AACN CCRN Review

Endocrine

Presenter: Carol Rauen, RN, MS, PCCN, CCRN, CCNS, CEN
I. Introduction
Disorders of the endocrine system are related to either an excess of a deficiency of a specific hormone or defect at its receptor site.

AACN CCRN Exam Blueprint 5%
- Acute Hypoglycemia
- Diabetes Insipidus (DI)
- Diabetic Ketoacidosis
- Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNK)
- Syndrome of Inappropriate Secretion of Antidiuretic Hormone (SIADH)

Every Cell in the Body is Under Endocrine Influence

II. Acute Complications of Diabetes
- Acute Hypoglycemia
- Diabetic Ketoacidosis
- Hyperglycemia Hyperosmolar Non-ketotic Coma

A. Acute Hypoglycemia
- Serum Glucose ≤ 50mg/dL
- Causes:
  - Too Much Insulin
  - Not Enough Calories

  - Signs and Symptoms
    - Tachycardia
    - Δ LOC: Irritable, Confused, Unconscious
    - Skin: Pale, Cool, Clammy
    - Seizures
    - Blurred Vision

  - Treatment
    - Give Glucose
    - Enteral
    - Parental (if SG < 20mg/dL)
    - Determine Cause

A. Diabetic Ketoacidosis (DKA)
- Epidemiology
  - Occurs in 2%-5% of Type I DM/year
  - Most often precipitated by illness (infection)
  - 1%-10% of DKA victims will die
  - Mortality is highest in > 60 year old
• **Diagnosis**
  - Metabolic derangement resulting from absolute or relative insulin deficiency
  - Blood Glucose > 500
  - pH < 7.32
  - HCO₃ < 15mEq/L
  - Increase Anion Gap
  - + Ketones in Urine
  - Azotemia

  Anion Gap = Na⁺ - (Cl⁻ + HCO₃⁻) Normal 8-16mEq/L

• **Signs and Symptoms**
  - Hypotension
  - Tachycardia
  - Tachypnea
  - Kussmaul’s Respirations
  - Decreased Skin Turgor
  - Dry Mucous Membranes
  - ? Abd Pain, Nausea and Vomiting

• **Fluid Therapy**
  - Restore Circulating Volume
  - 1-2 L of Isotonic Saline in 2 hr
  - D5 .45%NS after BS down to 250
  - May get 8-10L in 1st 24 hr

• **Drug Therapy**
  - Continuous IV or Bolus Regular Insulin
  - Lower 100mg/dl/hr
  - Monitor K Levels Carefully
  - Bicarbonate for Severe Acidosis

B. **Hyperglycemic Hyperosmolar Nonketotic Coma (HHNK)**
A hyperosmolar state from severe hyperglycemia without ketosis. Predominantly older adults and type II DM.

• **Diagnosis**
  - Glucose > 800mg/dL
  - Osmolality > 350mOsm
  - Ketones neg
  - pH > 7.3
  - Severe Dehydration

• **Fluid Therapy**
  - 2 L of Normal Saline in 1 hr
  - Followed by Fluid Replacement

• **Drug Therapy**
II. Adult CCRN Review Course

II. Adult CCRN Review Course

• Continuous IV Regular Insulin (10U/hr)
• Monitor K+ closely

III. Acute Complications of Water Regulation

• Diabetes Insipidus
• Syndrome of Inappropriate ADH

A. Diabetes Insipidus
A Problem of Impaired Conservation of H₂O by the Kidneys

• Polyuria
• Low Urine SG
• Hypernatremia
• Fluid Deficit/Dehydration

Neurogenic or Central DI
Lack of ADH from the Hypothalamus or Posterior Pituitary gland. Normal regulatory mechanisms are not functioning typically from some type of neuro dysfunction.

• Causes:
  • Idiopathic – autoimmune
  • Head Trauma
  • Hypoxic or Ischemic Encephalopathy
  • Surgery (neuro)

Nephrogenic DI
There is ADH but the Kidneys do not respond to the ADH

• Causes:
  • Osmotic Agents or States
  • Renal Failure
  • Decreased Osmotic Pressure
  • Pregnancy

• DI Signs and Symptoms
  • Polyuria
  • Polydipsia
  • Dehydration/Hypovolemia

• Lab Data
  • Plasma Osmolality
    • High > 295mOsm/kg (normal 285-300)
  • Serum Sodium
    • Normal or > 145 mEq/L (normal 135-145)
  • Urine Osmolality
    • Low, < 250 mOsm/kg (300-1400)
  • Urine SG
    • Low < 1.005 (1.005 – 1.030)
• Treatment:
  • Correct the Underlying Cause
  • Free Water Replacement
  • Neurogenic: ADH Replacement
  • Nephrogenic: Thiazide Diuretics
  • Nutrition
  • Elimination Problems

B. Syndrome of Inappropriate Antidiuretic Hormone (SIADH)
Too much release of ADH, stimulating the kidneys to retain water resulting in water intoxication.
  • Over Hydration
  • Low Serum Osmolality
  • Hyponatremia

• Causes:
  • Malignancies: Lung, Pancreas, Duodenum, Lymph, Prostate, Thymus
  • Meningitis
  • Brain Abscess or Tumors
  • Head Injury (Blunt Trauma or Bleeds)
  • Mechanical Ventilation
  • Drugs (hypoglycemic meds, barbiturates, general anesthesia, nicotine, chemotherapy agents, MS04, Thiazide, Hormones, TCD)

• Signs and Syndrome:
  • Wt. Gain
  • Edema
  • Signs of Over Hydration

• Lab Data:
  • Plasma Osmolality
    • Low < 280mOsm/kg
  • Serum Sodium
    • Low < 135 mEq/L
  • Urine Osmolality
    • Normal or High > 100 mOsm/kg
  • Urine SG
    • High > 1.030

• Treatment:
  • Correct the Underlying Cause
  • Fluid Restriction
  • Give Na: Saline, Hypertonic Saline
  • Diuretic Tx

IV. Summary
Behavioral AACN CCRN Review

Behavioral

Presenter: Carol Rauen, RN, MS, PCCN, CCRN, CCNS, CEN
I. Introduction

AACN-CCRN Blueprint 4%

- Abuse/neglect
- Antisocial behaviors, aggression, violence
- Delirium and dementia
- Developmental delays
- Failure to thrive
- Mood disorders and depression
- Substance dependence (e.g. Withdrawal, drug-seeking behavior, chronic alcohol or drug dependence)
- Suicidal behavior

AACN Synergy Model Patient Characteristic

- Resiliency
- Vulnerability
- Stability
- Complexity
- Resource availability
- Participation in care
- Participation in decision making
- Predictability

II. Assessment

A. Psychosocial Assessment

- Acute care hospitalization is a potential crisis for patient and family
- Pre-existing mental health diagnosis
- Undiagnosed mental health problems
- Pre hospitalization coping skills
- Anxiety level
- Scope of control/powerlessness
- Sources of support
- Family stress
- Cognitive level
- Sleep deprivation
- Pain level
- Grief and loss
- Fear level
- Attention level
- Ability to retain information
- Physical symptoms of mental stress
B. Growth and Development:
Erik Erikson’s Stages of Life Cycle
- Trust vs. Mistrust 0-2 years: Hope
- Autonomy vs. Shame 2-3 years: Will
- Initiative vs. Guilt 3-6 years: Purpose
- Industry vs. Inferiority 6-12 years: Competence
- Identity vs. Role Confusion 13-20 years: Fidelity
- Intimacy vs. Isolation 21-45 years: Love
- Generatively vs. Stagnation 45-65 years: Care
- Ego Integrity vs. Despair >65 years: Wisdom

C. Human Needs: Maslow
- Physiologic
- Safety and security
- Love and belonging
- Self-esteem
- Self-actualization

D. Coping Assessment
1. Functional Coping: Fogerty’s Model
   - Family adapts to change
   - Connectedness is maintained
   - Minimum of fusion: distance is not used to solve problems
   - Triangling is discouraged
   - Differences are tolerated and encouraged
   - Preservation of a positive emotional climate takes precedence over what “should” be done and what is “right”
   - Members of a family use each other for feedback and learning, not as the enemy

2. Dysfunctional Coping
   - Prolonged denial
   - Disruption of family routines
   - Blaming: increased conflict
   - Dysfunctional behaviors: agitation, depression, hostility, guilt, addictions
   - Forgetting critical facts or necessary information
   - Not hearing: decreased crisis or non-resolution of crisis
   - Scapegoating – projecting all the problems onto one family member to relieve the overall anxiety in the system
   - Unhealthy communication patterns: secrets, deception, double messages, evasiveness

III. Delirium
A. Definitions
Delirium
“A sudden, fluctuating, and usually reversible disturbance of mental function. It is characterized by inability to pay attention, disorientation, an inability to think clearly, and fluctuations in the level of alertness.”

Merck Manual

“Rapid onset and fluctuating course, the symptoms of delirium include disturbances in consciousness and attention and changes in cognition, such as memory deficits or perceptual disturbances.” American Psychiatric Association DSM-IV
Perceptual changes such as hallucination, illusions and delusions are not required for the diagnosis of delirium. Not psychosis and must be assessed on a regular basis.

**Dementia**
Gradual onset of memory impairment and cognitive disturbances. Slow steady decline in cognitive function. Can be organic or metabolic in etiology but typically not reversible and often not treatable.

### B. Incidence: (Delirium)
- 20% - 50% of all hospitalized patients
- Undiagnosed in 66% - 84% of hospitalized patients
- 20% - 80% rate in ICU patients
- 87% of ventilated patients
- Associated with increased mortality, morbidity, hospital stay and overall costs

### C. Etiologies and Predisposing Factors
- Cognitive impairment
- Electrolyte imbalance
- Dehydration
- Hyperthermia
- Sleep deprivation
- Restraint use
- Medications
- Vision and/or hearing problems
- Infection
- Malnutrition
- Age >65
- Withdraw syndromes
- Acute CNS problems
- History of:
  - Depression
  - Dementia
  - Stroke
  - Seizures
  - ETOH abuse
- Medical History of
  - Renal Failure
  - Liver Failure
  - CHF
  - HIV
  - Endocrine disorders

### D. Clinical Presentation
- Disorientation/confusion
- Decreased attention span and ability to focus
- Hyperactive type
  - Restlessness
  - Agitation
  - Does not follow commands (leave catheter alone or in place)
  - Wide mood swings
  - Attempting to get out of bed
- Hypoactive type (more common, worse outcome)
  - Lethargy
• Withdrawal
• Decreased responsiveness

E. Treatment Options
• Prevention!
• Early identification of risk factors
• Accurate assessment/diagnosis (delirium scales)
• Treatment/modification of risk factors/cause
• Review all medications as possible cause
• Treat electrolyte and metabolic derangements
• Non-pharmacological
  • Repeat orientation
  • Sleep protocol
  • Early mobilization
  • Minimal restraint use
  • Pain control
  • Cognitive stimulation
• Pharmacological (can cause and/or treat)
  • Benzodiazepines
  • Narcotics
  • Neuroleptics - haloperidol (FDA approved for Delirium)
  • Antipsychotics

IV. Depression
A. Definition
An abnormal emotional state characterized by exaggerated feelings of sadness, melancholy, dejection, worthlessness, emptiness and hopelessness that are inappropriate and out of proportion to reality. The overt manifestations, which are extremely variable, range from a slight lack of motivation and inability to concentrate to severe physiologic alterations of body functions and may represent symptoms of variety of mental and physical conditions, a syndrome of related symptoms associated with a particular disease, or a specific mental illness. Mosby’s Medical Dictionary

B. Etiology and Predisposing Factors
• Fear and anxiety related to current events/illness
• Response to loss and/or grief and/or deprivation
• Diminished self-esteem
• Guilt – real or perceived
• Metabolic causes
  • Electrolyte imbalances
  • Endocrine dysfunction
  • Neurotransmitter imbalance
• Medication derived
• Chronic pain
• Sleep deprivation

C. Clinical Presentation
• Agitation \(\rightarrow\) lethargy
• Inability to concentrate
• Inability to focus
• Change in sleep patterns
• Severe fatigue
• Signs of sadness/hopelessness
V. Mental Illness
Mental illness might be a chronic comorbidity of the hospitalized adult. This adds an increase challenge to nursing care requirements for patients. Informed consent, adherence and patient education are more difficult if the patient does not have a full concept of reality.

A. Types of Disorders (DSM IV)
- Psychotic – ex. Schizophrenia
- Personality disorders – ex. antisocial, borderline, narcissistic
- Anxiety – ex. panic attacks, phobias, obsessive compulsive
- Developmental/learning – ex. autism, ADHA, retardation
- Cognitive – ex. dementia and delirium
- Mood – ex. depression

B. Nursing Priorities
- Identify and seek appropriate and timely psychiatric assistance
- Safe environment
- Identify and treat cause (if possible)
- Determine if there is a risk of injury
- Orientation
- Assist with
  - Crisis management
  - Stress management
  - Coping skills
  - Social support
- Pharmacological management- antidepressants, antipsychotics, antianxiety agents
- Patient/family/support system education
- Discharge planning

VI. Substance Dependence
A. Commonly Abused Substances
- Alcohol
- Nicotine
- Narcotics
- Marijuana
- Amphetamines
- Benzodiazepine
- Cocaine

- Thoughts of death
- Suicide ideations

D. Treatment Options
- Counseling
- Significant other support
- Rule out organic/metabolic causes
- Antidepressants
B. Nursing Care Concerns/Priorities
- Physical and/or mental dependence
- Physical and or mental withdraw symptoms
- Assessment of cause (recreational vs. Medical vs. Pain management)
- Current state of health
- Current nutritional state
- Pharmacological considerations i.e. Tolerance and cross tolerance
- Diagnosed or undiagnosed mental health issues
- Ability for self-care post discharge
- Patient education and adherence
- Appropriate addiction referral
- Community and social support

C. Alcohol Withdrawal
Autonomic hyperactivity symptoms such as tachycardia, anxiety/agitation, dysphoric mood, diaphoresis, hypertension, sleeplessness and fine tremor are common physical findings when alcohol is abruptly stopped and typically will present within 2 days of cessation. Nausea, vomiting and hallucination may also occur.

Clinical Presentation for Delirium Tremors (72-96 hours post drink)
- Anxiety and/or panic attacks
- Disorientation/confusion
- Insomnia
- Disorganized thought processes
- Visual and/or auditory hallucinations or illusions
- Tactile hallucinations
- Delirium
- Tachycardia
- Tachypnea
- Fever
- Seizure activity

Treatment Options
- Anticipate/prevent – prophylactic withdraw regimen
- Safety measures for patient, family, staff and therapeutic devices
- Decrease stimulation
- Utilize short directed conversations
- Nonthreatening and supportive approach
- Hydration
- Monitor vital signs and level of consciousness
- Medications
  - Benzodiazepines (Lorazepam, Diazepam, Chlordiazepoxide, Oxazepam)
  - Nutrition Support (MVI, Thiamine, Folate)
  - Neuroleptic (Haloperidol) (lacking research but used)
  - IV Ethanol
  - Propofol (lacking research but used)

D. Sedative Withdrawal
Physical withdraw signs and symptoms similar to ETOH. Treatment is different and will typically have to continue post discharge from the critical care setting. The patient is slowly “weaned” off the drug or transitioned to a longer acting agent like Chlordiazepoxide (Librium) or Diazepam (Valium) and then tapered off drug.
E. Opiate Withdrawal

Clinical Presentation
- Yawning
- Extra fluid production (tearing, rhinorrhea, diaphoresis)
- Mydriasis and myalgia
- Tremors
- Abdominal cramps, nausea, vomiting, diarrhea
- Involuntary leg movements (kicking)
- Piloerection
- Muscle cramping
- Vital sign changes: fever, hypertension, tachycardia

Treatment Options
- Methadone – switch to longer acting agent → wean
- Clonidine - block sympathetic hyperactivity
- Buprenorphine – alpha opiate receptor partial agonist

VII. Suicidal Behavior
When a patient is admitted to the ICU with suicidal behavior the physical needs, hemodynamic instability and organ dysfunction are typically the primary concern and focus of the health care team. As soon as the patient is able to participate in counseling/psychotherapy it should begin. Note that not all suicide attempts are obvious especially in the elderly and chronically or terminally ill. It is essential that the family and support system (as always) be included in the treatment plan. Discussion of overdoses is included in Multisystem.

VIII. Antisocial Behaviors, Aggression and Violence
Aggressive or violent behavior from patients, family members or hospital staff is a safety concern for everyone in the ICU.

Risk Factors
- High levels of stress with poor coping skills
- Lack of resources
- Mental illness
- Substance abuse or withdrawal
- Males > females
- History of violent behavior

Clinical Presentation (Warning Signs)
- Not thinking clearly
- Paranoia
- Shouting and profanity use
- Agitation, anxiety, anger
- Verbal threats
- Tachycardia
- Tachypnea
- Hypertension
Treatment Options
- Evaluate medication list and consider cause
- Rule out organic cause
- Review history
- Identify trigger (if any) and remove
- Decrease stimulation
- Involve social service and security if necessary
- Restraints if needed
- Anxiolytics and neuroleptics
- SAFETY FIRST

IX. Summary
References


Mosby’s Dictionary
Merck Manual
APA DMS IV
Professional Caring and Ethical Practice

Presenter: Carol Rauen, RN, MS, PCCN, CCRN, CCNS, CEN
I. Introduction

A. AACN-CCRN Blueprint

Professional Caring and Ethical Practices.................20%
- Advocacy/Moral Agency ........................................3%
- Caring Practices....................................................4%
- Collaboration........................................................4%
- Systems Thinking..................................................2%
- Response to Diversity..............................................2%
- Clinical Inquiry......................................................2%
- Facilitation of Learning..........................................3%

B. Synergy Model of Certified Practice (taken directly from AACN web page. Synergy Model Basic Information. (bullets added for emphasis)

The core concept of the re-conceptualized model of certified practice - the AACN Synergy Model for Patient Care - is that the needs or characteristics of patients and families influence and drive the characteristics or competencies of nurses. Synergy results when the needs and characteristics of a patient, clinical unit or system are matched with a nurse’s competencies. All patients have similar needs and experience these needs across wide ranges or continuums from health to illness. Logically, the more compromised patients are, the more severe or complex are their needs. The dimensions of a nurse's practice are driven by the needs of a patient and family. This requires nurses to be proficient in the multiple dimensions of the nursing continuums. When nurse competencies stem from patient needs and the characteristics of the nurse and patient synergize, optimal patient outcomes can result.

The AACN Synergy Model and Certification Examinations

The AACN Synergy Model for Patient Care was developed to link clinical practice with patient outcomes. The integration of the Synergy Model into the AACN Certification Corporation credentialing programs puts an emphasis on the patient, and says to the world that patients come first. Nurses make a unique contribution to outcomes, quality of care and containment of costs. Recognizing the additional components that comprise critical care nursing, 20% of the CCRN examination is now based on Advocacy/Moral Agency, Caring Practices, Collaboration, Systems Thinking, Response to Diversity, Clinical Inquiry and Facilitation of Learning knowledge and skills. These nursing characteristics are referred to collectively as "Professional Caring and Ethical Practice." The remaining 80% of the CCRN examination continues to be based on clinical judgment.

Since July 1, 1999, the CCRN examination has included the following component: Professional Caring and Ethical Practice, which is based on the AACN Synergy Model for Patient Care. Prior to the application of the Synergy Model framework to the CCRN certification program, the examination was based solely on clinical judgment. The Synergy Model, and its incorporation into the CCRN, CCNS and PCCN exams, is not to have nurses memorize the various patient or nurse characteristics, or their levels. They are presented here to help you begin to comprehend the model.

Test questions cover application of the Synergy Model, not its terminology.

1. Patient Characteristics: Each patient and family, clinical unit and system is unique, with a varying capacity for health and vulnerability to illness. Each one brings a set of unique characteristics to the care situation. These characteristics span the health-illness continuum.

   - Resiliency--the capacity to return to a restorative level of functioning using compensatory/coping mechanisms; the ability to bounce back quickly after an insult.
Level 1 - Minimally resilient - Unable to mount a response; failure of compensatory/coping mechanisms; minimal reserves; brittle
Level 3 - Moderately resilient - Able to mount a moderate response; able to initiate some degree of compensation; moderate reserves
Level 5 - Highly resilient - Able to mount and maintain a response; intact compensatory/coping mechanisms; strong reserves; endurance

- **Vulnerability**--susceptibility to actual or potential stressors that may adversely affect patient outcomes.

Level 1 - Highly vulnerable - Susceptible; unprotected, fragile
Level 3 - Moderately vulnerable - Somewhat susceptible; somewhat protected
Level 5 - Minimally vulnerable - Safe; out of the woods; protected, not fragile

- **Stability**--the ability to maintain steady-state equilibrium.

Level 1 - Minimally stable - Labile; unstable; unresponsive to therapies; high risk of death
Level 3 - Moderately stable - Able to maintain steady state for limited period of time; some responsiveness to therapies
Level 5 - Highly stable - Constant; responsive to therapies; low risk of death

- **Complexity**--the intricate entanglement of two or more systems (e.g., body, family, therapies).

Level 1 - Highly complex - Intricate; complex patient/family dynamics; ambiguous/vague; atypical presentation
Level 3 - Moderately complex - Moderately involved patient/family dynamics
Level 5 - Minimally complex - Straightforward; routine patient/family dynamics; simple/clear cut; typical presentation

- **Resource Availability**--extent of resources (e.g., technical, fiscal, personal, psychological, and social) the patient/family/community bring to the situation.

Level 1 - Few resources - Necessary knowledge and skills not available; necessary financial support not available; minimal personal/psychological supportive resources; few social systems resources
Level 3 - Moderate resources - Limited knowledge and skills available; limited financial support available; limited personal/psychological supportive resources; limited social systems resources
Level 5 - Many resources - Extensive knowledge and skills available and accessible; financial resources readily available; strong personal/psychological supportive resources; strong social systems resources

- **Participation in Care**--extent to which patient/family engages in aspects of care.

Level 1 - No participation - Patient and family unable or unwilling to participate in care
Level 3 - Moderate level of participation - Patient and family need assistance in care
Level 5 - Full participation - Patient and family fully able to participate in care

- **Participation in Decision-Making**--extent to which patient/family engages in decision-making.

Level 1 - No participation - Patient and family have no capacity for decision-making; requires surrogacy
Level 3 - Moderate level of participation - Patient and family have limited capacity; seeks input/advice from others in decision-making
Level 5 - Full participation - Patient and family have capacity, and makes decision for self

- **Predictability**--a characteristic that allows one to expect a certain course of events or course of illness.

Level 1 - Not predictable - Uncertain; uncommon patient population/illness; unusual or unexpected course; does not follow critical pathway, or no critical pathway developed
Level 3 - Moderately predictable - Wavering; occasionally-noted patient population/illness
Level 5 - Highly predictable - Certain; common patient population/illness; usual and expected course; follows critical pathway

For example:
A healthy, uninsured, 40-year-old woman undergoing a pre-employment physical is likely to be: (a) stable (b) not complex (c) very predictable (d) resilient (e) not vulnerable (f) able to participate in decision-making and care, but (g) has inadequate resource availability.

A critically ill infant with multisystem organ failure is likely to be: (a) unstable (b) highly complex (c) unpredictable (d) highly resilient (e) vulnerable (f) unable to become involved in decision-making and care, but (g) has adequate resource availability.

2. Nurse Characteristics:
Nurse Competencies of Concern to Patients, Clinical Units and Systems Nursing care reflects an integration of knowledge, skills, experience, and attitudes needed to meet the needs of patients and families. Thus, continuums of nurse characteristics are derived from patient needs. The following are levels of expertise ranging from competent (1) to expert (5):

- **Clinical Judgment**—clinical reasoning, which includes clinical decision-making, critical thinking, and a global grasp of the situation, coupled with nursing skills acquired through a process of integrating education, experiential knowledge, and evidence-based guidelines.

  - **Level 1** - Collects basic-level data; follows algorithms, decision trees, and protocols with all populations and is uncomfortable deviating from them; matches formal knowledge with clinical events to make decisions; questions the limits of one's ability to make clinical decisions and delegates the decision-making to other clinicians; includes extraneous detail
  - **Level 3** - Collects and interprets complex patient data; makes clinical judgments based on an immediate grasp of the whole picture for common or routine patient populations; recognizes patterns and trends that may predict the direction of illness; recognizes limits and seeks appropriate help; focuses on key elements of case, while shorting out extraneous details
  - **Level 5** - Synthesizes and interprets multiple, sometimes conflicting, sources of data; makes judgment based on an immediate grasp of the whole picture, unless working with new patient populations; uses past experiences to anticipate problems; helps patient and family see the "big picture;" recognizes the limits of clinical judgment and seeks multi-disciplinary collaboration and consultation with comfort; recognizes and responds to the dynamic situation

- **Clinical Inquiry (Innovator/Evaluator)**—the ongoing process of questioning and evaluating practice and providing informed practice. Creating changes through evidence-based practice, research utilization and experiential knowledge.

  - **Level 1** - Follows standards and guidelines; implements clinical changes and research-based practices developed by others; recognizes the need for further learning to improve patient care; recognizes obvious changing patient situation (e.g., deterioration, crisis); needs and seeks help to identify patient problem
  - **Level 3** - Questions appropriateness of policies and guidelines; questions current practice; seeks advice, resources, or information to improve patient care; begins to compare and contrast possible alternatives
  - **Level 5** - Improves, deviates from, or individualizes standards and guidelines for particular patient situations or populations; questions and/or evaluates current practice based on patients' responses, review of the literature, research and education/learning; acquires knowledge and skills needed to address questions arising in practice and improve patient care; (The domains of clinical judgment and clinical inquiry converge at the expert level; they cannot be separated)
- **Facilitation of Learning**—the ability to facilitate learning for patients/families, nursing staff, other members of the healthcare team, and community. Includes both formal and informal facilitation of learning.

**Level 1** - Follows planned educational programs; sees patient/family education as a separate task from delivery of care; provides data without seeking to assess patient's readiness or understanding; has limited knowledge of the totality of the educational needs; focuses on a nurse's perspective; sees the patient as a passive recipient

**Level 3** - Adapts planned educational programs; begins to recognize and integrate different ways of teaching into delivery of care; incorporates patient's understanding into practice; sees the overlapping of educational plans from different healthcare providers' perspectives; begins to see the patient as having input into goals; begins to see individualism

**Level 5** - Creatively modifies or develops patient/family education programs; integrates patient/family education throughout delivery of care; evaluates patient's understanding by observing behavior changes related to learning; is able to collaborate and incorporate all healthcare providers' and educational plans into the patient/family educational program; sets patient-driven goals for education; sees patient/family as having choices and consequences that are negotiated in relation to education

- **Collaboration**—working with others (e.g., patients, families, healthcare providers) in a way that promotes/encourages each person's contributions toward achieving optimal/realistic patient/family goals. Involves intra- and inter-disciplinary work with colleagues and community.

**Level 1** - Willing to be taught, coached and/or mentored; participates in team meetings and discussions regarding patient care and/or practice issues; open to various team members' contributions

**Level 3** - Seeks opportunities to be taught, coached, and/or mentored; elicits others' advice and perspectives; initiates and participates in team meetings and discussions regarding patient care and/or practice issues; recognizes and suggests various team members' participation

**Level 5** - Seeks opportunities to teach, coach, and mentor and to be taught, coached and mentored; facilitates active involvement and complementary contributions of others in team meetings and discussions regarding patient care and/or practice issues; involves/recruits diverse resources when appropriate to optimize patient outcomes

- **Systems Thinking**—body of knowledge and tools that allow the nurse to manage whatever environmental and system resources exist for the patient/family and staff, within or across healthcare and non-healthcare systems.

**Level 1** - Uses a limited array of strategies; limited outlook - sees the pieces or components; does not recognize negotiation as an alternative; sees patient and family within the isolated environment of the unit; sees self as key resource

**Level 3** - Develops strategies based on needs and strengths of patient/family; able to make connections within components; sees opportunity to negotiate but may not have strategies; developing a view of the patient/family transition process; recognizes how to obtain resources beyond self

**Level 5** - Develops, integrates, and applies a variety of strategies that are driven by the needs and strengths of the patient/family; global or holistic outlook - sees the whole rather than the pieces; knows when and how to negotiate and navigate through the system on behalf of patients and families; anticipates needs of patients and families as they move through the healthcare system; utilizes untapped and alternative resources as necessary

- **Advocacy and Moral Agency**—working on another's behalf and representing the concerns of patient/family and nursing staff; serving as a moral agent in identifying and helping to resolve ethical and clinical concerns within and outside the clinical setting.

**Level 1** - Works on behalf of patient; self-assesses personal values; aware of ethical conflicts/issues that may surface in clinical setting; makes ethical/moral decisions based on rules; represents patient when patient cannot represent self; aware of patients' rights

**Level 3** - Works on behalf of patient and family; considers patient values and incorporates in care, even when differing from personal values; supports colleagues in ethical and clinical issues; moral decision-making
can deviate from rules; demonstrates give and take with patient's family, allowing them to speak/represent themselves when possible; aware of patient and family rights

**Level 5** - Works on behalf of patient, family, and community; advocates from patient/family perspective, whether similar to or different from personal values; advocates ethical conflict and issues from patient/family perspective; suspends rules - patient and family drive moral decision-making; empowers the patient and family to speak for/represent themselves; achieves mutuality within patient/professional relationships

- **Caring Practices**—the constellation of nursing activities that create a compassionate, supportive, and therapeutic environment for patients and staff, with the aim of promoting comfort and healing and preventing unnecessary suffering. Includes, but is not limited to, vigilance, engagement, and responsiveness of caregivers, including family and healthcare personnel.

  **Level 1** - Focuses on the usual and customary needs of the patient; no anticipation of future needs; bases care on standards and protocols; maintains a safe physical environment; acknowledges death as a potential outcome

  **Level 3** - Responds to subtle patient and family changes; engages with the patient as a unique patient in a compassionate manner; recognizes and tailors caring practices to the individuality of patient and family; domesticates the patient's and family's environment; recognizes that death may be an acceptable outcome

  **Level 5** - Has astute awareness and anticipates patient and family changes and needs; fully engaged with and sensing how to stand alongside the patient, family, and community; caring practices follow the patient and family lead; anticipates hazards and avoids them, and promotes safety throughout patient's and family's transitions along the healthcare continuum; orchestrates the process that ensures patient's/family's comfort and concerns surrounding issues of death and dying are met

- **Response to Diversity**—the sensitivity to recognize, appreciate and incorporate differences into the provision of care. Differences may include, but are not limited to, cultural differences, spiritual beliefs, gender, race, ethnicity, lifestyle, socioeconomic status, age, and values.

  **Level 1** - Assesses cultural diversity; provides care based on own belief system; learns the culture of the healthcare environment

  **Level 3** - Inquires about cultural differences and considers their impact on care; accommodates personal and professional differences in the plan of care; helps patient/family understand the culture of the healthcare system

  **Level 5** - Responds to, anticipates, and integrates cultural differences into patient/family care; appreciates and incorporates differences, including alternative therapies, into care; tailors healthcare culture, to the extent possible, to meet the diverse needs and strengths of the patient/family

*For example*: If the gestalt of a patient were stable but unpredictable, minimally resilient, and vulnerable, primary competencies of the nurse would be centered on clinical judgment and caring practices, (which includes vigilance). If the gestalt of a patient were vulnerable, unable to participate in decision-making and care, and inadequate resource availability, the primary competencies of the nurse would focus on advocacy and moral agency, collaboration, and systems thinking.

All eight competencies are essential for contemporary nursing practice, but each assumes more or less importance depending on a patient’s characteristics.

**Synergy results when the needs and characteristics of a patient, clinical unit or system are matched with a nurse's competencies.**
II. Practice Questions

1. Which of the following actions by a nurse might decrease a patient’s self-esteem?
   A. Discussing the negative consequences of the patient’s condition
   B. Requiring the patient to participate in all treatments
   C. Providing opportunities to discuss issues important to the patient
   D. Indicating his or her acceptance of the patient’s condition

2. A 22-year-old patient with end-stage liver failure secondary to Hepatitis C virus has been declared brain dead. The parents decide to discontinue feedings and donate their daughter’s organs. In response to the parents’ request, the most appropriate action by the nurse would be to:
   A. Contact the organ procurement agency
   B. Convene a multidisciplinary care conference
   C. Tell the parents that their daughter’s condition precludes organ donation
   D. Discontinue feedings per the parents’ request

3. A patient in the ICU is confused about time and place, despite frequent reorientation. For the patient’s safety, the nurse would initially:
   A. Put a vest restraint on the patient
   B. Ask a family member to stay with the patient
   C. Administer a mild sedative
   D. Increase the frequency of observation of the patient

4. A patient transferring out of the ICU says, “Why can’t I just stay a few days longer? I don’t feel strong enough.” Which of the following is the most appropriate response?
   A. “There’s a very sick patient who needs this bed.”
   B. “You sound concerned about leaving the ICU.”
   C. “Most people do just fine after transfer.”
   D. “Your insurance limits the time you can stay in the ICU.”

5. Six members of a trauma patient’s family arrive at the ICU asking questions about their loved one’s condition. The nurse’s most appropriate initial response would be to:
   A. Ensure that the chaplain is available
   B. Include the family in patient care
   C. Offer the family a tour of the ICU
   D. Identify a family spokesperson

6. A patient’s family expresses anxiety regarding the meaning of numbers on the patient’s monitor, and asks the nurse for clarification. The nurse’s most appropriate response would be:
   A. “The numbers indicate when the patient is having problems.”
   B. “The numbers help us determine the best treatment.”
   C. “Which numbers on the monitor concern you?”
   D. “What don’t you understand about the monitor?”

7. A patient has been waiting in the ICU for 2 months for a heart transplant. A family member angrily tells the nurse, "This is hopeless!” the nurse’s actions should be based on the knowledge that:
   A. Expressions of frustration are normal and usually require no nursing intervention
   B. Since expressions of hopelessness may be harmful to the patient, the family member should be encouraged to keep those statements out of the patient care area
   C. The integrity of the family system is crucial in the transplant process
   D. Encouraging discussion of negative emotions can impede their resolution

8. A major trauma victim is transported from a rural hospital. The patient died prior to the wife's arrival to the ICU. The nurse would best prepare for the wife's arrival by:
   A. Arranging for a physician to speak with her when she enters the unit
B. Planning to escort her to the waiting room to await the physician's arrival  
C. Preparing to give her information about the care her husband received prior to death  
D. Planning to escort her to the morgue to see her husband

9. A patient with Type I insulin-dependent diabetes mellitus is admitted in diabetic ketoacidosis (DKA). Since admission to the ICU, the patient’s glucose levels have been in the range of 400 – 500 mg/dl, and regular insulin has been administered on a sliding dosage scale. Given these findings, the most appropriate initial nursing intervention is to:  
A. Consult with the physician about changing the regimen to regular insulin via continuous drip  
B. Arrange for nutritional consult to enhance adherence to ADA diet  
C. Consult with the physician about increasing the maximum dosage of regular insulin on the sliding scale  
D. Request evaluation by diabetic educator

10. An AMI patient is in critical condition in the CCU. His significant other has been at the bedside providing reassurance and support since his admit 12 hours ago. His estranged wife arrives and demands that the significant other not be allowed to visit or be given condition updates. The nurse should:  
A. Ask the physician to write an order to allow the significant other to have visitation privileges  
B. Request a multidisciplinary care conference to discuss visitation and communication of patient status  
C. Contact the hospital’s medical-legal department and request that the hospital attorney speak to the wife  
D. Encourage the patient to express his desire to spend time with his significant other to his wife

11. A nurse is caring for a patient with a T5 spinal cord injury. To facilitate the patient’s safe transfer to a rehabilitation facility, the nurse would:  
A. Ensure that the patient is functionally independent prior to transfer  
B. Ensure that the patient has bowel and bladder control  
C. Consult with the rehabilitation staff regarding transfer criteria  
D. Request a psychiatric evaluation of the patient’s coping skills

12. The family of a patient moved to a lower acuity area verbalizes feelings of mistrust, disappointment and rejection by the ICU staff. These are signs of:  
A. Poor self-esteem  
B. Hopelessness  
C. Transfer anxiety  
D. Powerlessness

13. After cardiac surgery, a patient who is a Jehovah’s Witness has an HCT of 18% and accumulated chest tube drainage of 1800cc in the first 3 hours. The most appropriate action would be to:  
A. Begin continuous-circuit auto-transfusion  
B. Administer donated directed PRBCs  
C. Administer donated autologous whole blood  
D. Administer 500cc of albumin

14. A Russian patient who does not speak or understand English has just undergone an aortic valve replacement. The nurse notices he is increasingly restless and splinting his chest with both hands. An effective means of communication with this patient would be by:  
A. Using a letter board  
B. Contacting the patient’s family  
C. Touch and gestures  
D. Using “yes” or “no” questions

15. When teaching a family member to perform an aspect of patient care, the nurse understands that family members:  
A. Are unaffected by the timing of teaching  
B. Learn best if they perceive a need to learn  
C. Learn best if shown a complex procedure all at once  
D. Turn unrelated tasks first
16. A blind patient is to be transferred to the neuroscience unit after unsuccessful thrombolytic therapy for a right middle cerebral artery stroke. The nurse would prepare the patient for transition by:
   A. Offering to answer the patient’s questions about the transfer
   B. Giving the patient a brief, factual introduction to the unit
   C. Providing written materials about the receiving unit to the patient’s family
   D. Arranging for the patient’s family to tour the receiving unit

17. The daughter of a mechanically ventilated patient is to be taught how to suction. When developing a teaching plan, the nurse must first:
   A. Obtain written information about the procedure
   B. Determine a schedule for demonstrating the technique
   C. Assess the knowledge and skills the daughter needs to learn
   D. Encourage the daughter to observe the procedure on other patients

18. A physician instructs an orienteer to level an ICP transducer to the Foramen of Magnum. The critical care nurse should:
   A. Tell the orienteer to level the transducer to the Foramen of Monroe
   B. Help the orienteer plan and carry out an appropriate response
   C. Help the orienteer identify the correct anatomical landmarks
   D. Reinforce the physician’s instructions to the orienteer

19. To assess discomfort in a patient with chronic dementia, the nurse should:
   A. Consistently use a visual or numerical pain rating scale
   B. Analyze the amount of pain medication given to the patient
   C. Monitor the patient’s behaviors and physiologic data
   D. Speak slowly while looking directly at the patient

20. A patient with cerebral edema after a subarachnoid hemorrhage has been ordered nifedipine 10 mg PO q4h. The patient’s blood pressure is 150/85. How should the nurse respond to this order?
   A. Ask the pharmacist to clarify the order
   B. Discuss the purpose of the order with the physician
   C. Research the indications and safety of nifedipine
   D. Administer the medication to control blood pressure

21. When caring for a 15-year-old patient, the nurse would:
   A. Address worries about the future
   B. Use games as a teaching strategy
   C. Encourage the patient to talk about life experiences
   D. Allow the patient’s peers to visit

22. A patient has just been informed of the diagnosis of liver failure. Clutching a rosary, the patient says to the nurse, “I am going to die.” The nurse’s best response would be:
   A. “Do you want me to call the chaplain?”
   B. “Don’t give up your will to live.”
   C. “You think you are going to die?”
   D. “Have faith in God’s will.”

23. Providing culture-specific care includes understanding:
   A. That identifying the changes that need to occur, and who will be involved, is part of developing a therapeutic plan
   B. Health beliefs among members of a cultural group are the same
   C. Delineating standard goals of therapy will help enhance patient adherence to a therapeutic regimen
   D. Use of non-specific methods will enhance patient problem solving
24. A patient who does not speak or understand English is admitted to the ICU. Guidelines for using a translator may include:
A. Having the translator ask questions that you don’t feel comfortable asking
B. Standing next to the translator and as close to the patient as possible
C. Providing all of the information; then allowing for translation and asking of questions
D. Allowing time for the translator to decode the medical jargon used in the teaching

25. You are caring for a patient experiencing a fourth bout of congestive heart failure. The patient states “I cannot take it anymore. I wish I could end all of this.” A priority when caring for this patient’s response to stress is to:
A. Place the patient in a hospital gown or pajamas
B. Explore suicidal intent with the patient
C. Manage the patient in a restrictive environment for the first 48 hours
D. Allow the patient to have only short periods alone once in a safe environment

26. An alert patient is emergently intubated during an episode of pulmonary edema. When family members come to visit the patient, they cry out, “Talk to me; talk to me!” The nurse should tell the family that:
A. They must not excite the patient while visiting
B. Communication is not a priority at this time
C. The patient is too exhausted to converse with them
D. The breathing tube temporarily prevents the patient from speaking

27. The nurse is instructing a patient’s family about the significant complications of a ventriculoperitoneal shunt. Which of the following would be most important for the family to report to nursing staff?
A. An increase in temperature to 99 degrees F (37.2 degrees C)
B. A change from alert to drowsy
C. Some loss of short-term memory
D. Redness at the incision site

28. A patient who is stable after AMI is to be transferred from the ICU to a telemetry unit. The patient’s spouse says, “I don’t want my spouse moved; it’s too soon.” Discussion with this patient and spouse should focus on:
A. Improvements in the patient’s condition
B. Reviewing the acuity of the other patients
C. The spouse’s ability to act as caregiver
D. The contrasting staffing ratios of the units

29. A teenager post cardiac arrest has a new diagnosis of hypertrophic cardiomyopathy. The parents are concerned about what to do if the patient collapses again. The nurse’s best response would be:
A. “Now that your son has been diagnosed and treated, you need not worry.”
B. “Would teaching you CPR help ease your anxieties?”
C. “Do you know how to access the EMS system?”
D. “I will have your son’s cardiologist talk to you.”

30. A patient with receptive aphasia and dementia is to be enrolled in a clinical trial. How should the critical care nurse proceed to ensure that informed consent is ethically obtained?
A. Involve the patient’s legal guardian in the consent process
B. Ensure that the investigator is aware of the patient’s condition
C. Inform the institutional review board (IRB) of the potential risk to the patient
D. Obtain a copy of the consent form to place in the patient’s chart

31. A patient recalls a near-death experience (NDE) that occurred during resuscitation and wishes to tell the nurse about it. What is the optimal response by the nurse?
A. Let the patient know that NDE’s are often hallucinations
B. Compare the patient’s story to the actual resuscitation events
C. Encourage the patient to describe the NDE to his family
D. Take time to listen actively while the patient tells the story
References (Rauen updated original list taken from aacn.org)
Barry, P.D. *Psychosocial Nursing: Care of the Physically Ill Patients and Their Families*. Lippincott, 1996.

1. B  
2. A  
3. D  
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29.B  
30.A  
31.D
III. Caring and Ethical Practices

A. Ethical Principles
- Patient autonomy: self-determination, freedom of choice
- Justice: fair treatment without discrimination
- Veracity: truth, honesty and integrity
- Fidelity: obligation to care to the best of one’s ability
- Beneficence: doing good for others
- Non-maleficence: do no harm
- Paternalism: deciding what is right (best) for others

B. Moral Concepts
- Respect for persons
- Justice
- Values
- Rights

C. Family Theories
1. Family Needs: Nancy Molter
   - Need for accurate and regular information
   - Need to see the patient
   - Need to be helpful to the patient
   - Need to understand the hospital environment
   - Need to preserve a reasonable emotional balance
   - Need to relive the incident (common for trauma families)
   - Need for realistic hope and assurance
   - Need to have personal needs met
   - Need for support
   - Need to maintain or develop confidence in care

2. Phases of Family Recovery: Epperson
   - High Anxiety
   - Denial
   - Anger
   - Remorse
   - Grief
   - Reconciliation

3. Functional Coping: Fogerty’s Model
   - Family adapts to change
   - Connectedness is maintained
   - Minimum of fusion: distance is not used to solve problems
   - Triangling is discouraged
   - Differences are tolerated and encouraged
   - Preservation of a positive emotional climate takes precedence over what “should” be done and what is “right”
   - Members of a family use each other for feedback and learning, not as the enemy

4. Dysfunctional Coping
   - Prolonged denial
   - Disruption of family routines
   - Blaming- increased conflict
Dysfunctional behaviors: agitation, depression, hostility, guilt, addictions
Forgetting critical facts or necessary information
not hearing - decreased crisis or non-resolution of crisis
Scapegoating – projecting all the problems onto one family member to relieve the overall anxiety in the system
Unhealthy communication patterns: secrets, deception, double messages, evasiveness

D. Adult Learning Principles: Malcolm Knowles
- The need to know
- The learner’s self-concept
- The role of experience
- Readiness to learn
- Orientation to learning
- Motivation

E. Pain
Definition
“A personal, private sensation of hurt. A harmful stimulus which signals current or impending tissue damage. A pattern of responses to protect the organism from harm.” Sternback (1979)

“Pain is whatever the experiencing person says it is and exists whenever he/she says it does.” McCaffery (1979)

- Acute vs. Chronic
- Assessment
- Treatment

F. Growth and Development: Erik Erikson’s Stages of Life Cycle
- Trust vs. Mistrust 0-2 years Hope
- Autonomy vs. Shame 2-3 years Will
- Initiative vs. Guilt 3-6 years Purpose
- Industry vs. Inferiority 6-12 years Competence
- Identity vs. Role Confusion 13-20 years Fidelity
- Intimacy vs. Isolation 21-45 years Love
- Generativity vs. Stagnation 45-65 years Care
- Ego Integrity vs. Despair >65 years Wisdom

H. Human Needs: Maslow
- Physiologic
- Safety and security
- Love and belonging
- Self-esteem
- Self-actualization

I. Stages of Death and Dying: Elizabeth Kubler-Ross
- Denial or isolation
- Anger
- Bargaining
- Depression
- Acceptance