High-Acuity Nursing

CHAPTER

1

Objectives:

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.

1. **High-Acuity Environment**
   1. Historical perspective
      1. Intensive care units (ICUs) were developed in the 1960s. Medical advances resulted in the initiation of these units.
         1. The implementation of CPR
         2. Improved management of patients experiencing hypovolemia and shock
         3. The implementation of emergency medical services
         4. Technological advances that required close observation for effective use
         5. The advancement of renal transplant services
         6. The first ICUs were recovery rooms created for those postoperative patients who required extra equipment and prolonged observation.
   2. Determining the level of care needed
      1. Systematic triage approach for high-acuity patients aids in giving the most efficient and cost-effective care.
         1. ICU
         2. Intermediate care unit (IMC) or progressive care unit (PCU)
            1. Developed to manage those patients whose acute illness requires less monitoring equipment and staffing than is provided in an ICU
            2. Ability to manage patients with moderate or potentially severe physiological instability but who do not require artificial life support
         3. Medical–surgical acute care unit
      2. Nurses should use a prioritization model to triage and determine the level of care needed by acutely ill patients. The model divides patient needs into four categories:
         1. Priority 1: The patient is acutely ill, requiring intensive treatments not available outside of the intensive care unit.
         2. Priority 2: The patient is seriously ill and has the potential to require immediate medical interventions to prevent complications.
         3. Priority 3: The patient is critically ill but has a limited chance for recovery. There might be limits placed on the amount of life-saving interventions that may be implemented.
         4. Priority 4: This is a large category of patients. Their inclusion into the ICU will depend on an individualized decision based on the appropriate use of resources and current patient status.
   3. Levels of intensive care units
      1. The American College of Critical Care Medicine has identified three levels of ICUs as determined by resources available to the hospital:
         1. Level I: Hospitals with ICUs that provide comprehensive care for patients with a wide range of disorders. Sophisticated equipment, specialized nurses and healthcare providers, and comprehensive support services.
         2. Level II: Hospitals with ICUs that provide comprehensive care to most critically ill patients.
         3. Level III: Hospitals with ICUs that provide initial stabilization of critically ill patients but are limited in their ability to provide comprehensive care for all patients.
   4. Profile of the high-acuity nurse
      1. Able to analyze clinical situations
      2. Makes decisions based on analysis
      3. Rapidly intervenes to ensure optimal patient outcomes
      4. Competent in detecting early signs of an impending complication
      5. Role of the nurse in the management of the high-acuity environment:
         1. Constant surveillance and monitoring to identify possible impending and life-threatening complications
            1. Studies show that constant surveillance of patients by nurses reduces mortality and complications.
2. **Resource Allocation**
   1. Nurse staffing
      1. Nurse–patient ratios
         1. Many interrelated factors have led to a shortage of nurses able and willing to work with acutely ill patients. Factors linked to the nursing shortage include:
            1. Hospital restructuring of nursing personnel reduced job satisfaction, which resulted in nurses leaving the workforce.
            2. Aging of the registered nurse workforce
            3. Limited number of young adults choosing nursing as a career
            4. Increasing number of aging persons, resulting in an increase in persons requiring acute care health services
            5. Increase in access to health care as a result of the Affordable Care Act
            6. Legislation to support registered nurse-to-patient ratios and other nurse–patient issues have been raised to the national level.
         2. The reduction in the number of professional nurses has resulted in an increase in the nurse–patient ratio.
         3. The Academy of Medical Surgical Nurses (AMSN) does not support the development of exact patient–nurse ratios.
         4. The needs of the patient and the skill mix of the nursing staff must be considered when making decisions about staffing patterns.
         5. The first principle of staffing is to provide safe and effective patient care.
         6. Unlicensed assistive personnel (UAP) can be used to provide direct care under direct supervision of the professional nurse.
         7. The professional nurse uses leadership skills to safely and legally delegate tasks to the UAP.
      2. Magnet status: recruiting and retaining nurses
         1. Magnet designation is a status awarded to hospitals that demonstrate successful recruitment and retention of professional nurses.
         2. Magnet hospitals promote environments meant to attract and retain professional nurses.
         3. Nurses who work at Magnet hospitals are more involved in decision making, report better relations with physicians, and have higher nurse-to-patient ratios.
   2. Decreasing resources, increasing care needs
      1. Who Belongs in an ICU?
         1. Deciding factors for ICU care are multifactorial and may include severity of injury, futility of treatment and informed refusal, the need to provide the quality of the dying and death experience, and family involvement.
         2. The assignment of patients to units requires a close review of available resources.
         3. Age and seriousness of illness can be controversial variables in the assignment of intensive care beds. Severity scales are models used to determine which patients will benefit most from intensive care services.
         4. Ethical, economic, and legal considerations must be addressed with regard to ICU care.
         5. Patient death in a high-acuity area consumes significant resources.
         6. Each patient’s end-of-life care is subjective and different; therefore, cost alone cannot be used to justify the use of healthcare resources.
3. **Use of Technology in High-Acuity Environments**
   1. Benefits
      1. The use of technology in the intensive care unit allows for close monitoring of the unstable patient and can limit complications.
      2. The technology is a primary incentive for placement in the intensive care unit.
      3. The use of computers can provide a programmed approach to guide decision making by providing decision-making trees.
      4. Programs are available to diagnose patient conditions. Handheld devices can be used to provide bedside reference guides.
      5. Nurses must be able to use technology but also recognize its limitations.
   2. Patient depersonalization
      1. Difficulties arise when machines become the focus of care of the high-acuity patient.
      2. Technology must be used to enhance care, not take the place of a nurse’s personal knowledge, observation skills, and senses.
      3. Technology may evoke fear in patients and contribute to their anxiety about their recovery process.
   3. Overload and overreliance issues
      1. The potential for increased stress on the nurse as a result of information overload.
      2. Alarm fatigue is one result of overload and overreliance on technology.
      3. Support of patient well-being can be lost to the lure of technology.
   4. Finding a balance
      1. 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.
      2. Appropriate training in the use of technology prevents technology from becoming the focus of care.
      3. Nurses are at risk for becoming overly dependent on technology.
4. **Healthy Work Environment**
   1. Healthy work environment
      1. The American Association of Critical-Care Nurses (AACN) has identified six standards needed to sustain a healthy work environment. These standards are:
         1. Skilled communication
         2. True collaboration
         3. Effective decision making
         4. Appropriate staffing
         5. Meaningful recognition
         6. Authentic leadership
   2. Stress, burnout, and compassion fatigue
      1. Burnout is a term used to describe feelings of personal and professional frustration, dissatisfaction, job insecurities, and emotional and physical exertion.
      2. Causes for burnout:
         1. Nursing shortages, long work hours, and a loss of concentration, managerial unresponsiveness, lack of team support
         2. Stress caused by exposure to patients experiencing pain and suffering
         3. Feelings of powerlessness
         4. Repeated exposure to pain and traumatic loss
      3. Compassion fatigue describes the inability to reenergize because of the loss of compassion energy expended on others.
         1. Compassion fatigue results from stress nurses experience from daily relationships with patients and families.
   3. Coping with stress, burnout, and compassion fatigue
      1. Factors that improve a nurse’s ability to cope with stress are a positive social climate, managerial support, and staff cohesiveness.
      2. Critical incident stress debriefings (CISD) help to promote coping with special situations.
      3. A sense of community allows the nurse the ability to share both stresses and joys.
5. **Ensuring Patient Safety in High-Acuity Environments**
   1. The culture
      1. Studies have linked a relationship among work conditions, teamwork, and patient outcomes:
         1. High levels of teamwork have been associated with a decreased length of stay and decreased mortality.
   2. Patient safety
      1. The Joint Commission (TJC) is an accrediting organization that seeks to improve patient safety through an accreditation process.
         1. TJC developed National Patient Safety Goals for acute care hospitals.
         2. To receive accreditation, the applying organization must develop and provide evidence that it is meeting the outlined safety goals.
   3. Technology and patient safety
      1. Computerized systems are used to prevent errors.
         1. The computerized provider order entry (CPOE) systems
            1. Used to block incorrect medication orders; warn of drug interactions, allergies, and overdoses; provide current drug information; and alert one to similar drug names
         2. The barcode medication administration (BCMA)
            1. Allows nurses to scan their badges and then the patient wristbands to access medications profiled for that specific patient
         3. Smartphones allow for text messaging, email retrieval, and the use of clinical apps
   4. Other factors contributing to patient safety
      1. Patient safety can be promoted with factors other than technology.
      2. A strong educational foundation and solid orientation will help the high-acuity nurse provide a safe environment.
      3. Performance standards, specialty certification, culture of respect and professionalism, and strong physician–nurse relationships are among the factors that contribute to patient safety.
6. **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 Society of Critical Care Medicine (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.

1. 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 practice 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.

1. Provide at least one example of how you might see each of the six standards operationalized in the high-acuity unit.
2. **Post-Test / Chapter 1 Review**

**Chapter 1 Question:** ch01\_01

**Question**: 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?

**Answer**:

1. Priority 1

**Rationale**:

1. This patient is unstable and requires treatment and monitoring that cannot be provided outside the ICU (new mechanical ventilation and vasoactive infusions). This condition meets the criteria for Priority 1 admission.

**Chapter 1 Question:** ch01\_02

**Question**: A nurse is interviewing for a position in a community hospital. Hospital brochures describe a Level III ICU. Which statement describes the resources that the nurse would expect in this hospital?

**Answer**:

3. Staff in the unit can provide initial stabilization of patients for transfer to more advanced care.

**Rationale:**

3. A Level III ICU provides initial stabilization of patients.

**Chapter 1 Question:** ch01\_03

**Question**: 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.)

**Answer**:

1. “I feel more ownership in the decisions being made to run the unit.”

4. “Taking care of one less patient each shift makes such a difference.”

**Rationale**:

1. Nurses who work in Magnet hospitals are more involved in decision making, which increases their ownership of the decisions.

4. Improved nurse–patient ratios are a benefit of work toward Magnet status.

**Chapter 1 Question:** ch01\_04

**Question**: 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?

**Answer**:

2. “Our professional organizations would not approve of exceeding their recommended ratios.”

**Rationale**:

2. AACN and AMSN do not set recommended ratios.

**Chapter 1 Question:** ch01\_05

**Question**: 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?

**Answer**:

2. Require that all nurses caring for patients on this monitor have extensive training on its use.

**Rationale**:

2. All nurses who will use this equipment must be trained in its use before caring for a patient on the monitor.

**Chapter 1 Question:** ch01\_06

**Question**: What is the best advice that an experienced ICU nurse can offer to new nurses on how to remain focused on the patient?

**Answer**:

3. “Try to arrange equipment so that you have ample opportunity to use the power of your touch with the patient.”

**Rationale**:

3. Touch helps to personalize the patient for the nurse. Touch also helps to reduce anxiety in the patient.

**Chapter 1 Question:** ch01\_07

**Question**: 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?

**Answer**:

1. Burnout

**Rationale**:

1. Ambivalence, withdrawal, hostility, and negativity are all symptoms of burnout.

**Chapter 1 Question:** ch01\_08

**Question**: 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.)

**Answer**:

1. Make every effort to assign patients so that their needs match the nurse’s strengths.

3. Engage the hospital nurse executive in efforts to improve the health of the entire environment.

5. Communicate in a clear and effective manner.

**Rationale**:

1. Matching patient need to nurse strength reflects appropriate staffing, which is one of the AACN standards for a healthy work environment.

3. The manager should demonstrate and encourage authentic leadership, embracing healthy living and environmental strategies.

5. Skilled communication is one of the AACN standards for a healthy work environment.

**Chapter 1 Question:** ch01\_09

**Question**: 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?

**Answer**:

3. “Actually, hospitals that have used these systems generally see error reduction.”

**Rationale**:

3. CPOE systems have been found to reduce error.

**Chapter 1 Question:** ch01\_10

**Question**: 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.)

**Answer**:

1. “Barcode medication administration (BCMA) has been shown to reduce medication errors.”

5. “If we had smartphones, we could look up so much information.”

**Rationale**:

1. BCMA systems do reduce medication errors.

5. Smartphones do allow for quick and convenient access to data.

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1. **Suggestions for Classroom Activities**

* Develop three to four patient scenarios. Lead a class discussion as to whether the patients being   
  referenced are suitable for the ICU, IMC, or general medical–surgical unit.
* Determine the students’ interest level. Ask the students if they are considering a nursing career in an ICU, an IMC, or a generalized medical–surgical care unit. What factors do the students cite as the reasons behind their choices?
* Contact a local clinical facility. Ask to have a copy of its policies concerning the steps taken when the intensive care units are filled to capacity.
* Ask students to identify behaviors associated with professional burnout. Lead the discussion on recognizing burnout and coping with the high-acuity nursing environment.

1. **Suggestions for Clinical Activities**

* During the clinical postconference, ask the students to evaluate whether their assigned patients were appropriate for the ICU, IMC, or general medical–surgical care unit.
* Lead a class discussion to determine potential factors that would lead to a patient’s being considered a Priority 4 patient.
* Provide the clinical group rotation opportunities to the ICU and the IMC. Ask the students to develop a listing of the noted differences between the units.

**DECISION-MAKING CASE SUMMARIES**

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| --- |
| **HIGH ACUITY NURSING #1: AORTIC ANEURYSM** |

|  |  |  |  |
| --- | --- | --- | --- |
| **CASE NAME** | **OVERVIEW** | | **MAJOR CASE DECISIONS** |
| Nils Rasmussen | Mr. Nils Rasmussen is a 72-year-old man with a long history of peripheral atherosclerotic vascular disease. He has a five-year history of abdominal aortic aneurysm (AAA) that has been treated medically with periodic monitoring and drug therapy. Several days ago, after undergoing his periodic physical examination and abdominal CT scan, Mr. Rasmussen’s cardiovascular healthcare provider informed him that the aneurysm had significantly increased in size when compared to the previous scan. Interventional repair of the aneurysm was recommended. | | 1. Identifying and responding to abnormal test results, vital signs, or symptoms 2. Asking appropriate patient history questions to identify risk factors 3. Prioritizing medication administration 4. Monitoring for side effects of treatments 5. Responding to patient questions 6. Recognizing a need for additional patient teaching |
| **Estimated Case Length:**  **Difficulty Level:** High  **Learning Objectives:**   * Apply knowledge of risk factors associated with aortic aneurysms to care of the patient with aortic aneurysm. * Describe the pathophysiologic basis of aortic aneurysm. * Apply knowledge of the pathophysiologic basis of aortic aneurysm to care of the patient with aortic aneurysm. * Assess the patient for clinical manifestations of aortic aneurysm, aneurysm rupture, and aneurysm dissection. * Identify potential complications of drug therapy in a patient with aortic aneurysm. * Describe the interventional management choices for aortic aneurysm repair. * Demonstrate understanding of management priorities of with aortic aneurysm. * Apply knowledge of patient/family teaching pertaining to the patient who has undergone aortic aneurysm repair. | | | |
| **Questions** | | **Correct Answers** | |
| 1. You have just received Mr. Rasmussen into Room E and have connected him to the hemodynamic monitor and a pulse oximeter. You are performing your initial assessment, which includes:  Oral temp: 97.2° F  BPM: 90/min  Respiratory rate: 14/min  BP of 194/92 (MAP 126 mmHg) O2 saturation of 88%  Pain: abdominal discomfort rated at 2 out of 10  What is the appropriate response to these findings? | | *Inform the intensivist that the patient’s blood pressure is significantly elevated.* | |
| 2. You are obtaining a nursing history on Mr. Rasmussen. Which of the following interview questions should you ask him to specifically target risk factors for development of aortic aneurysm? **(Select all that apply)** | | *Do you have a history of high blood pressure?*  *Do you use tobacco products such as cigarettes or cigars?*  *Has anyone in your family ever been diagnosed with aortic aneurysm?* | |
| 3. Mr. Rasmussen’s medication orders include:   * atorvastatin (Lipitor) * esmolol (Brevibloc) * fentanyl * albuterol (Proventil) * Fluticasone/salmeterol (Advair)   Which of his medication order should you initiate first? | | *Esmolol* | |
| 4. You would alert the health care provider immediately if Mr. Rasmussen develops which of the following clinical findings? (**Select all that apply.)** | | *Rapid onset of severe flank or back pain*  *Complaints of numbness in legs*  *Sudden drop in arterial blood pressure.* | |
| 5. You note that the esmolol (Brevibloc) bolus and infusion are quickly reducing Mr. Rasmussen’s heart rate and blood pressure. Based on his medical history, which of the following drug-related problems should you closely monitor him for? | | *Acute kidney injury* | |
| 6. While you are charting at Mr. Rasmussen’s bedside, he says, “I don’t understand what all of the fuss is about. I have had this aneurysm for years, and it has never caused me any problems. Why do I suddenly need surgery?” How should you respond? | | *“Your aneurysm has significantly enlarged, putting too much pressure on the artery wall. This increases your risk for rupture.”* | |
| 7. Mr. Rasmussen’s aortic aneurysm is growing according to LaPlace’s law. Which of the following statements correctly reflects the relationship among arterial wall pressure (P), radius (R), and tension (T)? **(Select all that apply.)** | | *The relationship is expressed as T = P × R.*  *Increased pressure exerted against the arterial wall increases wall radius and tension.* | |
| 8. You enter Mr. Rasmussen’s room, and he tells you, “The doctor just talked with my wife and me about tomorrow’s EVAR procedure and showed us drawings of what will happen. We are still confused about what the graft does.” How should you answer? | | *“Once the graft has been placed, your arterial blood flows directly through the graft rather than touching the aneurysm wall. The graft protects the damaged portion of your artery and prevents it from growing any larger.”* | |
| 9. Mr. Rasmussen’s aortic aneurysm repair can be one of two types: open surgical repair (OSR) or endovascular aneurysm repair (EVAR). Which of the following statements are correct regarding these two procedures? **(Select all that apply.)** | | *EVAR is a lower risk procedure than OSR.*  *Both procedures leave the aneurysm in place.*  *OSR has a longer recovery time than EVAR.* | |
| 10. Mr. Rasmussen returns to his room following the EVAR drowsy but responsive. His 5% dextrose and 0.45 NS infusion is infusing at 50 mL/h and his IV esmolol (Brevibloc) is infusing at a rate of 0.2 mg/kg/min. You take his vital signs and note that his HR is now 52 and BP is 100/62. How should you respond? | | *Decrease the esmolol infusion rate.* | |
| 11. Mr. Rasmussen has no additional post-procedure problems. His esmolol (Brevibloc) drip is discontinued as ordered and he has started on an oral beta blocking agent.  While conducting discharge teaching, Mr. Rasmussen’s wife says, “I am a little worried about taking him home so soon after his procedure. Can you talk a little about when we should contact the doctor’s office?”  What information should you include on when to seek medical attention? **(Select all that apply).** | | *Presence of any signs of incision site infection*  *Any signs of unusual bleeding*  *A fever greater than 101°F*  *Problems urinating* | |
| 12. You have been teaching Mr. Rasmussen and his wife about post-EVAR discharge activities. Which statement, if made by Mr. Rasmussen, would indicate the need for additional teaching? | | *“I can sit up in my recliner as much as I want as long as I keep my legs elevated.”* | |