and their families is a nursing priority.

Educational Needs of Patients and Families

High-acuity patients have a right to know and understand what procedures are being done to and for them. Initially, when teaching high-acuity patients, the goal is to decrease stress and promote comfort rather than to increase knowledge. The patient and family may not recall what the nurse said ten minutes later, but the patient's blood pressure may be decreased or the pain lessened. As adult learners, high-acuity patients focus on learning in order to solve problems. Thus, the nurse must assess what the patient considers to be problematic in order to make learning meaningful. Basic questions about what the patient and family want to know will assist the nurse in focusing content. It is also helpful to identify what the patient already knows. An interpersonal relationship allows for the patient to trust the abilities and knowledge of the nurse. For the high-acuity patient to learn, he or she must feel secure.

Several factors inhibit learning in high-acuity patients. Patients may be fatigued because of hypoxemia, anemia, and hypermetabolism. Barriers to communication, such as endotracheal tubes, many hourly interventions, and diagnostic tests interfere with teaching and learning. Pain diminishes a person's ability to concentrate; drugs may depress the central nervous system and affect memory. The nurse should assess the patient for the presence of these factors. Physiologic needs take precedence over the need to know and the need to understand. Once the patient's condition has stabilized, however, the patient may be able to concentrate on learning. Educational needs of both patients and families must be taken into account to fulfill their needs and facilitate adaptation to critical illness (Davidson, 2009). A summary of these educational needs according to Palazzo (2001) are summarized in Table 2–2.

Health Literacy

Health literacy is the degree to which patients and families have the ability to obtain, process, and understand basic health information to make informed decisions about their healthcare (Mattox, 2010). In addition to English proficiency or the ability to read, health literacy encompasses numerical literacy, the ability to communicate with members of the healthcare team, filling out complex forms and understanding concepts related to risk and probability. Patients most at risk for a low level of health literacy are those older than 65 years of age, members of minority groups, immigrants, those of a lower socioeconomic status, or those suffering from chronic illness. Some patients who normally take an active role in their healthcare may experience periods of low health literacy during times of depression, uncontrolled pain, or complex medical situations (Mattox, 2010). Strategies for the high-acuity nurse to increase health literacy are listed in Box 2–4. To ensure that the patient and family goals for education are being met, the nurse should use return demonstration and teach-back techniques, supplementing the education with additional materials as appropriate.

Transfer Anxiety

The transfer to a less acute unit may precipitate **transfer anxiety** in the patient or family. Transferring a medically stable patient out of the ICU is a routine procedure for healthcare providers, but patients and

TABLE 2–2 Educational Needs of Patients and Families

Educational Needs	Nursing Considerations
Current information about patient progress	Both families and patients need daily information on progress toward recovery. Trends in vital signs, results of laboratory tests, and wound healing are physiological indicators that the nurse may discuss with the patient. In general, the high-acuity environment encourages a highly motivated learner.
Informed decision making	Most adults are self-directed and want to make informed decisions themselves, not have decisions made by someone else.
Acknowledgment of past	The adult learner has a lifetime of experiences that influence their values and opinions and shape their decisions.
Optimal learning environment	Using the right time and environment is conducive to the learning process. Transforming the high-acuity environment into a learning environment will enhance the learning process and improve retention. Presenting the information at the appropriate time is important.
Orientation to routines and care	Teaching patients and families procedures that will improve their daily life is productive. Teaching patients and families to perform complementary and alternative therapies to relieve pain, reduce stress, and induce sleep may be beneficial to all.
Motivation	Adults are motivated to learn something new when it will have a direct effect on their daily lives.