

Practical Nursing II

8358 18 weeks / 280 hours

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Course Description

Suggested Grade Level: 11 or 12

Prerequisites: 8357

In the second semester of Practical Nursing, instruction will focus on basic nursing skills, medical asepsis, human development across the life cycle, and an introduction to pharmacology. Students will also apply basic nursing skills in interactive settings.

NOTE: *This course has specific state laws and regulations from a governing medical board or agency. Please contact the Virginia Department of Education, Office of Career and Technical Education prior to implementing this course. All inquiries may be sent to cte@doe.virginia.gov.*

Task Essentials Table

- Tasks/competencies designated by plus icons (⊕) in the left-hand column(s) are essential
- Tasks/competencies designated by empty-circle icons (○) are optional
- Tasks/competencies designated by minus icons (⊖) are omitted
- Tasks marked with an asterisk (*) are sensitive.

8358	Tasks/Competencies
	Demonstrating Processes of Infection Prevention and Control
⊕	Identify Occupational Safety and Health Administration (OSHA) regulations and guidelines.
⊕	Demonstrate appropriate hand-hygiene techniques.
⊕	Demonstrate how to clean instruments and supplies.
⊕	Demonstrate isolation procedures to include personal protective equipment (PPE) as it applies to the Centers for Disease Control and Prevention (CDC) regulations on disease processes.

8358	Tasks/Competencies
+	Demonstrate double-bagging technique.
+	Demonstrate the handling and disposal of contaminated material.
+	Demonstrate medical asepsis.
+	Demonstrate surgical aseptic techniques.
Mastering Nursing Competencies/Skills in the Clinical Setting	
+	Demonstrate assessment procedures as outlined in the Board of Nursing Regulations in a laboratory and/or clinical setting.
+	Demonstrate measuring and recording intake and output in a laboratory and/or clinical setting.
+	Demonstrate alternate feeding methods and techniques in a laboratory and/or clinical setting.
+	Demonstrate appropriate body mechanics in a laboratory and/or clinical setting.
+	Explain procedures and law regarding use of mobility equipment in a laboratory and/or clinical setting.
+	Maintain a safe and controlled environment within laboratory and clinical environments.
+	Identify prevention of, and appropriate response to, situations of domestic violence within laboratory and clinical environments.
+	Perform procedures related to American Heart Association (AHA) first aid and emergency care in a laboratory and/or clinical setting.
+	Identify environmental safety precautions and procedures within laboratory and clinical environments.
+	Demonstrate range of motion in a laboratory and/or clinical setting.
+	Explain the admission, transfer, and discharge procedures of a clinical setting.
+	Perform procedures related to personal hygiene and activities of daily living (ADL).
Understanding Fluid and Electrolyte Balance	
+	Explain the role of fluids in maintaining homeostasis.
+	Describe the major types of acid-base imbalances.
+	Describe the principles of intravenous (IV) therapy.
Applying Concepts Related to Wellness and Illness	
+	Explain physiological and psychosocial aspects of the illness and disease process.
+	Demonstrate a head-to-toe assessment.
+	Identify common diagnostic procedures.
+	Identify common treatment modalities.
+	Apply the nursing process as it relates to the surgical patient/client.
+	Apply the nursing process to a client with neoplastic disease (cancer).
+	Apply the nursing process to a client with acquired immunodeficiency syndrome (AIDS).
Understanding Principles of Growth and Development	
+	Identify global health influences on growth and development across the lifespan.
+	Examine principles of growth and development across the lifespan.
+	Summarize theories of growth and development across the lifespan.
+	Describe the influences of heredity and environment on growth and development across the lifespan.
+	Explain growth and development of the infant.
+	Explain growth and development of the toddler.
+	Explain growth and development of the preschooler.
+	Explain growth and development of the school-aged child.

8358	Tasks/Competencies
+	Explain growth and development of the adolescent.
+	Explain growth and development of the young adult.
+	Explain growth and development of the middle adult.
+	Explain growth and development of the older adult.
Understanding Concepts of Grief, Death, and Dying	
+	Describe the stages of death and dying.
+	Identify the major fears of the dying client.
+	Identify signs and symptoms of approaching death.
+	Describe the grieving process.
+	Identify a nurse's responsibilities associated with the death of a client.
+	Apply the nursing process for a client with palliative care needs.
Introducing Concepts of Medication Administration	
+	Identify general principles of pharmacology.
+	Identify principles of pharmacodynamics/pharmacokinetics.
+	Explain the principles of medication administration.
+	Calculate medication dosages.
Describing the Opioid Crisis	
+	Describe the history and current state of the opioid crisis in the United States.
+	Describe the history and current state of the opioid crisis in Virginia.
+	Define the pharmacological components and common uses of opioids.
Examining the Key Factors of Drug Addiction	
+	Examine the science of addiction.
+	Explain prevention and early intervention strategies.
+	Identify addiction and its behavioral elements, as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).
+	Describe the treatment models of addiction therapy.
+	Describe the medication management antidote used to prevent fatal opioid overdoses.
Understanding Pain Management Protocols	
+	Explain the science of physiological and mental pain.
+	Describe the diagnostic tools used in developing pain management plans.
+	Describe pain treatment options available to various populations of patients.
+	Describe the effects of opioid dependency on the human body systems.
+	Explain the mechanism and physical effects of opioids on the human body.
+	Explain the use of opioids in practice settings, the role of opioids in pain management, and risk factors associated with the use of the medication.
+	Describe the withdrawal and tapering side effects of opioid use.
+	Describe storage and disposal options for opioids.
+	Explain community resources for education about opioid use.
Working with Patients and Caregivers	
+	Describe key communication topics involving opioids for patients.
+	Describe communication topics for caregivers and family members.

Legend: + Essential ○ Non-essential ⊖ Omitted

Curriculum Framework

Demonstrating Processes of Infection Prevention and Control

Task Number 39

Identify Occupational Safety and Health Administration (OSHA) regulations and guidelines.

Definition

Identification should include those procedures that apply to

- bloodborne pathogens
- immunizations (Hepatitis B)
- antibiotic-resistant organisms.

Process/Skill Questions

- What are exposure-control policies?
- What measures can you take to be protect yourself from pathogens?
- Who is eligible to receive Hepatitis B immunization?
- What are "superbugs"?
- Where are carbapenem-resistant Enterobacteriaceae (CRE) bacteria primarily found?
- What makes CRE so difficult to treat?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pathophysiology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
-

Task Number 40

Demonstrate appropriate hand-hygiene techniques.

Definition

Demonstration should include elements of effective hand washing as recommended in the Centers for Disease Control and Prevention (CDC) standards and the use of hand sanitizers (hand hygiene).

See also “When & How to Wash Your Hands” (Centers for Disease Control and Prevention):
<http://www.cdc.gov/handwashing/when-how-handwashing.html>

Process/Skill Questions

- What are the essential elements of proper hand washing?
- Why are there standards for hand washing?
- How often should hand sanitizer be used between hand washings?
- For what situation(s) is it not appropriate to use hand sanitizer?
- What is the difference between medical and surgical asepsis?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing
-

Task Number 41

Demonstrate how to clean instruments and supplies.

Definition

Demonstration should include

- use of personal protective equipment (PPE)
- proper storage of clean/unclean items
- procedures for cleaning and disinfecting.

Process/Skill Questions

- What are the differences between cleaning, disinfecting, and sterilization?
- Why is it important to use PPE while carrying out these procedures?
- How do you know whether or not equipment is properly sterilized?
- What are the procedures for sterilizing instruments?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Task Number 42

Demonstrate isolation procedures to include personal protective equipment (PPE) as it applies to the Centers for Disease Control and Prevention (CDC) regulations on disease processes.

Definition

Demonstration should include

- putting on and taking off gown, mask, and gloves in the correct order to ensure that clean technique is used throughout the process and the healthcare worker does not contaminate himself/herself
- identifying CDC categories for specific PPE.

See also “Guidance on Personal Protective Equipment (PPE)” (Centers for Disease Control and Prevention): <http://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html>

Process/Skill Questions

- What part of a gown is considered contaminated?
- What should be done when a mask becomes wet/damp?
- What are the steps in putting on a mask, a gown, and gloves?
- What situations/diseases require a nurse to use an N95 respirator mask?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing
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Task Number 43

Demonstrate double-bagging technique.

Definition

Demonstration should include

- selection of appropriate bags
- correct sealing of bags
- appropriate disposal of bags.

Process/Skill Questions

- How should linens/trash be disposed of when a client is on contact precautions?
- How does double bagging help break the chain of infection?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing
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Task Number 44

Demonstrate the handling and disposal of contaminated material.

Definition

Demonstration should include

- items that are disposed of versus cleaned
- precautions taken with sharps
- relation to standard precautions
- bloodborne pathogen precautions.

Process/Skill Questions

- Why is it important to properly dispose of contaminated material?
- What potential environmental concerns develop if medical wastes are disposed of improperly?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing
-

Task Number 45

Demonstrate medical asepsis.

Definition

Demonstration should include

- evidence of understanding principles of asepsis
- use of CDC Standard Precautions.

Process/Skill Questions

- What are the general principles of asepsis and the rationale for each principle?
- What are the Standard Precautions, and how are they practiced?
- How can the basics of microbiology be summarized: families of microbes, the essential ingredients for microbial life, pathogenic versus nonpathogenic microbes, and the effects of pathogens on body functions?
- What is the sequence of events in the chain of infectious disease?
- How would Standard Precautions be used to interfere with the mode of transmission?
- How would methods of medical asepsis be applied to prevent airborne, droplet, contact, and neutropenic spread of communicable diseases?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing
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Task Number 46

Demonstrate surgical aseptic techniques.

Definition

Demonstration should include

- putting on and removing sterile gloves
- opening a sterile package
- establishing a sterile field
- pouring sterile liquids
- handling materials and tools to maintain sterile quality.

Process/Skill Questions

- What are the general principles of surgical aseptic techniques and the rationale behind each principle?
- What are the steps in donning sterile gloves and maintaining sterility?
- What are the steps in opening a sterile package and maintaining sterility?
- How are sterile forceps (both wet and dry) handled, and how is sterility maintained?
- What are the steps in pouring sterile liquids?
- How can the proper sterilization of instruments be determined?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing

Mastering Nursing Competencies/Skills in the Clinical Setting

Task Number 47

Demonstrate assessment procedures as outlined in the Board of Nursing Regulations in a laboratory and/or clinical setting.

Definition

Demonstration should include

- use of appropriate medical equipment and supplies
- assessment of all vital signs
- taking the client's height, weight, and circumferences
- assistance with physician's examination.

See also "Curriculum: B.2" (Virginia Administrative Code): [18VAC90-20-120. \(Repealed.\)](#)

Process/Skill Questions

- What is the significance of vital signs?
- What are the normal ranges of the following vital signs for various age groups: temperature, pulse, respiration, and blood pressure?
- What steps should be taken to assess a client's temperature, pulse, respiration, and blood pressure?
- What steps should be taken to measure height, weight, and circumferences?
- What steps should be taken to assist a physician with a physical examination, including pre- and post-care of client and room, positioning and draping the client, and managing specimens?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing
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Task Number 48

Demonstrate measuring and recording intake and output in a laboratory and/or clinical setting.

Definition

Demonstration should include

- use of the metric system and the U.S. customary system (USCS), including conversion between systems
- ways to measure fluid intake
- ways to measure fluid output
- procedure for recording measurement according to agency documentation guidelines.

Process/Skill Questions

- How are intake and output documented?
- Why is the metric system used for measuring and documentation of intake and output?
- Why are accurate intake and output measurements essential?
- How would measuring output from a Foley catheter be described?
- What body fluids are considered to be output?
- What fluids are considered to be intake?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Medical Math

Health Professions Events

- Clinical Nursing
-

Task Number 49

Demonstrate alternate feeding methods and techniques in a laboratory and/or clinical setting.

Definition

Demonstration should include

- addressing client's individual and special needs (e.g., tube feedings)
- providing client with assistive devices (e.g., plate guard, special utensils)
- positioning client, according to care plan
- preparing client to receive nutrition (e.g., hand washing, dentures, clothing protectors)
- alternating liquids and solids
- following appropriate guidelines for feeding the self-care and the dependent client
- recording alternate feeding methods and techniques, according to agency documentation guidelines.

Process/Skill Questions

- What precautions must be taken when administering a tube feeding?
- What is the procedure for assessing feeding tube location and patency prior to feeding?
- What variations in feeding need to be implemented for the client with difficulty swallowing?
- Why is it advisable to alternate liquids and solids?
- What actions can you take to increase calories for the client who is not eating?
- What is the purpose and the process of a calorie count?

HOSA Competitive Events (High School)

Health Science Events

- Medical Terminology

Health Professions Events

- Clinical Nursing
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Task Number 50

Demonstrate appropriate body mechanics in a laboratory and/or clinical setting.

Definition

Demonstration should include

- elements of good body mechanics (e.g., base of support, proximity to load, minimal twisting, avoidance of repetitive motions, use of large muscles, and posture)
- techniques of standing, sitting, and moving for personal protection of the nurse
- techniques for moving, transferring, and lifting clients.

Process/Skill Questions

- What types of devices can help you transfer and lift clients?
- Why is good posture important for a nurse?
- What are the potential consequences of not using proper body mechanics?
- How should a nurse position herself to pick up a heavy object?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 51

Explain procedures and law regarding use of mobility equipment in a laboratory and/or clinical setting.

Definition

Explanation should include

- guidelines and client individualized plan of care for using transfer equipment (e.g., transfer belt, gait belt, lift, wheelchair, sliding board)
- ways to transfer clients with various physical disabilities (e.g., one-sided weakness, paralysis)
- ways to transfer clients in various activities of daily living (e.g., moving to and from bath/shower, toilet, car, chair)
- law that protects healthcare workers and clients when lifting clients (e.g., mechanical lifts).

See also “Department of Labor Reverses Mechanical Lift Age Restrictions” (Argentum): <http://www.alfa.org/NewsBot.asp?MODE=VIEW&ID=1868>

See also “Safe Patient Handling and Movement (SPHM)” (The National Institute for Occupational Safety and Health [NIOSH]): <http://www.cdc.gov/niosh/topics/safepatient/>

Process/Skill Questions

- What should be communicated to a client prior to and during a transfer?
- When would a sliding board be used to transfer a client?
- What strategies can be used to avoid a fall during a transfer?
- How would a client be lowered safely to the floor in an emergency situation?
- Why is it important to follow procedures exactly when transferring a client?
- What does the law state about using mechanical lifts?
- Should a nurse use a mechanical lift alone?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Task Number 52

Maintain a safe and controlled environment within laboratory and clinical environments.

Definition

Maintenance should include

- various client environments
- dignity and privacy of client
- physical contact with client, including body mechanics
- control of noise, climate, odors, lighting
- operation of various types of beds
- safety issues.

Process/Skill Questions

- What are considerations related to the dignity and privacy of the client?
- What factors place nurses and clients at risk for injury?
- How are restraints chosen, applied, and maintained?
- What methods are recommended to control noise in healthcare environments? Odors? Lighting?
- How can bed-making skills be adapted when making various types of beds, including closed, head-to-toe, crib, and therapeutic?
- What methods would be used in a home healthcare setting to ensure optimal emergency procedures, fire safety, sharps and contaminated waste disposal, and sanitation?
- To whom would you report safety issues?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Task Number 53

Identify prevention of, and appropriate response to, situations of domestic violence within laboratory and clinical environments.

Definition

Identification should include

- recognition of situations/events classified as domestic violence
- role of nurse as the mandated reporter
- role of community agencies that may prevent and/or respond to such acts.

Process/Skill Questions

- What situations are considered acts of domestic violence?
- What community agencies focus on prevention of domestic violence?
- What other professionals might serve in the role of mandated reporter?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Medical Law and Ethics

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 54

Perform procedures related to American Heart Association (AHA) first aid and emergency care in a laboratory and/or clinical setting.

Definition

Performance should include

- use of appropriate equipment and supplies
- assessment techniques
- procedures to control external bleeding
- first aid for choking victim and shock victim
- procedures to treat bone traumas
- procedures to treat: heat/cold exposure, poisoning, seizures, burns, bites

after completing AHA Basic Life Support health care provider and first aid training.

Process/Skill Questions

- How would you assess the situation and the client in an emergency through observation, inspection, and palpation?
- Why would you evaluate the situation for hidden dangers before entering the scene or touching the client?
- How would you perform CPR in a non-medical setting?
- How would you administer first aid to a conscious and an unconscious choking victim?
- What are the signs and symptoms of shock? What emergency procedures would you provide for a shock victim until help arrives?
- How would you perform emergency procedures to treat fractures, sprains, strains, and dislocations?
- How would you treat victims of heat/cold exposure, poisoning, seizures, and burns?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Teamwork Events

- HOSA Bowl

Emergency Preparedness Events

- CPR/First Aid

Task Number 55

Identify environmental safety precautions and procedures within laboratory and clinical environments.

Definition

Identification should include

- issues involving emergencies (e.g., fire, natural disasters, man-made disasters, hazardous waste mishaps, bomb threats, infant abduction)
- evacuation procedures
- hazardous and nonhazardous waste disposal
- roles of all people involved in emergency situations
- electrical safety standards.

Process/Skill Questions

- What is the role of a nurse in an emergency?
- What sequence of events should you implement when responding to a fire in a healthcare facility?
- What are areas with a high potential for fire?
- How would disposal of hazardous and nonhazardous waste materials be differentiated?
- How would the management of various emergencies and disasters be compared?
- What are the critical steps to take in the case of infant abduction?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing
-

Task Number 56

Demonstrate range of motion in a laboratory and/or clinical setting.

Definition

Demonstration should include

- maintaining range of motion
- assisting with active range-of-motion exercises

- performing passive range-of-motion exercises.

Process/Skill Questions

- What circumstances require a client to have range-of-motion exercises?
- What techniques are used to perform active range-of-motion exercises?
- What techniques are used to perform passive range-of-motion exercises?
- What are examples of incorporating range-of-motion exercises into the client's routine care?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing
-

Task Number 57

Explain the admission, transfer, and discharge procedures of a clinical setting.

Definition

Explanation should include the process of

- admitting a client
- transferring a client
- discharging a client.

Process/Skill Questions

- What are the steps in admission and discharge?
- What actions need to be taken when admitting a client?
- What actions need to be taken when discharging a client?
- How would you assist with transfer procedures, including intra-agency, inter-agency, client teaching, and documentation?
- What is the Emergency Medical Treatment and Active Labor Act, and how does it apply to client care?
- What is a nurse's role in the following:
 - Planning (coordination, collaboration)
 - Summary (What is a summary?)
 - Teaching

- Referral process
- Leaving against medical advice (AMA)

HOSA Competitive Events (High School)

Health Science Events

- Medical Terminology

Health Professions Events

- Clinical Nursing
-

Task Number 58

Perform procedures related to personal hygiene and activities of daily living (ADL).

Definition

Performance should include

- demonstrating various types of baths
- making an occupied and an unoccupied bed
- caring for client: dressing/undressing, oral hygiene, massage, haircare, nail care, shaving, shampooing, skin care, toileting.

Process/Skill Questions

- How would the different types of baths, such as cleansing, bed bath, medicated, and therapeutic, be determined? How would each type be matched with rationale, method of administration, and anticipated therapeutic responses?
- How would the following procedures be demonstrated:
 - Bed bath
 - Tub bath
 - Shower
 - Sitz bath
 - Whirlpool
 - Bed/fracture pan
- How do you make an occupied bed?
- How do you dress and undress the client, including the management of a closed and a running IV?

- How do you perform oral care of the conscious and unconscious client, such as the following:
 - Brushing teeth
 - Flossing
 - Caring for dentures
- How would you provide the following skin care?
 - Back rub
 - Care of bony prominences
 - Incontinence pads
 - Pull sheets
 - Draw sheets
 - Elimination hygiene
- What steps are taken to perform facial shaves? Hair and nail care, including bed shampoo?
- How do you administer personal care for the various forms of toileting?

HOSA Competitive Events (High School)

Health Professions Events

- Clinical Nursing

Understanding Fluid and Electrolyte Balance

Task Number 59

Explain the role of fluids in maintaining homeostasis.

Definition

Explanation should include

- definition of *homeostasis*
- the significance of intake and output
- fluid-volume imbalances (intracellular vs. extracellular)
- fluid retention and loss
- role of antidiuretic hormone (ADH), aldosterone, and renin-angiotensin.

Process/Skill Questions

- Of what significance is intake and output to homeostasis?
- What are the signs and symptoms of fluid imbalances: dehydration, hypovolemia, third-space shifting, and hypervolemia?
- What nursing interventions are indicated for each type of fluid-volume imbalance?
- For what situations would you expect to administer hypertonic, hypotonic and isotonic solutions to a client?
- How do ADH, aldosterone, and renin-angiotensin mechanisms maintain fluid balance?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 60

Describe the major types of acid-base imbalances.

Definition

Description should include

- normal pH
- inverse relationship between hydrogen ion concentration and pH level
- role of blood buffers, lungs, kidneys
- interpretation of arterial blood gas results
- causes and common assessment criteria of various imbalances
- interpretation of arterial blood gases.

Process/Skill Questions

- What is the normal pH of an adult's arterial blood?
- How do the relative concentrations of H⁺ ions and O₄⁻ ions affect pH?
- How do buffer systems, the lungs, and the kidney regulate acid-base balance?

- What mnemonic can assist you to interpret blood gases? (Respiratory = Opposite, Metabolic = Equal [ROME])
- What are the most common causes, signs, and symptoms of the following:
 - Respiratory acidosis
 - Respiratory alkalosis
 - Metabolic acidosis
 - Metabolic alkalosis
- What nursing interventions are appropriate for maintaining/preserving acid-base balances?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 61

Describe the principles of intravenous (IV) therapy.

Definition

Description should include

- types of IV therapy (e.g., blood transfusion, total parenteral nutrition [TPN], fluids)
- types of devices used for IV therapy
- types of IV solutions
- complications of IV therapy (e.g., phlebitis, infection, infiltration, embolism, hypervolemia).

Process/Skill Questions

- What are the purposes of IV therapy?

- What actions should you take if the client has a complication with IV therapy (e.g., phlebitis, infection, infiltration, embolism, hypervolemia)?
- What types of devices are used for IV therapy?
- How are *tonicity*, *solute*, *isotonic*, *hypotonic* and *hypertonic* defined?
- Which IV fluids are isotonic? Hypotonic? Hypertonic?
- How would an IV infusion be maintained (to include site assessment, cleaning, changing administration set, changing dressing, hanging a new bag of fluid)?
- What factors affect infusion rates?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Applying Concepts Related to Wellness and Illness

Task Number 62

Explain physiological and psychosocial aspects of the illness and disease process.

Definition

Explanation should include

- classifications of diseases
- terms related to disease
- the body's response to disease
- classifications of microorganisms
- psychosocial impact of diseases.

Process/Skill Questions

- How would the following classifications of diseases be explained: neoplastic, infectious, hereditary, traumatic, and congenital? What are examples of each?
- What terms are used to describe the course of a disease process, such as chronic, acute, exacerbation, remission, terminal?
- How is the body's response to disease described, including common signs and symptoms, the inflammatory process, and infection?
- What is the difference between community acquired and nosocomial illnesses?
- What are classifications of microorganisms? What is the relationship of each to the disease process?
- What are common psychosocial impacts of illness on the client and family?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pathophysiology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 63

Demonstrate a head-to-toe assessment.

Definition

Demonstration should include assessment of the following body systems:

- Cardiac
- Vascular
- Gastrointestinal (GI)
- Neurological
- Musculoskeletal
- Endocrine

- Respiratory
- Urinary
- Reproductive
- Hematologic.

Process/Skill Questions

- What methods are used in performing a physical examination?
- What techniques are used in a head-to-toe assessment?
- What are the steps involved in formulating an assessment summary?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Task Number 64

Identify common diagnostic procedures.

Definition

Identification should include

- client history
- methods of physical examination
- laboratory tests, electrical studies, imaging tests
- surgical diagnostic procedures, including biopsy
- endoscopic diagnostic procedures.

Process/Skill Questions

- What are the components of a client health history?
- What are the differences between the following laboratory tests: hematology, chemistry, and bacteriology?
- What are the differences between an X-ray, magnetic resonance imaging (MRI), computerized tomography (CT) scan, and ultrasound?

- What are the preps required for specific tests (e.g., fasting lipids, glucose, GI studies)?
- When is a biopsy performed?
- What are the different types endoscopic procedures?
- What are the differences between an (electrocardiogram) EKG, electromyography (EMG), and electroencephalogram (EEG)?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 65

Identify common treatment modalities.

Definition

Identification should include description of different treatment modalities.

Process/Skill Questions

- How would the following treatment modalities be described:
 - Nutritional therapy
 - Drug therapy
 - Surgical intervention
 - Respiratory therapy
 - Chemotherapy/radiation
 - Physical therapy
 - Speech therapy
 - Occupational therapy
 - Psychotherapy
 - Music therapy
 - Recreational therapy

- Compliance and alternative therapies
- What is a nurse's role in each of the treatment modalities?
- What complementary therapies are used by clients?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 66

Apply the nursing process as it relates to the surgical patient/client.

Definition

Application should include

- dealing with the fears and anxieties of the client
- identifying pre-existing health risk factors
- reducing surgical risk factors
- applying anti-embolic stockings
- performing pre-surgery procedures
- practicing intra-operative responsibilities
- practicing post-operative responsibilities.

Process/Skill Questions

- What are common nursing interventions that are used to address fears and anxieties of the client experiencing surgery?
- What are specific teaching topics to reduce or eliminate risk factors for the surgical client?

- Why must anti-embolic stockings be used for the surgical client?
- How would a nurse's role in the pre-, intra-, and post-operative care of the client be described?
- How would you prepare a surgical checklist?
- What are the different types of anesthesia and the nursing interventions for, and potential complications of, each?
- What are the most common questions a nurse asks the client when being admitted for surgery?
- What are major complications that may occur during the post-operative period and the medical and nursing prevention/management of each?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Task Number 67

Apply the nursing process to a client with neoplastic disease (cancer).

Definition

Application should include

- incorporating knowledge of neoplastic disease (cancer)
- dealing with client fears and anxieties related to diagnosis
- reducing risk factors
- assessing outcomes and interventions associated with surgical treatment
- assessing outcomes, interventions, and evaluations associated with chemotherapy
- assessing outcomes, interventions, and evaluations associated with radiation
- assessing outcomes, interventions, and evaluations associated with new treatments, cryosurgery, and genome treatment.

Process/Skill Questions

- What are cancer's warning signals?
- What are the common screening tests for early detection of various cancers?
- What is the difference between benign tumors and malignant tumors?
- What is tumor staging?
- What are the nursing interventions for the client undergoing surgery, radiation therapy, chemotherapy, immunotherapy, or bone marrow transplantation?
- What nursing interventions could you use to provide support for the family and the client while hospitalized?
- What nursing interventions could you use to provide emotional, physical, and spiritual support for the terminally ill cancer client?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Task Number 68

Apply the nursing process to a client with acquired immunodeficiency syndrome (AIDS).

Definition

Application should include

- knowledge of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) including pathophysiology, nursing assessment, outcomes, interventions, and evaluation of the client with HIV/AIDS
- development of plan of care
- application of nursing assessment, outcomes, interventions, and evaluation of pharmacological agents/therapies used for treatment
- application of nursing assessment, outcomes, interventions, and evaluation of dietary principles of educational guidelines.

Process/Skill Questions

- How is the pathophysiology of a depressed immune system explained?
- What is the difference between HIV and AIDS?
- How would you explain transmission of human immunodeficiency virus (HIV)? How does one prevent an HIV infection?
- What are the nursing interventions for the management of the client with HIV?
- What considerations would you take into account when developing a plan of care to meet the biological, psychological, social, dietary, and cultural needs of the client?
- What common pharmacological agents are used in the management of the client with HIV infection, and what are the side effects?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Understanding Principles of Growth and Development

Task Number 69

Identify global health influences on growth and development across the lifespan.

Definition

Identification should include

- major events that have occurred in society to promote growth and development
- governmental programs that influence growth and development.

Process/Skill Questions

- What major events have occurred in Western society that affect growth and development?
- How have these events impacted mortality and morbidity rates in the U.S.?
- What programs have been instituted by the U.S. government to promote healthy growth and development of people (e.g., vaccine, nutritional, educational)?

HOSA Competitive Events (High School)

Teamwork Events

- HOSA Bowl

Task Number 70

Examine principles of growth and development across the lifespan.

Definition

Examination should include

- characteristics of specific life stages
- the development of cognitive, affective, and psychomotor patterns.

Process/Skill Questions

- How would you explain the following characteristics of growth and development:
 - Cephalocaudal
 - Proximodistal
 - Directional
 - Continuous
 - Maturation
 - Readiness
 - Development tasks
- What specific milestones does a person achieve at specific times of life?
- What are developmental stages, and how do they apply to growth and development?
- What are the different domains of development (e.g., cognitive, affective, psychomotor)?
- How are general patterns of growth and development explained, such as average life expectancy, average age of marriage, and midlife crisis?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 71

Summarize theories of growth and development across the lifespan.

Definition

Summary should include

- classical conditioning
- cognitive learning
- operant conditioning
- theories of
 - Piaget
 - Kohlberg
 - Freud
 - Erickson
 - Sullivan
 - Havighurst
 - Maslow.

Process/Skill Questions

- What conclusions can be drawn from Piaget's Theory of Cognitive Development?
- How could an understanding of Kohlberg's Theory of Moral Development be demonstrated?
- How can Freud's Psychoanalytic/Psychosexual Theory of Personality Development be summarized?
- How can Erikson's stages of development be compared to Freud's?

- How can Sullivan's Interpersonal Theory of Personality Development be explained?
- How would nursing care based upon Maslow's Motivational Theory of Basic Needs (include all levels of the hierarchy) be prioritized?
- What inferences can be made regarding the learning theories of classical conditioning and cognitive learning?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 72

Describe the influences of heredity and environment on growth and development across the lifespan.

Definition

Description should include

- genetics
- prenatal environmental factors
- gender/identification
- ethnic factors
- ordinal position among siblings
- emotional environment
- socioeconomic environment
- various family structures
- community.

Process/Skill Questions

- How do genetics affect growth and development?
- What factors can affect the development of a child in utero (e.g., prenatal environment, health of mother, diet, stress, heredity)?
- How might an individual's gender influence his/her size and growth rate, mortality rate, expectations of parents, toys and play, and socialization?
- What ethnic factors might influence growth and development, including cultural beliefs, religious orientation, family structure, and healthcare beliefs?
- How might an ordinal position among siblings affect growth and development?
- What conclusions might be drawn about the environment's effect on growth and development, including
 - emotional environment
 - variations in family structures, such as nuclear, foster, and extended family
 - socioeconomic environment
 - community factors, such as climate, location, housing, and availability of social services and medical care?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development
- Knowledge Test: Transcultural Health Care

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 73

Explain growth and development of the infant.

Definition

Explanation should include

- developmental characteristics
- wellness/immunizations

- safety
- nutrition
- activity.

Process/Skill Questions

- What are the developmental characteristics of the normal infant?
- What strategies are recommended to new parents to foster psychosocial development based upon Erikson's theory?
- What methods are recommended for parents regarding the following:
 - Wellness/Immunizations Safety
 - discipline
 - prevention of Shaken Baby Syndrome
 - positioning of infant crib rails
 - toy safety
 - child-proofing home
 - Nutrition
 - breast milk versus formula
 - introduction to solid foods
 - food allergies
 - teething
 - GI concerns (e.g., colic, constipation)
 - Activity
 - play
 - sleep

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 74

Explain growth and development of the toddler.

Definition

Explanation should include

- developmental characteristics
- physical growth
- motor development
- characteristics of play
- promotion of health (e.g., wellness, safety, nutrition)
- anticipatory guidance.

Process/Skill Questions

- What are the developmental characteristics of the normal toddler, including general physical development, developmental characteristics, and theories of toddler age development?
- What recommendations can be made to parents regarding the following:
 - Promotion of health (e.g., immunizations, dental health, socialization)
 - Safety (e.g., toys, seat belts, child proofing home, first-aid measures)
 - Nutrition
 - Guidance

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 75

Explain growth and development of the preschooler.

Definition

Explanation should include

- physical development
- motor development
- developmental characteristics/tasks
- theories
- anticipatory guidance techniques.

Process/Skill Questions

- What are the physical developmental characteristics of the normal preschooler?
- What developmental characteristics identified by (Piaget, Erikson, Sullivan, and other developmental theorists) would the preschooler be expected to display?
- What recommendations might be made to parents regarding the following:
 - Immunization schedules
 - Nutrition
 - Safety
 - Socialization/play
 - Guidance techniques related to preschool preparation
 - Fears and anxieties
 - Discipline
 - Bed-wetting/enuresis

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 76

Explain growth and development of the school-aged child.

Definition

Explanation should include

- physical development
- developmental characteristics
- developmental theories
- nursing concerns
- anticipatory guidance
- promotion of health.

Process/Skill Questions

- What are the physical, emotional, and psychosocial developmental characteristics of the normal school-age child?
- What developmental characteristics (identified by Piaget, Erikson, Kohlberg, and Sullivan) would the school-age child be expected to display?
- What strategies might be recommended to the parents of the school-age child to foster comprehensive development?
- What are the specific milestone achievements seen in the school-age child, and how would you evaluate them?
- What information might you teach the parents of the school-age child regarding the following:
 - Wellness (e.g., dental health, health education, physical fitness, socialization)
 - Safety (e.g., latchkey children, motor vehicles, abuse, first aid, sports, weapons safety)
 - Nutrition (e.g., increased demand to meet high energy needs)
 - Guidance (e.g., entering school, sex education, drugs/alcohol, fears, discipline, bullying, sexuality conflict, gender identification, social media)

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
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Task Number 77

Explain growth and development of the adolescent.

Definition

Explanation should include

- physical development
- developmental characteristics
- developmental theories
- nursing concerns
- anticipatory guidance.

Process/Skill Questions

- What are the physical developmental characteristics of the normal adolescent?
- What developmental characteristics (identified by Piaget, Erickson, Kohlberg, Freud, and Sullivan) would one expect the adolescent to display?
- How would you differentiate between the developmental characteristics of early adolescence, middle adolescence, and late adolescence?
- What strategies could be recommended to the parents of the adolescent to foster psychosocial development?
- Why might the adolescent compare body image to his/her self-concept?
- What recommendations might be made for the parents of the adolescent related to the following:
 - Wellness (e.g., dental health, acne, reproductive system evaluations, sexually transmitted diseases [STDs], contraception, pregnancy, drugs, alcohol, smoking, socialization, peers)
 - Safety (e.g., motor vehicle, sports, weapons)
 - Nutrition
 - Guidance (e.g., sexuality conflicts, education, career planning, activities, exercise and rest, depression, work ethic, bullying, sexuality conflict, gender identification, social media)

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
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Task Number 78

Explain growth and development of the young adult.

Definition

Explanation should include

- characteristics of normal adult
- body image
- lifestyles
- impact of various influences (e.g., environment, genetic, and socioeconomic)
- nursing concerns
- major health concerns
- health promotion.

Process/Skill Questions

- What are the characteristics of the normal young adult?
- Why might the young adult compare body image to his/her self-concept?
- What impact might the lifestyle of young adults have on psychosocial adjustment? What might the impact of various influences (e.g., environment, genetic, socioeconomic) have on the young adult?
- What could be done to minimize the major health concerns of the young adult?
- What recommendations might be made to the young adult regarding the following:
 - Safety
 - Nutrition
 - Wellness
 - Family roles/planning
 - Maladaptive behaviors
 - Substance abuse

- Gender identification
- Sexuality conflicts
- Social media

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
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Task Number 79

Explain growth and development of the middle adult.

Definition

Explanation should include

- physical, mental, social concerns
- psychosocial impact of role transition
- various health concerns
- health promotion
- life events.

Process/Skill Questions

- What are some physical, mental, and social concerns of the middle adult?
- What common diseases are seen in this population?
- What recommendations might be made for the middle adult related to the following:
 - Health promotion needs, including nutritional requirements, rest, and exercise
 - Physical examination, screenings, and tests
 - Depression
 - Substance abuse

- Sexual changes
- Why is it so important for the middle adult to plan for retirement?
- What impact might caring for children and elder parents have on the middle adult?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 80

Explain growth and development of the older adult.

Definition

Explanation should include

- variables of aging
- theories of aging
- various influences
- general characteristics
- physical characteristics
- major adjustments
- health promotion
- safety and security.

Process/Skill Questions

- How can you differentiate among the variables of aging, including biological age, psychosocial age, and sociological age?
- How can the following factors influence aging:
 - Nutrition

- Environment
- Lifestyle
- Intoxicants
- Vocation
- General health
- Socioeconomic status
- Heredity
- What strategies might be recommended for the older adult to promote health?
- How can general characteristics common to the older adult be summarized? Physical characteristics?
- What are major adjustment periods of aging, such as retirement, death of a spouse, major illness, depression, and nursing home/assisted-living placement?
- What might be recommended for the older adult related to safety and security needs, such as access to community services, adequate lighting, nonslip surfaces, and elder abuse?
- What are the different categories within the “older adult” age group (e.g., older older adults)?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Understanding Concepts of Grief, Death, and Dying

Task Number 81

Describe the stages of death and dying.

Definition

Description should include

- theories of death and dying
- roles of personal and religious beliefs
- concept of hope
- characteristics of each stage
- variation of the sequence of stages of dying.

Process/Skill Questions

- What is clinical death?
- What is the legal definition of *death*?
- How can the Kübler-Ross theory of death and dying be described?
- What are other theories of death and dying?
- How might the impact of religious beliefs on death and dying be described?
- How can you foster the concept of hope within the terminal client?
- What are the characteristics and sequence of each stage of death and dying?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 82

Identify the major fears of the dying client.

Definition

Identification should include

- psychological and physiological fears
- loneliness and abandonment
- meaninglessness.

Process/Skill Questions

- How can the psychological and physiological fears of pain be differentiated?
- What methods might alleviate the client's fear of pain?
- What methods might alleviate the client's fear of loneliness and abandonment?
- What methods might alleviate the client's feelings of meaninglessness at the end of his/her life?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 83

Identify signs and symptoms of approaching death.

Definition

Identification should include

- physical signs
- nursing interventions.

Process/Skill Questions

- How can the physical signs of approaching death, including loss of muscle tone, breathing difficulty, circulatory failure, and loss of senses, be determined?

- How can nursing interventions for the client approaching death, including comfort measures and communication techniques, be explained and prioritized?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Human Growth and Development

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
-

Task Number 84

Describe the grieving process.

Definition

Description should include

- reactions to impending loss
- manifestations of grief and bereavement
- sociocultural aspects of grieving.

Process/Skill Questions

- What nursing actions are most therapeutic when providing nursing care to the dying? To the loved ones of a dying client?
- How might you assist the significant others of a dying client during the grieving process?
- How does culture influence the grieving process?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling

- Medical Terminology
- Knowledge Test: Human Growth and Development
- Knowledge Test: Transcultural Health Care

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
-

Task Number 85

Identify a nurse's responsibilities associated with the death of a client.

Definition

Identification should include

- agencies that provide assistance
- importance of nurse to family and significant others
- advance directives
- postmortem care
- cultural considerations.

Process/Skill Questions

- What agencies provide assistance to the terminally ill, and what services does each provide?
- Why is a nurse important to the family of a dying client?
- What are advance directives associated with death, including living wills, organ donations, coroner's case, and death certificates?
- Who pronounces death in the United States?
- What are the steps in postmortem care?
- Who needs to be notified of the death of a client?
- What is brain death, and how does it differ from death of the body?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Transcultural Health Care

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl
-

Task Number 86

Apply the nursing process for a client with palliative care needs.

Definition

Application should include

- definition of *palliative care*
- assessment of client's physiological, psychosocial, cultural, and spiritual needs
- death with dignity
- interventions
- hospice options
- evaluation of palliative care.

Process/Skill Questions

- What are some nursing interventions for comfort care?
- What do the following acronyms mean?
 - DNR
 - DNI
 - AND
- What is your definition of *dying of dignity*?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling

- Medical Terminology
- Knowledge Test: Transcultural Health Care

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Introducing Concepts of Medication Administration

Task Number 87

Identify general principles of pharmacology.

Definition

Identification should include

- chemical, generic, and brand names
- familiarity with drug reference books
- legal standards
- laws and agencies
- ethical and legal responsibilities
- sources and derivatives of drugs
- forms of drugs available.

See also “Curriculum: B.6” (Virginia Administrative Code): [18VAC90-20-120. \(Repealed.\)](#)

Process/Skill Questions

- What are the characteristics of chemical, generic, and brand names of specified drugs?
- What are the names of at least three drug reference books/online resources that provide easy access to information for a nurse? How are they used to obtain needed information?
- What is the title of the official drug reference that establishes legal standards for drugs?

- What laws and agencies regulate drug production, distribution, and use?
- What ethical and legal responsibilities govern a nurse's administration of medication?
- What are the sources of drugs? What is an example of a drug derived from each source.
- In what forms are drugs available?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Medical Math
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Task Number 88

Identify principles of pharmacodynamics/pharmacokinetics.

Definition

Identification should include

- therapeutic purpose of drugs
- drug absorption
- drug distribution
- metabolism and bio-transformation
- drug excretion
- drug dosage
- drug dependency
- drug effects
- incompatibility and interactions (food-drug, drug-drug, herbal-drug).

Process/Skill Questions

- What is the therapeutic purpose of drugs?
- What factors, such as blood levels, affect drug absorption?
- What factors affect drug distribution?
- What factors affect drug metabolism/bio-transformation?
- What factors influence drug excretion?

- What factors are involved in determining drug dosage?
- What factors contribute to drug dependency?
- What are the general types of drug effects?
- What is the difference between drug incompatibility and drug interactions (food-drug, drug-drug, herbal-drug)?
- What are the common drug interactions? Include drug-drug and drug-food.
- What is the difference between a drug side effect and a drug adverse reaction?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Medical Math
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Task Number 89

Explain the principles of medication administration.

Definition

Explanation should include

- rights of medication administration
- safety issues
- appropriate disposal of medication
- the role of the Food and Drug Administration (FDA)
- United States Pharmacopoeia (USP)-National Formulary
- Controlled Substances Act
- agency drug distribution systems
- Patient's Bill of Rights
- drug orders by the appropriate healthcare provider.

Process/Skill Questions

- What methods are used to distribute drugs in healthcare agencies, including stock and unit dose?

- What is the U.S. official drug reference book?
- What types of drugs are in each drug schedule?
- How does the Controlled Substances Act impact drug storage, as well as dispensing, administering, and documenting dosages?
- Which statement in the Patient's Bill of Rights relates to the administration of medication?
- What information must be included in a drug order by a healthcare provider?
- What are common abbreviations and symbols used in drug orders? How are they interpreted?
- What are the causes of common errors made in drug administration?
- Which are the "Do Not Use" abbreviations noted by the FDA?
- What steps should be followed when a medication error occurs?
- How are routes of drug administration in relation to rates of absorption, effectiveness, and safety of each compared and contrasted?
- What types of syringes are used for injections?
- What is the maximum amount of fluid a nurse can inject into the client for a subcutaneous, intradermal, and intramuscular injection?
- What criteria are used to select the correct needle size and length used for injections?
- What are the general rules for proper administration of drugs?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Medical Math
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Teamwork Events

- HOSA Bowl

Task Number 90

Calculate medication dosages.

Definition

Calculations should include

- use of metric, apothecary, and household systems of measurement
- use of basic math skills
- use of conversion equivalents
- use of ratio: proportion and formulas/dimensional analysis
- abbreviations used in drug orders to indicate time, frequency, and amount
- use of pediatric guidelines
- IV drip rates and flow rates.

Process/Skill Questions

- How do you determine the amount of medication to give a client?
- How would you set up a drug calculation problem?
- What formula would you use to calculate the rate of an intravenous solution when using a pump vs. no pump?
- What is the difference between a liter and a quart?
- What is the difference between a cubic centimeter and a milliliter?
- What are the units of measurement used in the metric, apothecary, and household systems of measurement?
- What are the common conversion equivalents to calculate doses when prescribed in one system of measurement and supplied in another?
- How do you convert from one system to another?
- How do you calculate an ordered dose of medication, using either a formula method, ratio: proportion, or dimensional analysis?
- What are the rules or guidelines for calculating pediatric dosages?
- How do you calculate IV drip rates? Flow rates?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Medical Math
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Describing the Opioid Crisis

Task Number 91

Describe the history and current state of the opioid crisis in the United States.

Definition

Description should include

- the relationship between opioid prescribing and illicit opioid use to overall opioid overdose deaths
- the prevalence of co-occurring mental health disorders
- the shift in attitudes in the 1990s toward pain management and use of opioids, including the role of pharmaceutical marketing
- the stigma associated with addiction and the changing view of addiction from a moral failing to a chronic, relapsing disease
- statistics, trends, and demographics surrounding the crisis
- population health and other public health aspects of the crisis, including its effects on family and neonates, as well as overall health costs.

Process/Skill Questions

- How are opioids created?
- Can opioids be safely prescribed to patients taking psychotropic drugs?
- How does society stereotype individuals with a history of drug addiction?
- What are the current trends that have contributed to the nationwide opioid crisis?
- How has the opioid epidemic affected emergency rooms and the first responder system?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Teamwork Events

- Creative Problem Solving
 - Public Service Announcement
-

Task Number 92

Describe the history and current state of the opioid crisis in Virginia.

Definition

Description should include

- the relationship between opioid prescribing and illicit opioid use to overall opioid overdose deaths
- the prevalence of co-occurring mental health disorders
- the shift in attitudes in the 1990s toward pain management and use of opioids, including the role of pharmaceutical marketing
- the stigma associated with addiction and the changing view of addiction from a moral failing to a chronic, relapsing disease
- statistics, trends, and demographics surrounding the crisis
- population health and other public health aspects of the crisis, including its effects on family and neonates, as well as overall health costs
- the Virginia Department of Health's [Declaration of a Public Health Emergency](#) on November 21, 2016
- proposed legislation to address the crisis in Virginia (i.e., [House Bill 2161](#) and [Senate Bill 1179](#), which require the secretary of health and human resources to convene a workgroup to establish educational guidelines for training healthcare providers in the safe prescribing and appropriate use of opioids)
- the development of curricula and educational standards regarding opioid addiction.

Resource: [The Opioid Crisis Among Virginia Medicaid Beneficiaries](#)

Process/Skill Questions

- What agencies participated in the governor's task meeting on the opioid crisis?
- What educational organizations will be tasked with providing opioid training to their students?
- What is the benefit of educating future medical professionals about opioid addiction?
- What is the current attitude in society about opioid use and addiction?
- How is the local community affected by the opioid epidemic?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Teamwork Events

- Creative Problem Solving
 - Public Service Announcement
-

Task Number 93

Define the pharmacological components and common uses of opioids.

Definition

Definition should include

- plant-based opioids (e.g., opium from poppy seeds)
- names of legal and illegal opioids
- [heroin](#)
- names of the most common opioids
- [fentanyl](#)
- medical diagnoses and injuries associated with opioid prescriptions
- [commonly used terms](#).

Resource: [Prescription Pain Medications](#), National Institute on Drug Abuse for Teens

Process/Skill Questions

- For what illnesses are opioids commonly prescribed?
- What is the current medical protocol when opioids are prescribed?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing
-

Examining the Key Factors of Drug Addiction

Task Number 94

Examine the science of addiction.

Definition

Examination should include

- biopsychosocial aspects of addiction
- the role of endorphins and dopamine
- the role of religious beliefs
- behavioral aspects of addiction
- life cycle of addiction
- misuse of opioids.

Process/Skill Questions

- How will understanding the physiological absorption of opioids in the body provide a holistic assessment?
 - What spiritual characteristics might be observed in the science of addiction?
 - What are some genetic explanations for some family members being more prone to addiction?
-

Task Number 95

Explain prevention and early intervention strategies.

Definition

Explanation should include

- risk and protective factors in opioid addiction
- specific populations at risk of addiction
- motivational interviewing and other communication strategies
- naloxone co-prescribing

- roles of family and social institutions in prevention and early intervention.

Resources:

- [Prevention Tip Card](#), Office of the Attorney General of Virginia
- [Prescription Opioids: Even When Prescribed by a Doctor](#) (video), Centers for Disease Control and Prevention (CDC)

Process/Skill Questions

- What are the physiological characteristics of opioid addiction?
 - What demographic is most affected by the opioid epidemic? What are some explanations for this?
 - How can provision of naloxone and training in its use be sustained financially?
 - What obligations do families and society as a whole have in preventing and providing early intervention related to drug addiction?
-

Task Number 96

Identify addiction and its behavioral elements, as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).

Definition

Identification should include

- DSM-5 Criteria for Substance Use Disorders
- American Society of Addiction Medicine (ASAM) Criteria (i.e., The Six Dimensions of Multidimensional Assessment)
- CONTINUUM, The ASAM Criteria Decision Engine
- clinical and behavioral aspects of addiction
- practice-appropriate screening tools, including co-morbidity screening.

Process/Skill Questions

- What are DSM-5 and ASAM and what information do they provide to healthcare professionals?
- What are clinical and behavioral elements of addiction that should be recognized by healthcare professionals?
- Who is responsible for providing the necessary screening tools and training?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Behavioral Health
- Knowledge Test: Medical Law and Ethics

Health Professions Events

- Clinical Nursing
-

Task Number 97

Describe the treatment models of addiction therapy.

Definition

Description should include

- a recognition that addiction is a chronic disease
- evidence-based treatment models for addiction in general and opioid addiction in particular
- medication-assisted treatment
- the continuum of care in opioid addiction treatment
- how and when to make a referral for treatment
- the roles in an interdisciplinary addiction team
- the role of peers in the treatment of addiction
- the difference between a drug culture and recovery culture
- the management of patients in recovery, including factors contributing to relapse.

Process/Skill Questions

- How many treatment models exist for addiction therapy? Why is one model better than the other?
- What are the advantages of evidence-based treatments and models?
- What medication-assisted treatment programs are available? Who provides them?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Behavioral Health
- Knowledge Test: Medical Law and Ethics

Health Professions Events

- Clinical Nursing
-

Task Number 98

Describe the medication management antidote used to prevent fatal opioid overdoses.

Definition

Description should include

- availability and use of naloxone
- naloxone training (e.g., [REVIVE!](#))
- naloxone training agencies
- monitoring of concurrent prescriptions.

Resources:

- [Frequently Asked Questions about Naloxone](#), Virginia Department of Health
- [How to prepare naloxone for administration](#), Virginia Department of Behavioral Health and Developmental Services

Process/Skill Questions

- What is naloxone?
- How much does naloxone cost with health insurance? How much does naloxone cost without health insurance?
- Who should receive naloxone training?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
 - Medical Terminology
 - Knowledge Test: Pharmacology
-

Understanding Pain Management Protocols

Task Number 99

Explain the science of physiological and mental pain.

Definition

Explanation should include

- definition of pain from the International Association for the Study of Pain (IASP)
- neurobiological basis of pain
- biopsychosocial model of pain
- types of pain (e.g., neuropathic)
- acute, sub-acute, and chronic pain, including pain generation
- spinal and brain modulation, behavioral adaptation and maladaptation, and the continuum from acute to chronic disabling pain
- the underlying science of pain relief.

Process/Skill Questions

- What is the IASP definition of pain?
- How can a medical professional get a patient to describe physiological pain?
- What assessment tools can be used to help patients describe physiological pain? How do tools differ for describing mental pain?
- How are pain and levels of pain categorized?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Nutrition
- Knowledge Test: Transcultural Health Care

Teamwork Events

- Community Awareness
 - Creative Problem Solving
 - HOSA Bowl
-

Task Number 100

Describe the diagnostic tools used in developing pain management plans.

Definition

Description should include

- pain-related health history and examination
- understanding the role of family in supporting individuals in need of pain management
- practice-appropriate screening tools that include aspects such as mood and function
- the use and limitations of pain scales
- differential diagnosis of pain and its placement on the pain continuum.

Resource: [Promoting Safer and More Effective Pain Management](#), CDC

Process/Skill Questions

- What are the Wong-Baker, LEGO, and Hospice assessment tools?
- How do pain assessment tools vary across the life span?
- When completing an assessment, is pain considered subjective or objective?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Nutrition
- Knowledge Test: Transcultural Health Care

Teamwork Events

- Community Awareness
- Creative Problem Solving
- HOSA Bowl

Task Number 101

Describe pain treatment options available to various populations of patients.

Definition

Description should include

- special populations in pain management, such as palliative/end-of-life care patients, patients with cancer, pediatric patients, and geriatric populations
- non-pharmacologic treatment of pain, including active care and self-care, evidence- and non-evidence-based approaches, and multimodal pain management
- non-opioid pharmacologic management of pain
- the challenges in discussing the psychological aspects of pain and the role of the central nervous system
- adverse drug event prevention for all pain medications
- the roles in an interdisciplinary pain management team
- the significance of issues such as anxiety, depression, and sleep deprivation in pain management
- the placebo effect
- goals and expectations in the treatment of pain, based on diagnosis and pain continuum
- when to make a pain referral and to whom.

Resources:

- [CDC Fact Sheet for Prescribing Opioids for Chronic Pain](#)
- [CDC Guidelines for Prescribing Opioids for Chronic Pain](#)

Process/Skill Questions

- What pain management resources are available for special populations?
- What are alternative forms of pain management?
- What role does the mind play in pain management?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Nutrition
- Knowledge Test: Transcultural Health Care

Teamwork Events

- Community Awareness
- Creative Problem Solving
- HOSA Bowl

Task Number 102

Describe the effects of opioid dependency on the human body systems.

Definition

Description should include the short- and long-term effects of opioids on the following:

- Nervous system
- Respiratory system
- Circulatory system
- Digestive system
- Skeletal system

Resource: [Drugs and Your Body](#), Scholastic

Process/Skill Questions

- How does the misuse of opioids affect nutrition and weight loss?
- How might opioid misuse be evident in a person's vital signs?
- How do opioids affect the brain as the control center for homeostasis?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Teamwork Events

- HOSA Bowl
-

Task Number 103

Explain the mechanism and physical effects of opioids on the human body.

Definition

Explanation should include the following:

- Mechanism of action and metabolism of opioids
- Development of tolerance, dependence, and addiction
- Health consequences of drug misuse
 - HIV, hepatitis, and other infectious diseases
 - Cancer
 - Cardiovascular effects
 - Respiratory effects
 - Gastrointestinal effects
 - Musculoskeletal effects
 - Kidney damage
 - Liver damage
 - Neurological effects
 - Hormonal effects
 - Prenatal effects
 - Other health effects
 - Mental health effects
 - Death
- Withdrawal
 - Causes
 - Timeframe (i.e., peaks of withdrawal symptoms)
 - Physical signs (e.g., nausea, diarrhea, vomiting, cold flashes)

Process/Skill Questions

- What are the short- and long-term effects of withdrawal dependence symptoms?
- How long can the human body function while exhibiting the symptoms of withdrawal?
- What are other medical conditions that may arise because of the symptoms of physical dependence?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Teamwork Events

- HOSA Bowl

Task Number 104

Explain the use of opioids in practice settings, the role of opioids in pain management, and risk factors associated with the use of the medication.

Definition

Explanation should include

- appropriate use of different opioids in various practice settings
- the interactions, risks, and intolerance of prescription opioids
- the role and effectiveness of opioids in acute, sub-acute, and chronic pain
- a reassessment of opioid use based on stage of pain
- contemporary treatment guidelines, best practices, health policies, and government regulations related to opioid use
- use of opioids in pain management of patients with substance abuse disorders, in recovery, and in palliative/end-of-life care.

Process/Skill Questions

- When should risk factors regarding opioids be reviewed with the patient?
- What are the options when treating patients with a history of substance abuse?
- What government regulations and policies are in place to improve the safe administration of opioids?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology
- Knowledge Test: Pharmacology

Teamwork Events

- Creative Problem Solving
- HOSA Bowl

Task Number 105

Describe the withdrawal and tapering side effects of opioid use.

Definition

Description should include

- characteristics of acute and protracted withdrawal from opioid dependence or addiction
- tapering
- pain contracts or agreements.

Process/Skill Questions

- What are the stages of withdrawal in opioid abuse transition?
- What medications might be needed in the withdrawal stage?
- What information should be included in the pain management contract?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Task Number 106

Describe storage and disposal options for opioids.

Definition

Description should include

- medicine take-back options (e.g., [National Drug Take Back Day](#))
- disposal in the household trash and flushing certain potentially dangerous medicines down the toilet.

Resources:

- [Disposal of Unused Medicines: What You Should Know](#), Food and Drug Administration (FDA)
- [Prescription Drug Abuse and Tips for Proper Disposal](#), Office of the Attorney General of Virginia

Process/Skill Questions

- How should medications be stored in the house?
- What is National Prescription Drug Take Back Initiative?
- What is the *black box*?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing

Task Number 107

Explain community resources for education about opioid use.

Definition

Explanation should include key components of and resources for patient education in the use of opioids, including

- risks
- benefits
- side effects
- tolerance
- signs of sedation or overdose
- naloxone, including its storage and disposal.

Process/Skill Questions

- What resources for opioid education are available locally, statewide, and nationally?
- Where should the patient first be informed about the resources available?
- How does social media aid in patient education on opioid addiction?

HOSA Competitive Events (High School)

Health Science Events

- Knowledge Test: Pharmacology

Health Professions Events

- Clinical Nursing
-

Working with Patients and Caregivers

Task Number 108

Describe key communication topics involving opioids for patients.

Definition

Description should include

- benefits and risks of opioids
- opioid risk screening (i.e., taking a social, medical, and financial history)
- risk mitigation (e.g., naloxone, safe storage, pain contracts)
- medication tapers and/or discontinuation of therapy.

Process/Skill Questions

- What are the benefits of using opioids in medicine?
- What is the relationship between demographics and risk of opioid addiction?
- How does culture influence risk factors in opioid abuse?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

Task Number 109

Describe communication topics for caregivers and family members.

Definition

Description should include

- basic knowledge about opioids
- signs of addiction
- treatment options for addiction
- naloxone training for caregivers
- legal issues related to misuse.

Process/Skill Questions

- What rights do caregivers have in regard to medical information of the abuser?
- What legal steps might the caregiver or family have to take for treatment?
- Where can the caregiver or family members receive naloxone training? Are children of opioid abusers eligible for training?

HOSA Competitive Events (High School)

Health Science Events

- Medical Spelling
- Medical Terminology

Health Professions Events

- Clinical Nursing

SOL Correlation by Task

Identify Occupational Safety and Health Administration (OSHA) regulations and guidelines.	English: 11.5, 12.5
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	History and Social Science: GOVT.14
Demonstrate appropriate hand-hygiene techniques.	
Demonstrate how to clean instruments and supplies.	
Demonstrate isolation procedures to include personal protective equipment (PPE) as it applies to the Centers for Disease Control and Prevention (CDC) regulations on disease processes.	
Demonstrate double-bagging technique.	
Demonstrate the handling and disposal of contaminated material.	
Demonstrate medical asepsis.	
Demonstrate surgical aseptic techniques.	
Demonstrate assessment procedures as outlined in the Board of Nursing Regulations in a laboratory and/or clinical setting.	
Demonstrate measuring and recording intake and output in a laboratory and/or clinical setting.	
Demonstrate alternate feeding methods and techniques in a laboratory and/or clinical setting.	
Demonstrate appropriate body mechanics in a laboratory and/or clinical setting.	
Explain procedures and law regarding use of mobility equipment in a laboratory and/or clinical setting.	English: 11.5, 11.8, 12.5, 12.8
Maintain a safe and controlled environment within laboratory and clinical environments.	
Identify prevention of, and appropriate response to, situations of domestic violence within laboratory and clinical environments.	English: 11.5, 12.5 History and Social Science: GOVT.1
Perform procedures related to American Heart Association (AHA) first aid and emergency care in a laboratory and/or clinical setting.	
Identify environmental safety precautions and procedures within laboratory and clinical environments.	English: 11.5, 12.5
Demonstrate range of motion in a laboratory and/or clinical setting.	
Explain the admission, transfer, and discharge procedures of a clinical setting.	English: 11.5, 12.5
Perform procedures related to personal hygiene and activities of daily living (ADL).	
Explain the role of fluids in maintaining homeostasis.	English: 11.3, 11.5, 12.3, 12.5 Science: BIO.3, BIO.4b

Describe the major types of acid-base imbalances.	English: 11.5, 12.5 Science: BIO.2, BIO.4d, CH.4
Describe the principles of intravenous (IV) therapy.	English: 11.5, 12.5
Explain physiological and psychosocial aspects of the illness and disease process.	English: 11.5, 12.5 Science: BIO.4d, BIO.4e, BIO.4f
Demonstrate a head-to-toe assessment.	
Identify common diagnostic procedures.	English: 11.5, 12.5
Identify common treatment modalities.	English: 11.5, 12.5
Apply the nursing process as it relates to the surgical patient/client.	
Apply the nursing process to a client with neoplastic disease (cancer).	
Apply the nursing process to a client with acquired immunodeficiency syndrome (AIDS).	
Identify global health influences on growth and development across the lifespan.	English: 11.5, 12.5 History and Social Science: VUS.14
Examine principles of growth and development across the lifespan.	English: 11.5, 12.5
Summarize theories of growth and development across the lifespan.	English: 11.5, 12.5
Describe the influences of heredity and environment on growth and development across the lifespan.	English: 11.5, 12.5 Science: BIO.5f
Explain growth and development of the infant.	English: 11.5, 12.5 History and Social Science: GOVT.14
Explain growth and development of the toddler.	English: 11.5, 12.5

	History and Social Science: GOVT.14
Explain growth and development of the preschooler.	English: 11.5, 12.5
Explain growth and development of the school-aged child.	English: 11.5, 12.5
Explain growth and development of the adolescent.	English: 11.5, 12.5
Explain growth and development of the young adult.	English: 11.5, 12.5
Explain growth and development of the middle adult.	English: 11.5, 12.5
Explain growth and development of the older adult.	English: 11.5, 12.5 History and Social Science: GOVT.14
Describe the stages of death and dying.	English: 11.5, 12.5 History and Social Science: GOVT.16
Identify the major fears of the dying client.	English: 11.5, 12.5
Identify signs and symptoms of approaching death.	English: 11.5, 12.5
Describe the grieving process.	English: 11.5, 12.5
Identify a nurse's responsibilities associated with the death of a client.	
Apply the nursing process for a client with palliative care needs.	English: 11.3, 11.5, 12.3, 12.5
Identify general principles of pharmacology.	English: 11.5, 11.8, 12.5, 12.8
Identify principles of pharmacodynamics/pharmacokinetics.	English: 11.5, 12.5
Explain the principles of medication administration.	English: 11.5, 12.5
Calculate medication dosages.	
Describe the history and current state of the opioid crisis in the United States.	English: 11.5, 12.5
Describe the history and current state of the opioid crisis in Virginia.	English: 11.5, 11.8, 12.5, 12.8

Define the pharmacological components and common uses of opioids.	English: 11.3, 11.8, 12.3, 12.8
Examine the science of addiction.	English: 11.5, 12.5
Explain prevention and early intervention strategies.	English: 11.5, 11.8, 12.5, 12.8
Identify addiction and its behavioral elements, as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).	English: 11.5, 12.5
Describe the treatment models of addiction therapy.	English: 11.5, 12.5
Describe the medication management antidote used to prevent fatal opioid overdoses.	English: 11.5, 11.8, 12.5, 12.8
Explain the science of physiological and mental pain.	English: 11.3, 11.5, 12.3, 12.5
Describe the diagnostic tools used in developing pain management plans.	English: 11.5, 12.5
Describe pain treatment options available to various populations of patients.	English: 11.5, 11.8, 12.5, 12.8
Describe the effects of opioid dependency on the human body systems.	English: 11.5, 12.5
Explain the mechanism and physical effects of opioids on the human body.	English: 11.5, 12.5
Explain the use of opioids in practice settings, the role of opioids in pain management, and risk factors associated with the use of the medication.	English: 11.5, 12.5
Describe the withdrawal and tapering side effects of opioid use.	English: 11.5, 12.5
Describe storage and disposal options for opioids.	English: 11.5, 11.8, 12.5, 12.8
Explain community resources for education about opioid use.	English: 11.5, 12.5
Describe key communication topics involving opioids for patients.	English: 11.5, 12.5
Describe communication topics for caregivers and family members.	English: 11.5, 12.5

HOSA Information

Health Occupations Students of America (HOSA), the co-curricular student organization for Health and Medical Sciences, provides many opportunities for students to apply the knowledge, skills, and processes learned in a variety of courses. A correlation of HOSA activities and competitive events to the Duty Areas in Practical Nursing II appears elsewhere in this document.

For additional information about the student organization, see the national HOSA Web site at <http://www.hosa.org/> and the Virginia HOSA Web site at <http://www.vahosa.org/>.

HOSA Competitive Events Correlated by Duty Areas

Demonstrating Processes of Infection Prevention and Control

- Medical Terminology
- Medical Spelling
- Clinical Nursing

Mastering Nursing Competencies

- Medical Spelling
- Medical Terminology
- Creative Problem Solving
- Knowledge Tests: Medical Law and Ethics and Nutrition
- Clinical Nursing
- CPR/First Aid

Understanding Fluid and Electrolyte Balance

- Medical Terminology
- Medical spelling
- Knowledge Tests: Pharmacology
- Clinical Nursing

Applying Concepts Related to Wellness and Illness

- Knowledge Tests: Pathophysiology
- Medical Spelling
- Medical Terminology
- Clinical Nursing
- Community Awareness
- Health Education

Understanding Principles of Growth and Development

- Medical Spelling
- Medical Terminology
- Creative Problem Solving
- Extemporaneous Health Poster
- Community Awareness
- HOSA Bowl
- Biomedical Debate
- Health Education

- Health Care Issues Exam
- Knowledge Tests: Human Growth and Development

Understanding Concepts of Grief, Death, and Dying

- Medical Spelling
- Medical Terminology
- Creative Problem Solving
- Extemporaneous Health Poster
- Community Awareness
- HOSA Bowl
- Biomedical Debate
- Medical Reading
- Health Care Issues Exam
- Knowledge Tests: Human Growth and Development
- Clinical Nursing

Introducing Concepts of Medication Administration

- Medical Spelling
- Medical Terminology
- Creative Problem Solving
- Knowledge Tests: Pharmacology, Pathophysiology
- Extemporaneous Health Poster
- HOSA Bowl
- Biomedical Debate

Opioid Abuse Prevention Education

This [Opioid Abuse Prevention](#) document includes resources for opioid abuse prevention education from kindergarten to 12th grade.

Other Opioid Resources

Virginia Department of Behavioral Health and Developmental Services. Revive! Opioid Overdose and Naloxone Education for Virginia. [Naloxone Fact Sheet](#) (PDF).

Virginia Department of Behavioral Health and Developmental Services. [Revive! Opioid Overdose and Naloxone Education for Virginia](#) (website).

Office of National Drug Control Policy, White House. [Fentanyl: Safety Recommendations for First Responders](#) (PDF).

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Alcohol](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Bath Salts](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Cocaine](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: E-Cigarette](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Heroin](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Marijuana](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: MDMA](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Meth](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Pain Medicine](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Spice \(K2\)](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Tobacco and Nicotine](#) (website; PDF available)

National Institute on Drug Abuse, National Institutes of Health. [Easy to Read Drug Facts: Other Drugs People Use and Misuse](#) (website; PDF available)

Appendix: Credentials, Course Sequences, and Career Cluster Information

Industry Credentials: Only apply to 36-week courses

- EKG Technician Certification (ETC) Examination
- Practical Nursing Assessment

Concentration sequences: *A combination of this course and those below, equivalent to two 36-week courses, is a concentration sequence. Students wishing to complete a specialization may take additional courses based on their career pathways. A program completer is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program.*

- Introduction to Health and Medical Sciences (8302/36 weeks)
- Introduction to Health and Medical Sciences (8301/18 weeks)
- Practical Nursing I (8357/18 weeks, 280 hours)
- Practical Nursing III (8359/36 weeks, 420 hours)

Career Cluster: Health Science	
Pathway	Occupations
Therapeutic Services	Licensed Practical Nurse Registered Nurse