



Unit 1: Overview of Nursing Process & NANDA

Course: Advanced Concepts in Nursing

1. Introduction to the Nursing Process

The **Nursing Process** is a systematic, patient-centered, and goal-oriented method used by nurses to provide holistic and effective care. It serves as the scientific framework for nursing practice.

Purposes of the Nursing Process

- **Individualized Care:** To identify a client's health status and actual/potential health care needs.
- **Standardization:** To provide a common language and structured approach for nurses.
- **Quality Improvement:** To establish plans to meet identified needs and deliver specific nursing interventions.
- **Continuity of Care:** To ensure consistency among the healthcare team.
- **Accountability:** To provide a legal and professional record of care provided.

2. Components of the Nursing Process (ADPIE)

The process is cyclical and dynamic, consisting of five interrelated steps:

Step	Action	Description
Assessment	Collect Data	Systematic collection of subjective (symptoms) and objective (signs) data.
Diagnosis	Analyze Data	Identifying health problems, risks, and strengths using NANDA-I taxonomy.
Planning	Set Goals	Prioritizing diagnoses and formulating SMART goals/outcomes.
Implementation	Take Action	Carrying out nursing interventions to achieve the desired outcomes.
Evaluation	Review Results	Determining if goals were met, partially met, or not met; revising the plan.

3. Nursing Diagnosis (NANDA-I)

Affiliation: HEC, PNC, & IUB Standards for Post-RN BSN



A **Nursing Diagnosis** is a clinical judgment about individual, family, or community responses to actual or potential health problems.

Components of a NANDA Diagnosis (PES Format)

1. **P (Problem):** The NANDA Label (e.g., Impaired Gas Exchange).
2. **E (Etiology):** The "Related To" (r/t) factor or cause (e.g., r/t alveolar-capillary membrane changes).
3. **S (Signs/Symptoms):** The "As Evidenced By" (AEB) defining characteristics (e.g., AEB dyspnea and SpO₂ 88%).

Types of Nursing Diagnoses

- **Actual (Problem-Focused):** Response to a current health condition. (3 parts: Label + Etiology + Signs/Symptoms).
- **Risk Diagnosis:** Potential problems where the patient is vulnerable. (2 parts: Label + Risk Factors). *Note: No "AEB" because the problem hasn't happened yet.*
- **Health Promotion:** Clinical judgment of motivation to increase well-being. (Starts with "Readiness for...").

4. Marjory Gordon's Functional Health Patterns (FHP)

Gordon's FHP provides a holistic framework for assessment, moving beyond the medical "body systems" approach to look at how the patient functions.

The 11 Functional Health Patterns:

1. **Health Perception-Health Management:** Client's perceived pattern of health and how they manage it.
2. **Nutritional-Metabolic:** Food/fluid consumption relative to metabolic need.
3. **Elimination:** Excretory function (bowel, bladder, skin).
4. **Activity-Exercise:** Exercise, leisure, and ADLs.
5. **Sleep-Rest:** Sleep quality and energy levels.
6. **Cognitive-Perceptual:** Sensory, memory, and decision-making capabilities.
7. **Self-Perception-Self-Concept:** Body image and self-worth.
8. **Role-Relationship:** Family and social roles.
9. **Sexuality-Reproductive:** Satisfaction or disturbances in sexuality.
10. **Coping-Stress Tolerance:** General coping patterns and effectiveness.
11. **Value-Belief:** Values, goals, or beliefs that guide choices.

5. Concept Mapping in Nursing Care Plans

A **Concept Map** is a visual representation of the nursing process. It links various nursing diagnoses to the central patient problem and shows the relationship between data, interventions, and outcomes.

Steps to Develop a Concept Map

1. **Central Theme:** Place the patient's primary medical diagnosis or chief complaint in the center.
2. **Clustering:** Group assessment data into patterns (e.g., FHP).
3. **Prioritizing:** Draw boxes for the top 3–5 nursing diagnoses.
4. **Linking:** Use lines to show how a diagnosis (e.g., Acute Pain) leads to another (e.g., Impaired Physical Mobility).



5. **Interventions:** Attach specific nursing actions to each diagnosis box.

6. Clinical Application & Exam Focus

Quick Revision Summary (Mnemonics)

ADPIE: Assess, Diagnose, Plan, Implement, Evaluate.

SMART Goals: Specific, Measurable, Attainable, Relevant, Time-bound.

Comparison: Medical vs. Nursing Diagnosis

Feature	Medical Diagnosis	Nursing Diagnosis
Focus	Disease process/Pathology	Human response to health
Duration	Remains constant (e.g., Diabetes)	Changes as patient response changes
Example	Myocardial Infarction	Acute Pain r/t myocardial ischemia

Important Exam Points for IUB/PNC

- **Critical Thinking:** The nursing process is not linear; it is overlapping and continuous.
- **Validation:** Always validate subjective data with objective findings before formulating a diagnosis.
- **Prioritization:** Use **Maslow's Hierarchy of Needs** (Physiological needs first) to prioritize nursing diagnoses.

7. Sample Nursing Care Plan (NCP) Structure

- **Assessment:** Subjective: "I feel short of breath." Objective: RR 28, use of accessory muscles
- **Nursing Diagnosis:** Ineffective breathing pattern r/t inflammatory process AEB tachypnea
- **Goal:** Patient will maintain respiratory rate between 12–20 bpm within 4 hours
- **Interventions:** Elevate head of bed, administer O₂ as ordered, encourage deep breathing
- **Rationale:** Upright position allows for maximum chest expansion
- **Evaluation:** Goal met; RR is 18 bpm.



Unit 2: Overview of Functional Health Patterns (FHP)

Course: Advance Concepts of Nursing

1. Definition of Functional Health Patterns (FHP)

Functional Health Patterns, developed by **Marjory Gordon** in 1987, is a holistic assessment framework used by nurses to identify health-related behaviors and human responses to life processes.

Unlike the medical model, which focuses on body systems (e.g., cardiovascular, respiratory), FHP focuses on the **functional status** of the individual. It views the person as a whole, looking at the interaction between the patient and their environment.

2. Purpose of Utilizing FHP for Assessment

The use of FHP as an assessment tool serves several critical functions in professional nursing:

- **Holistic Approach:** It ensures that no aspect of a patient's health (psychological, social, or spiritual) is overlooked.
- **Standardization:** Provides a structured, consistent format for data collection across different clinical settings.
- **Nursing-Specific Language:** It moves away from medical diagnosis toward identifying **human responses**, which is the core of nursing science.
- **Facilitates Nursing Diagnosis:** Data collected via FHP is directly compatible with the **NANDA-I** taxonomy.
- **Efficiency:** It helps in identifying patterns (strengths or problems) rather than just isolated symptoms.

3. The 11 Functional Health Patterns: Concepts & Assessment

1. Health Perception & Health Management

- **Concept:** The client's perceived health status and how they manage their health (e.g., compliance, preventive practices).
- **Assessment:** "How do you describe your health?" "Do you smoke/use alcohol?" "Do you follow your prescribed diet?"

2. Nutritional-Metabolic Pattern

- **Concept:** Food and fluid consumption relative to metabolic need and local nutrient supply.
- **Assessment:** 24-hour diet recall, fluid intake, skin turgor, condition of hair/nails, and BMI.

3. Elimination Pattern

- **Concept:** Excretory function (bowel, bladder, and skin).
- **Assessment:** Frequency of bowel movements, use of laxatives, urinary frequency, color, or presence of incontinence.

4. Activity-Exercise Pattern

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- **Concept:** Exercise, activity, leisure, and recreation. Includes ADLs (Activities of Daily Living).
- **Assessment:** Mobility level, gait, use of assistive devices, heart rate response to activity.

5. Sleep-Rest Pattern

- **Concept:** Sleep, rest, and relaxation patterns.
- **Assessment:** Hours of sleep, quality of sleep, use of sleep aids, feeling rested upon awakening.

6. Cognitive-Perceptual Pattern

- **Concept:** Sensory-perceptual and cognitive patterns.
- **Assessment:** Hearing/vision, pain perception (VAS scale), orientation (time, place, person), and language.

7. Self-Perception-Self-Concept Pattern

- **Concept:** Self-worth, comfort level, body image, and feeling state.
- **Assessment:** Eye contact, voice tone, "How do you feel about yourself/your body?"

8. Role-Relationship Pattern

- **Concept:** Role engagements and relationships.
- **Assessment:** Family structure, social support systems, "Who is the primary breadwinner in your home?"

9. Sexuality-Reproductive Pattern

- **Concept:** Satisfaction and dissatisfaction with sexuality; reproductive stage.
- **Assessment:** Menstrual cycle, use of contraceptives, satisfaction with sexual health.

10. Coping-Stress Tolerance Pattern

- **Concept:** General coping pattern and effectiveness of the pattern in terms of stress tolerance.
- **Assessment:** "How do you handle stress?" "Who do you turn to in a crisis?"

11. Value-Belief Pattern

- **Concept:** Values, beliefs (including spiritual), or goals that guide choices or decisions.
- **Assessment:** Religious affiliation, "Are there any religious practices we should respect during your care?"

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4. Obtaining History & Physical Examination through FHP

In the Post-RN clinical setting, the FHP tool guides the nurse in integrating **Subjective Data** (History) with **Objective Data** (Physical Exam).

Pattern	History (Subjective)	Physical Exam (Objective)
Nutritional	Patient reports "loss of appetite."	Observed weight loss, pale mucous membranes.
Activity	"I get tired while climbing stairs."	Dyspnea upon exertion, O ₂ s drops to 90%.



Elimination "I haven't passed stool in 3 days." Palpable abdominal mass, hypoactive bowel sounds.

5. Identifying Altered Physiological Functions & Formulating Diagnoses

Once assessment is complete, the nurse identifies "**Altered Patterns**" (deviations from the patient's baseline or norm). These alterations form the basis of the **Nursing Diagnosis**.

Examples of Transitions from FHP Assessment to Diagnosis:

1. **Alteration in Activity Pattern:** * *Finding:* Patient unable to walk without assistance due to weakness.
 - o *Diagnosis:* **Impaired Physical Mobility** r/t neuromuscular impairment AEB inability to ambulate independently.
2. **Alteration in Nutritional Pattern:** * *Finding:* Patient consuming only one meal a day.
 - o *Diagnosis:* **Imbalanced Nutrition: Less than body requirements** r/t lack of appetite.

6. Value-Enhancing Revision Elements

Important Exam-Focused Points (IUB/PNC)

- **FHP vs. Head-to-Toe:** Head-to-toe is an anatomical sequence; FHP is a functional sequence.
- **Subjective Focus:** FHP relies heavily on the patient's perception of their own health.
- **Patterns:** Look for *patterns* over time, not just single incidents.

Mnemonic for the 11 Patterns:

"Health Nut Eat Act Sleep, Cog Self Role Sex Cope Val"

(Health Perception, Nutrition, Elimination, Activity, Sleep, Cognitive, Self-concept, Role, Sexuality, Coping, Value).

Clinical Application Insight

When assessing a patient in a Pakistani clinical setting, pay special attention to the **Role-Relationship** and **Value-Belief** patterns, as extended family dynamics and religious practices (e.g., fasting or prayer times) significantly influence health management and compliance.



Unit 3: Advanced Nursing Management of Cardiovascular Diseases (CVD)

Course: Advance Concepts in Nursing

1. Overview of Cardiovascular Disorders

Cardiovascular diseases (CVD) remain a leading cause of morbidity in Pakistan. This unit focuses on **Coronary Artery Disease (CAD)**, **Myocardial Infarction (MI)**, and **Valvular Heart Diseases**.

Definitions & Classifications

- **Coronary Artery Disease (CAD):** A condition where coronary arteries are narrowed or blocked, usually by atherosclerosis, reducing blood flow to the myocardium.
- **Myocardial Infarction (MI):** Irreversible necrosis (death) of myocardial tissue due to an abrupt occlusion of blood flow (Ischemia).
- **Valvular Heart Disease:** Damage to or a defect in one of the four heart valves (Mitral, Aortic, Tricuspid, Pulmonary), categorized as **Stenosis** (narrowing) or **Regurgitation** (leaking).

2. Pathophysiology & Etiology

Pathophysiology

1. **Atherosclerosis:**
Endothelial injury → Lipid accumulation → Plaque formation
2. **Ischemia:** When oxygen demand exceeds supply.
3. **Infarction:** Prolonged ischemia (>20 minutes) leading to cell death.
4. **Valvular Dysfunction:** Results in increased pressure or volume overload, leading to **Heart Failure (HF)**.

Etiology & Risk Factors

- **Modifiable:** Hypertension, Diabetes Mellitus, Hyperlipidemia, Smoking, Obesity, Physical inactivity.
- **Non-Modifiable:** Age, Gender (Male > Female until menopause), Family history/Genetics.

3. Utilizing FHP for Cardiovascular Assessment

Instead of a simple physical exam, use **Gordon's Functional Health Patterns** to identify holistic patient problems.

Functional Health Cardiovascular Manifestations / Alterations Pattern

Health Perception	History of smoking, non-compliance with BP meds, "Chest heaviness."
Nutritional-Metabolic	High fat/salt intake, edema in lower extremities, weight gain.

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Elimination	Nocturia (common in HF), constipation (risk of straining/Valsalva maneuver).
Activity-Exercise	Exertional dyspnea , fatigue, palpitations, decreased exercise tolerance.
Cognitive-Perceptual	Chest pain (Angina) , dizziness, syncope, fear of impending doom.
Coping-Stress	High stress levels, anxiety regarding lifestyle changes or death.

4. Diagnostic Investigations

- **ECG (12-Lead):** ST-segment elevation (STEMI) or depression (NSTEMI/Ischemia).
- **Cardiac Biomarkers: Troponin I and T** (most specific), CK-MB.
- **Echocardiography:** To assess Ejection Fraction (EF) and valve function.
- **Coronary Angiography:** Gold standard to visualize artery blockages.
- **Chest X-ray:** To check for cardiomegaly or pulmonary congestion.

5. Management: Medical & Pharmacological

Medical Management

- **Reperfusion Therapy:** Percutaneous Coronary Intervention (PCI) or Thrombolytic therapy (e.g., Streptokinase).
- **Surgical:** Coronary Artery Bypass Grafting (CABG) or Valve Replacement.

Pharmacological Treatment (Evidence-Based)

Drug Class	Examples	Action
Antiplatelets	Aspirin, Clopidogrel	Prevents thrombus formation.
Nitrates	Nitroglycerin (SL/IV)	Vasodilation; reduces preload/afterload.
Beta-Blockers	Metoprolol, Atenolol	Decreases HR and O ₂ demand.
ACE Inhibitors	Enalapril, Captopril	Prevents ventricular remodeling.
Statins	Atorvastatin	Lowers LDL; stabilizes plaques.

6. Nursing Management & The Nursing Process

Nursing Diagnosis (NANDA)

1. **Acute Pain** r/t myocardial ischemia AEB patient report of 8/10 chest pain.
2. **Decreased Cardiac Output** r/t altered contractility/structural defects.
3. **Activity Intolerance** r/t imbalance between oxygen supply and demand.

Nursing Interventions (Evidence-Based)

- **Immediate Care (MONA Mnemonic):** Morphine, Oxygen, Nitrates, Aspirin.

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- **Positioning:** Semi-Fowler's to reduce preload and ease breathing.
- **Monitoring:** Continuous ECG monitoring for arrhythmias (Ventricular Tachycardia is a major risk post-MI).
- **Rest:** Absolute bed rest during the acute phase to minimize myocardial O₂ consumption.

7. Holistic Approach & Teaching Plan

Holistic Nursing Care

Address the **Bio-Psycho-Social** needs. In Pakistan, this includes involving family members in care and respecting religious dietary restrictions (Halal/Low salt).

Patient Teaching Plan (Discharge Education)

- **Medication Adherence:** Explain the importance of not skipping blood thinners.
- **Diet:** "Heart Healthy Diet" (Low sodium, low saturated fats, high fiber).
- **Physical Activity:** Gradual increase; stop if chest pain occurs.
- **Warning Signs:** Teach the patient when to return to the ER (e.g., "crushing" chest pain not relieved by rest).
- **Lifestyle:** Smoking cessation counseling.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

- **Troponin** is the most reliable marker for MI.
- **Time is Muscle:** Reperfusion should ideally occur within 90 minutes of hospital arrival (Door-to-Balloon time).
- **Valvular Disease:** Mitral stenosis is often a late complication of Rheumatic Heart Disease (common in developing countries).

Mnemonics for Memorization

MONA (Acute MI): Morphine, Oxygen, Nitroglycerin, Aspirin.

6 P's of Arterial Insufficiency: Pain, Pallor, Pulselessness, Paresthesia, Paralysis, Poikilothermia.

Quick Revision Summary

Cardiovascular management requires rapid assessment using FHP and immediate intervention via the nursing process. Focus on reducing myocardial oxygen demand, preventing complications like Heart Failure or Arrhythmias, and providing robust patient education to prevent recurrence.



Unit 4: Advanced Nursing Management of Respiratory Diseases

Course: Advance Concepts in Nursing

1. Overview of Respiratory Disorders

Respiratory diseases are a major health concern in Pakistan due to air pollution, smoking, and overcrowding. This unit covers **Asthma**, **COPD**, **Pneumonia**, and **Pulmonary Tuberculosis (TB)**.

Definitions & Classifications

- **Asthma:** A chronic inflammatory airway disease characterized by reversible airway hyper-responsiveness and bronchoconstriction.
- **COPD:** A preventable, progressive disease characterized by persistent airflow limitation. It includes **Emphysema** (alveolar destruction) and **Chronic Bronchitis** (airway inflammation).
- **Pneumonia:** An acute infection of the lung parenchyma caused by bacteria, viruses, or fungi.
- **Pulmonary TB:** A contagious bacterial infection caused by *Mycobacterium tuberculosis*.

2. Pathophysiology & Etiology

Pathophysiology

1. **Obstructive (Asthma/COPD):** Narrowing of airways leads to increased resistance. In Asthma, it is triggered by allergens; in COPD, it is usually chronic exposure to irritants (tobacco smoke).
2. **Infectious (Pneumonia/TB):** Pathogens enter the alveoli → trigger an inflammatory response → cause fluid and pus accumulation (consolidation) → impair gas exchange (O₂ and CO₂ transport)

3. Etiology & Risk Factors

- **Environmental:** Indoor/outdoor air pollution, biomass fuel smoke (common in rural Pakistan).
- **Infectious:** Bacteria (*S. pneumoniae*), Viruses, and Acid-fast bacilli (TB).
- **Lifestyle:** Cigarette smoking, malnutrition, and overcrowding.

3. Utilizing FHP for Respiratory Assessment

Utilizing **Gordon's Functional Health Patterns** allows for a comprehensive assessment of how respiratory distress impacts daily living.

Functional Health Pattern **Respiratory Manifestations / Alterations**



Health Perception	History of smoking, occupational exposure (dust/textile), TB contact.
Nutritional-Metabolic	Weight loss (common in TB/COPD), anorexia, diaphoresis (night sweats).
Activity-Exercise	Dyspnea , use of accessory muscles, orthopnea, fatigue.
Sleep-Rest	Paroxysmal nocturnal dyspnea (PND), sleep interrupted by coughing.
Cognitive-Perceptual	Confusion/Restlessness (early sign of hypoxia), chest pain (pleuritic).
Coping-Stress	Anxiety related to "air hunger" or long-term TB treatment.

4. Diagnostic Investigations

- **Pulmonary Function Tests (PFTs):** Spirometry is the gold standard test for COPD and asthma (measures FEV₁/FVC ratio).
- **Chest X-ray:** Shows hyperinflation (COPD), consolidation (Pneumonia), or cavities (TB).
- **Sputum Studies:** Gram stain/Culture (Pneumonia) and **Sputum Smear for AFB/GeneXpert** (TB).
- **Arterial Blood Gas (ABG):** To assess for respiratory acidosis and hypoxemia.
- **Peak Expiratory Flow Rate (PEFR):** Used for daily monitoring in Asthma patients.

5. Management: Medical & Pharmacological

Medical Management

- **Oxygen Therapy:** Maintain Sa O₂ > 90% (Caution in COPD: maintain 88–92% to avoid suppressing respiratory drive).
- **DOTS Strategy:** Directly Observed Treatment Short-course for TB (PNC/WHO standard).

Pharmacological Treatment

Drug Class	Examples	Nursing Considerations
Bronchodilators	Salbutamol (SABA), Salmeterol (LABA)	Monitor for tachycardia and tremors.
Corticosteroids	Fluticasone, Prednisolone	Rinse mouth after inhaler to prevent oral thrush.
Antibiotics	Ceftriaxone, Azithromycin	Complete full course to prevent resistance.



Anti-TB Drugs

Rifampicin,



Isoniazid,

Monitor liver function tests (LFTs).

Pyrazinamide, Ethambutol



6. Nursing Management (Nursing Process)

Nursing Diagnosis (NANDA)

1. **Ineffective Airway Clearance** r/t bronchoconstriction and excessive mucus.
2. **Impaired Gas Exchange** r/t alveolar-capillary membrane changes.
3. **Infection Risk (Transmission)** r/t contagious nature of Mycobacterium.

Nursing Interventions (Evidence-Based)

- **Airway Clearance:** Perform **Chest Physiotherapy (CPT)** and encourage "huff coughing."
- **Positioning:** **High-Fowler's position** to maximize lung expansion.
- **Hydration:** Encourage 2–3L of fluid intake (if not contraindicated) to thin secretions.
- **TB Precautions:** Place patient in a well-ventilated room; encourage cough etiquette.

7. Holistic Approach & Teaching Plan

Holistic Nursing Care

In Pakistan, respiratory illness often carries social stigma (especially TB). Nursing care must include **psychosocial support** and addressing nutritional deficiencies common in low-income populations.

Patient Teaching Plan

- **Inhaler Technique:** Demonstrate MDI (Metered Dose Inhaler) with spacer use.
- **Breathing Exercises:** Teach **Pursed-lip breathing** (for COPD) to prevent airway collapse.
- **TB Adherence:** Emphasize that TB is curable but requires 6–9 months of uninterrupted medication.
- **Environmental Control:** Avoid "dhuan" (smoke) from cooking stoves and quit smoking.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points (IUB/PNC)

- **COPD:** Characterized by "Barrel Chest" (increased AP diameter).
- **Pneumonia:** Look for "Rusty sputum" (Streptococcal) or "Greenish sputum" (Pseudomonas).
- **TB:** Characterized by night sweats, low-grade evening fever, and weight loss.

Mnemonics for Memorization

RIPE (TB Drugs): Rifampicin, Isoniazid, Pyrazinamide, Ethambutol.

ASTHMA Care: Adrenergics, Steroids, Theophylline, Hydration, Mask (O₂), Antibiotics.

Quick Revision Summary

Advanced respiratory nursing focuses on maintaining airway patency and optimizing gas exchange. For chronic conditions like COPD/Asthma, the focus is on self-management, while



for TB/Pneumonia, the focus is on infection control and antibiotic/anti-tubercular compliance. Always prioritize the ABCs (Airway, Breathing, Circulation).



Unit 5: Advanced Nursing Management of GI & Metabolic Disorders

Course: Advance Concepts in Nursing

1. Overview of GI & Metabolic Disorders

Gastrointestinal (GI) disorders involve the breakdown of the mechanical and chemical processes of digestion, while metabolic disorders (like Cirrhosis) reflect systemic dysfunction.

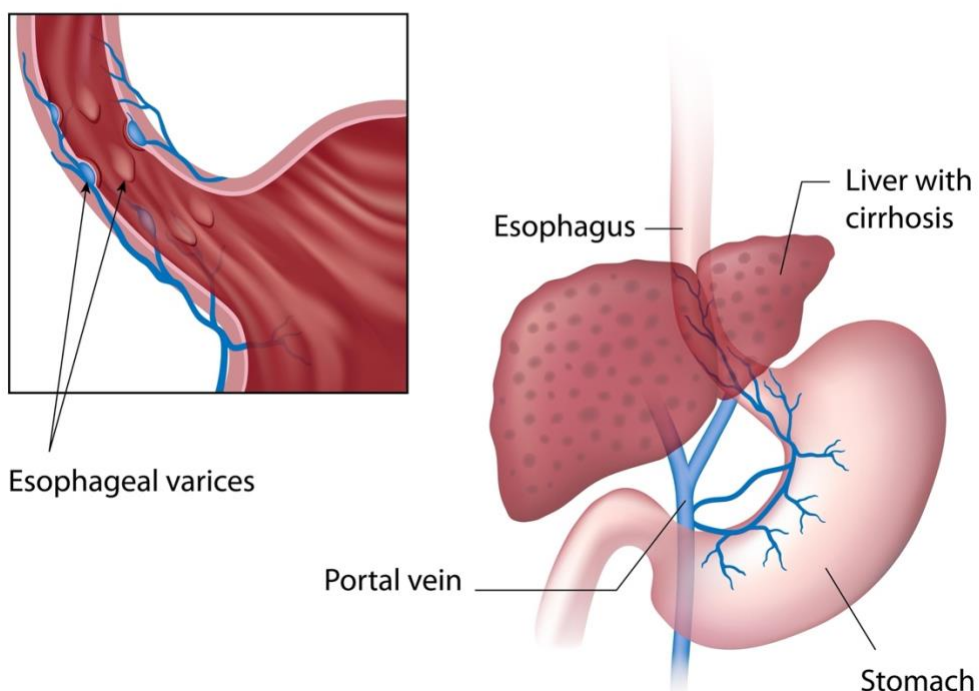
Key Definitions

- **Peptic Ulcer Disease (PUD):** Erosion of the GI mucosa (stomach or duodenum) resulting from digestive action of HCl and pepsin.
- **Cirrhosis of Liver:** Chronic, progressive inflammation and scarring (fibrosis) of the liver tissue, leading to liver failure.
- **Cholecystitis & Cholelithiasis:** **Cholelithiasis** is the presence of gallstones; **Cholecystitis** is the inflammation of the gallbladder.
- **Intestinal Obstruction:** Mechanical or functional blockage of the intestines that prevents the normal transit of products of digestion.

2. Pathophysiology & Etiology

Pathophysiology

Esophageal Varices



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1. PUD: Imbalance between mucosal defensive factors (mucus, bicarbonate) and aggressive factors (H. pylori, NSAIDs, acid)
2. Cirrhosis: Liver cell necrosis → fibrous tissue replacement → disorganized blood flow → portal hypertension
3. Intestinal Obstruction: Fluid, gas, and intestinal contents accumulate proximal to obstruction → distention → decreased venous return → bowel ischemia/perforation.

Etiology & Risk Factors

- **PUD:** *Helicobacter pylori* infection (most common in Pakistan), chronic NSAID use, smoking, and stress.
- **Cirrhosis:** Chronic Hepatitis B & C (highly prevalent in Pakistan), alcohol consumption, and Non-Alcoholic Fatty Liver Disease (NAFLD).
- **Gallbladder Disease:** The "5 F's": Female, Fat, Fair, Forty, and Fertile.
- **Obstruction:** Adhesions (post-surgery), Hernias, Volvulus (twisting), or Intussusception.

3. Utilizing FHP for GI Assessment

Using **Gordon's Functional Health Patterns** helps identify the systemic impact of GI disorders.

Functional Health Pattern	GI Manifestations / Alterations
Nutritional-Metabolic	Anorexia, nausea, vomiting, Hematemesis (vomiting blood), jaundice, or clay-colored stools.
Elimination	Melena (black tarry stools in PUD), constipation, or inability to pass flatus (Obstruction).
Activity-Exercise	Weakness due to anemia (PUD) or fatigue from metabolic failure (Cirrhosis).
Cognitive-Perceptual	Abdominal pain (Burning in PUD; RUQ pain in Cholecystitis; Cramping in Obstruction).
Self-Perception	Disturbed body image due to Ascites (fluid in abdomen) or Jaundice.

4. Signs, Symptoms & Diagnostics

Clinical Features

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- **PUD:** Gnawing epigastric pain (Duodenal ulcer pain is relieved by food; Gastric ulcer pain is worsened by food).
- **Cirrhosis:** Jaundice, Spider angiomas, Ascites, Peripheral edema, and Hepatic Encephalopathy (confusion).
- **Cholecystitis: Murphy's Sign** (pain on deep inspiration while palpating RUQ).
- **Obstruction:** High-pitched "tinkling" bowel sounds (early) or absent sounds (late).

Diagnostic Investigations

- **Endoscopy (EGD):** Primary tool for PUD visualization and biopsy.
- **Liver Function Tests (LFTs):** Elevated ALT, AST, Bilirubin; Decreased Albumin (Cirrhosis).
- **Abdominal Ultrasound:** Gold standard for detecting gallstones.
- **X-ray (KUB):** Shows "air-fluid levels" or distended bowel loops in obstruction.

5. Management: Medical & Pharmacological

Pharmacological Treatment

Drug Class	Examples	Indication
Proton Pump Inhibitors (PPIs)	Omeprazole, Esomeprazole	Reduces gastric acid in PUD.
Antibiotics	Clarithromycin + Amoxicillin	Eradication of <i>H. pylori</i> .
Lactulose	Duphalac	To reduce Ammonia levels in Cirrhosis.
Diuretics	Spirolactone, Furosemide	Management of Ascites in liver failure.

Medical/Surgical Management

- **PUD:** Vagotomy or Billroth procedures (if medication fails).
- **Cholecystitis: Laparoscopic Cholecystectomy.**
- **Obstruction:** Nasogastric (NG) tube decompression (NPO status); surgery if mechanical.

6. Nursing Management (The Nursing Process)

Nursing Diagnosis (NANDA)

1. **Acute Pain** r/t chemical irritation of mucosa or biliary colic.
2. **Deficient Fluid Volume** r/t vomiting, third-spacing (ascites), or NG suctioning.
3. **Imbalanced Nutrition: Less than body requirements** r/t inability to digest/absorb nutrients.

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Nursing Interventions (Evidence-Based)

- **Fluid Management:** Maintain strict Intake/Output charts and daily weights (especially for Cirrhosis/Ascites).
- **Pain Relief:** Position patient in **Semi-Fowler's** or side-lying to relieve abdominal tension.
- **Safety:** Monitor mental status (Glasgow Coma Scale) for signs of Hepatic Encephalopathy.
- **Nasogastric Tube Care:** Ensure patency and provide oral hygiene for NPO patients.

7. Holistic Approach & Teaching Plan

Holistic Considerations

In Pakistan, GI health is heavily influenced by diet (spicy foods) and hygiene (water-borne Hepatitis). Nursing must address dietary habits and socioeconomic barriers to clean water.

Patient Teaching Plan

- **Dietary Modification:** Small, frequent meals; avoid spices, caffeine, and alcohol.
- **Medication Safety:** Warn against self-medicating with NSAIDs (Dispirin/Brufen) which worsen PUD.
- **Cirrhosis Care:** Restrict sodium intake to manage edema/ascites.
- **Gallbladder:** Encourage a **Low-Fat Diet** to prevent future attacks.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

- **Portal Hypertension** leads to Esophageal Varices, which are a life-threatening bleeding risk.
- **H. pylori** is a Class 1 Carcinogen; its eradication is vital for preventing gastric cancer.
- **Paracentesis:** Nursing priority is to have the patient **void (empty bladder)** before the procedure to prevent puncture.

Mnemonics for Memorization

PUD Complications (HOP): Hemorrhage, Obstruction, Perforation.

Cirrhosis Assessment (ABCDE): Ascites, Bleeding (Varices), Confusion (Encephalopathy), Dietary changes, Edema.

Quick Revision Summary

Advanced GI nursing requires balancing acute interventions (like NG decompression for obstruction) with long-term metabolic management (liver failure). Priority is always given to maintaining fluid/electrolyte balance and preventing life-threatening complications like GI hemorrhage or peritonitis.



Unit 6: Advanced Nursing Management of Genitourinary (GU) Diseases

Course: Advance Concepts in Nursing

1. Overview of Genitourinary Disorders

Genitourinary disorders involve the kidneys, ureters, bladder, and urethra. These conditions often lead to significant electrolyte imbalances and metabolic disturbances.

Key Definitions

- **Acute Kidney Injury (AKI):** A sudden, rapid loss of kidney function characterized by a rise in serum creatinine and/or a reduction in urine output.
- **Chronic Kidney Disease (CKD):** Progressive, irreversible loss of kidney function ($\text{SGFR} < 60 \text{ mL/min}$ for 3 months or more).
- **Renal Calculi (Nephrolithiasis):** Formation of hard mineral and acid salt deposits (stones) within the kidney.
- **Nephrotic Syndrome:** A glomerular disorder characterized by severe proteinuria, hypoalbuminemia, and edema.

2. Pathophysiology & Etiology

Pathophysiology

1. **AKI/CKD:** Nephron damage leads to decreased glomerular filtration. This results in the accumulation of nitrogenous waste (**Azotemia**) and inability to maintain fluid/electrolyte balance.
2. **Nephrotic Syndrome:** Glomerular membrane permeability increases \rightarrow Massive **Proteinuria** ($>3.5 \text{ g/day}$) \rightarrow Low serum albumin \rightarrow Decreased oncotic pressure \rightarrow Fluid shifts to Interstitial space (**Edema**).
3. **Renal Calculi:** Supersaturation of urine with stone-forming substances (calcium, oxalate, uric acid) leads to crystal precipitation and stone growth.

Etiology & Classifications

- **AKI Classifications:**
 - **Prerenal:** Reduced blood flow to kidney (e.g., dehydration, hemorrhage, shock).
 - **Intrarenal:** Direct damage to kidney tissue (e.g., nephrotoxic drugs, glomerulonephritis).
 - **Postrenal:** Obstruction of urine outflow (e.g., stones, BPH).
- **Calculi Types:** Calcium oxalate (most common), Uric acid, Struvite (infection stones).
- **CKD Risk Factors:** Diabetes Mellitus and Hypertension (primary causes in Pakistan).

3. Utilizing FHP for GU Assessment

Gordon's Functional Health Patterns identify how renal dysfunction affects the whole body.



**Functional
Pattern**

Health GU Manifestations / Alterations



Elimination **Oliguria** (<math>\\$<400\\$</math> mL/day), Anuria, Hematuria, or Renal Colic (sharp, radiating pain).

Nutritional-Metabolic **Anasarca** (generalized edema), metallic taste in mouth, anorexia, pruritus (itchy skin).

Activity-Exercise Fatigue/Anemia (decreased Erythropoietin), fluid in lungs (crackles).

Cognitive-Perceptual Confusion (Uremic encephalopathy), severe flank pain (Stones).

Self-Perception Disturbed body image due to dialysis access (fistula) or edema.

4. Signs, Symptoms & Diagnostics

Clinical Features

- **Uremia:** Nausea, vomiting, lethargy, and "uremic frost" on the skin.
- **Nephrotic Syndrome:** "Foamy" urine, periorbital edema, and weight gain.
- **Renal Stones:** Sudden, severe pain in the flank/groin, nausea, and "stone dance" (inability to sit still).

Diagnostic Investigations

- **Serum Creatinine & BUN:** Elevated in renal failure.
- **Glomerular Filtration Rate (GFR):** Best indicator of overall kidney function.
- **Urinalysis:** Presence of protein, RBCs, or crystals.
- **Imaging:** KUB X-ray or Ultrasound to detect stones/obstruction.
- **Serum Electrolytes:** Monitor for **Hyperkalemia** (high potassium), which is life-threatening.

5. Management: Medical & Pharmacological

Pharmacological Treatment

Drug Class	Examples	Nursing Considerations
Diuretics	Furosemide (Lasix)	Monitor BP and daily weights.

Phosphate Binders	Calcium Acetate	Must be taken with meals to bind phosphorus.
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Erythropoietin	Epoetin Alfa	Monitor hemoglobin levels; treats renal anemia.
ACE Inhibitors	Enalapril	Used in Nephrotic Syndrome to reduce proteinuria.

Medical Management

- **Dialysis:** Hemodialysis or Peritoneal Dialysis for end-stage renal disease.
- **Lithotripsy (ESWL):** Shock waves used to break up renal stones.
- **Fluid Restriction:** Often necessary in AKI/CKD to prevent fluid overload.

6. Nursing Management (The Nursing Process)

Nursing Diagnosis (NANDA)

1. **Excess Fluid Volume** r/t compromised regulatory mechanism (renal failure) AEB edema and crackles.
2. **Acute Pain** r/t irritation and movement of calculus in the urinary tract.
3. **Risk for Electrolyte Imbalance** r/t impaired renal function (especially Hyperkalemia).

Nursing Interventions (Evidence-Based)

- **Cardiac Monitoring:** Essential in renal failure due to risk of arrhythmias from Hyperkalemia.
- **Strict I/O:** Monitor output hourly in acute cases; strain all urine if stones are suspected.
- **Skin Care:** Keep skin clean and moisturized to manage uremic pruritus; prevent breakdown in edematous areas.
- **Weight Monitoring:** Daily weights are the most accurate indicator of fluid status (1 kg weight gain \approx 1 L fluid retention).

7. Holistic Approach & Teaching Plan

Holistic Considerations

In Pakistan, renal patients often face financial strain due to the cost of dialysis. Holistic care involves connecting families with social welfare departments and dietary counseling that respects local food habits (e.g., low-potassium fruits like papaya vs. high-potassium mangoes).

Patient Teaching Plan

- **Dietary Modification:** "Renal Diet" (Low protein, Low sodium, Low potassium, Low phosphorus).
- **Hydration:** For stones, encourage 2–3 L of water daily. For renal failure, strictly follow prescribed fluid restrictions.
- **Access Care:** Teach the patient not to take BP or blood draws from the arm with an AV Fistula.
- **Medication Safety:** Avoid NSAIDs (like Ibuprofen/Naproxen) as they are nephrotoxic.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

Affiliation: HEC, PNC, & IUB Standards for Post-RN BSN



- **Hyperkalemia** is the most immediate life-threatening complication of renal failure (leads to cardiac arrest).
- **GFR Calculation:** Essential for staging CKD (Stage 5 = $GFR < 15$).
- **Nephrotic Syndrome Triad:** Massive proteinuria, Hypoalbuminemia, and Edema.

Mnemonics for Memorization

AWET BED (Functions of the Kidney): > **A**cid-Base balance, **W**ater removal, **E**rythropoiesis, **T**oxin removal, **B**lood pressure control, **E**lectrolyte balance, **D** vitamin activation.

Quick Revision Summary

Advanced GU nursing focuses on managing fluid/electrolyte balance and preventing multi-system organ failure. Whether dealing with the acute pain of stones or the chronic complexity of CKD, the nursing priority is always physiological stability (monitoring K^+ and BPS) and patient education regarding diet and medication compliance.





Unit 7: Advanced Nursing Management of Musculoskeletal Diseases

Course: Advance Concepts in Nursing

1. Overview of Musculoskeletal Disorders

Musculoskeletal disorders affect the body's movement and its system of muscles, bones, joints, and connective tissues. These conditions often lead to chronic pain, physical disability, and impaired quality of life.

Key Definitions

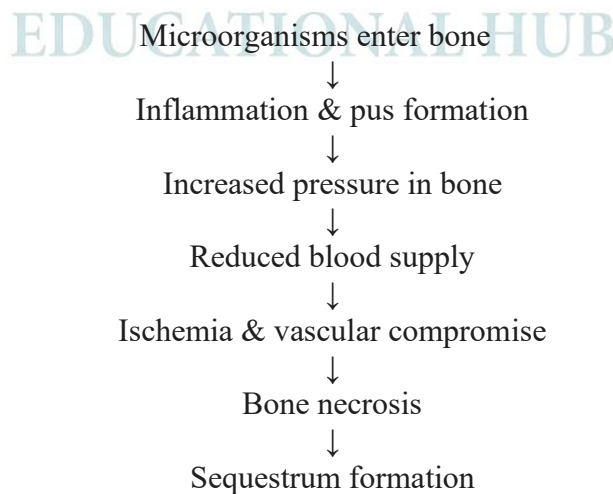
- **Osteoarthritis (OA):** A slowly progressive non-inflammatory disorder of the diarthrodial (synovial) joints, characterized by the gradual loss of articular cartilage.
- **Rheumatoid Arthritis (RA):** A chronic, systemic autoimmune disease characterized by inflammation of connective tissue in the synovial joints.
- **Osteomyelitis:** A severe infection of the bone, bone marrow, and surrounding soft tissue, usually caused by *Staphylococcus aureus*.
- **Osteoporosis:** A chronic, progressive metabolic bone disease characterized by low bone mass and structural deterioration of bone tissue, leading to increased bone fragility.

2. Pathophysiology & Etiology

Pathophysiology

1. **OA vs. RA:** OA is "wear and tear" where cartilage becomes yellow, opaque, and thin. RA involves an autoimmune reaction where **Rheumatoid Factor (RF)** combines with IgG to form immune complexes, causing synovial inflammation and joint destruction.

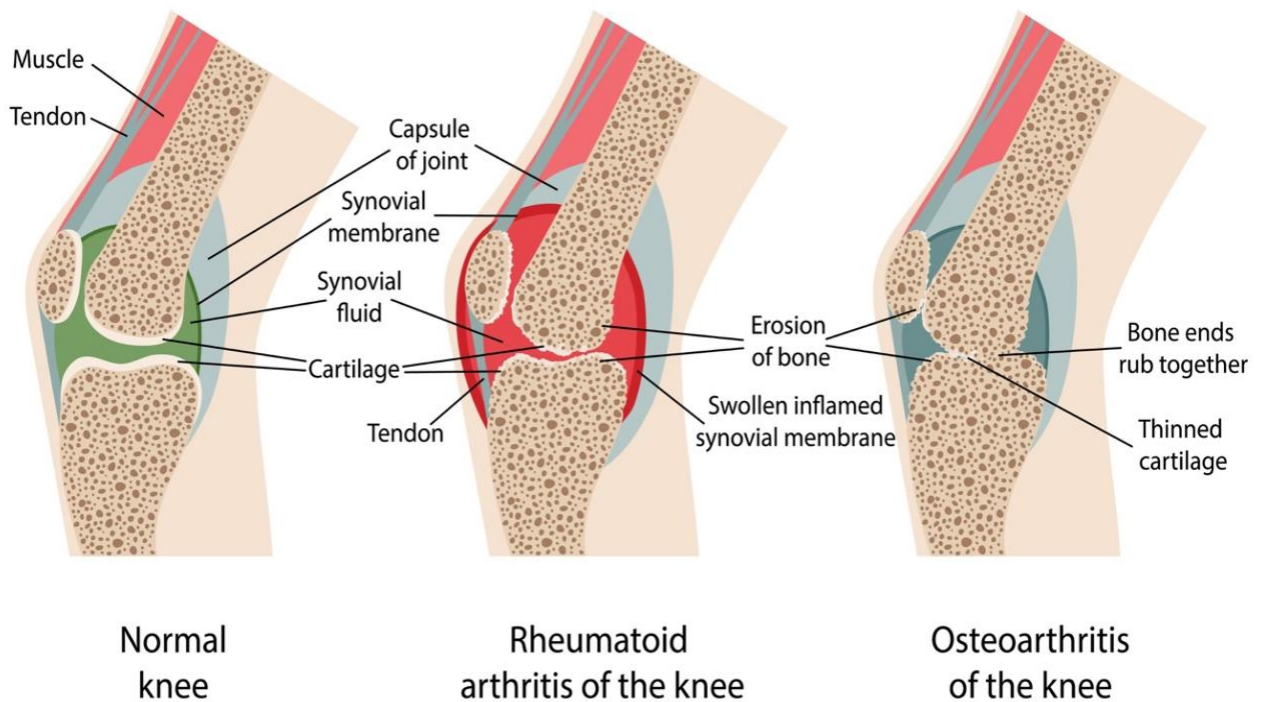
Osteomyelitis:



2. **Osteoporosis:** Bone resorption (osteoclasts) exceeds bone deposition (osteoblasts), resulting in "porous bones."

Etiology & Risk Factors

Rheumatoid arthritis and Osteoarthritis of the knee



- **Osteoarthritis:** Obesity (major risk in Pakistan), aging, and repetitive joint stress.
- **Rheumatoid Arthritis:** Genetic predisposition (HLA-DR4), female gender, and environmental triggers.
- **Osteomyelitis:** Open fractures, stage 4 pressure ulcers, or hematogenous spread from distant infections.
- **Osteoporosis:** Post-menopausal estrogen deficiency, low calcium/Vitamin D intake, and sedentary lifestyle.

3. Utilizing FHP for Musculoskeletal Assessment

Gordon's Functional Health Patterns are essential for identifying functional limitations caused by bone and joint pain.

Functional Health Musculoskeletal Manifestations / Alterations Pattern

Activity-Exercise	Joint stiffness, decreased Range of Motion (ROM), gait changes, "Morning stiffness."
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Cognitive-Perceptual

Chronic joint pain (dull/aching in OA; throbbing in RA), tenderness, or bone pain (Osteomyelitis).



Nutritional-Metabolic

High BMI (risk for OA); Low Calcium/Vitamin D (risk for Osteoporosis); local warmth/swelling.

Self-Perception

Fear of falling, disturbed body image due to joint deformities (e.g., Swan neck deformity).

Sleep-Rest

Joint pain interrupting sleep or difficulty finding a comfortable position.

4. Signs, Symptoms & Diagnostics

Clinical Features

- **Osteoarthritis:** Crepitus (grating sensation), **Heberden's nodes** (DIP joints), and **Bouchard's nodes** (PIP joints).
- **Rheumatoid Arthritis:** Symmetrical joint involvement, ulnar drift, and extra-articular manifestations (Sjögren's syndrome).
- **Osteomyelitis:** Fever, night sweats, constant bone pain, and swelling.
- **Osteoporosis:** The "Silent Thief" (often asymptomatic until a fracture occurs), **Kyphosis** (Dowager's hump), and loss of height.

Diagnostic Investigations

1) X-ray

- Shows **joint space narrowing** in:
 - Osteoarthritis
 - Rheumatoid Arthritis
- May show **osteopenia** in:
 - Osteoporosis

2) DEXA Scan (Bone Mineral Density Test)

- **Gold standard for Osteoporosis diagnosis**
- Diagnostic criterion:
 - T-score ≤ -2.5
- Used to measure bone density and fracture risk

3) Laboratory Tests (Rheumatoid Arthritis)

Findings suggestive of:

- Positive **Rheumatoid Factor (RF)**
- Positive **Anti-CCP antibodies** (more specific)



- Elevated **ESR & CRP** → indicates inflammation (Seen in Rheumatoid Arthritis)

4) Laboratory Tests (Osteomyelitis)

Findings include:

- Elevated **WBC count**
- Positive **blood cultures**
- Positive **bone cultures** (confirmatory)

(Associated with Osteomyelitis)

5. Management: Medical & Pharmacological

Pharmacological Treatment

Drug Class	Examples	Indication
NSAIDs	Naproxen, Celecoxib	Pain and inflammation (OA/RA).
DMARDs	Methotrexate	First-line for RA to slow disease progression.
Bisphosphonates	Alendronate	Increases bone density in Osteoporosis.
Antibiotics	Vancomycin, Ceftriaxone	Long-term IV therapy for Osteomyelitis.

Medical & Surgical Management

- **Arthroplasty:** Total Hip or Knee Replacement (THR/TKR).
- **Debridement:** Surgical removal of dead bone (Sequestrectomy) in Osteomyelitis.

6. Nursing Management (The Nursing Process)

Nursing Diagnosis (NANDA)

1. **Chronic Pain** r/t joint inflammation or bone infection.
2. **Impaired Physical Mobility** r/t joint stiffness and pain.
3. **Risk for Injury (Fracture)** r/t low bone mineral density.

Nursing Interventions (Evidence-Based)

Affiliation: HEC, PNC, & IUB Standards for Post-RN BSN



- **Pain Management:** Alternate heat (for stiffness) and cold (for acute inflammation) applications.
- **Joint Protection:** Teach the use of assistive devices (walkers, canes) and proper body mechanics.
- **Infection Control:** Maintain strict aseptic technique during dressing changes for Osteomyelitis.
- **Exercise:** Encourage **weight-bearing exercise** (walking) for Osteoporosis and **water aerobics** for OA/RA.

7. Holistic Approach & Teaching Plan

Holistic Considerations

In Pakistan, many patients resort to "Pehlwan" (traditional bone setters), which can worsen fractures or infections. Nurses must advocate for evidence-based orthopedic care while respecting cultural contexts.

Patient Teaching Plan

- **Osteoporosis:** Increase intake of calcium-rich foods (milk, yogurt, leafy greens) and Vitamin D (sunlight exposure).
- **Joint Conservation:** "Respect Pain"—if an activity hurts, stop. Avoid repetitive heavy lifting.
- **Medication Safety:** Take Bisphosphonates on an empty stomach with a full glass of water and stay upright for 30 minutes.
- **Home Safety:** Remove "rugs" (mats) and ensure bright lighting to prevent falls/fractures.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

- **RA** is systemic (affects organs); **OA** is localized to joints.
- **Morning Stiffness:** In RA, it lasts >1 hour; in OA, it usually resolves within 30 minutes.
- **Osteomyelitis:** Requires long-term antibiotic therapy (4–6 weeks or longer).

Mnemonics for Memorization

RA Symptoms (S.E.R.I.O.U.S): Swelling, Early morning stiffness, Rheumatoid factor (+), Inflammation, Ocular (Sjögren's), Ulnar drift, Symmetrical joints.

Quick Revision Summary

Advanced musculoskeletal nursing focuses on preserving mobility and managing chronic pain. For inflammatory conditions (RA), the goal is remission; for degenerative ones (OA), it is functional maintenance; for metabolic ones (Osteoporosis), it is fracture prevention; and for infectious ones (Osteomyelitis), it is eradication of the pathogen. Always integrate the patient's lifestyle and safety into the care plan.



Affiliation: HEC, PNC, & IUB Standards for Post-RN BSN



Unit 8: Advanced Nursing Management of Neurovascular & Neurological Diseases

Course: Advance Concepts in Nursing

1. Overview of Neurological Disorders

Neurological and neurovascular disorders involve the central and peripheral nervous systems. These conditions range from acute life-threatening emergencies (Stroke) to chronic progressive cognitive decline (Alzheimer's).

Key Definitions

- **Cerebrovascular Accident (CVA/Stroke):** A sudden loss of neurological function due to a disruption of blood supply to the brain.
- **Meningitis:** Acute inflammation of the meningeal tissues surrounding the brain and spinal cord.
- **Seizures:** Paroxysmal, uncontrolled electrical discharges of neurons in the brain that interrupt normal function.
- **Alzheimer's Disease:** A chronic, progressive, degenerative disease of the brain; the most common form of dementia.

2. Pathophysiology & Etiology

1. CVA: Ischemic (85%): Blood clot blocks blood flow → ischemic cascade → cell death in the “penumbra”

Hemorrhagic: Vessel rupture → increased intracranial pressure (ICP) → brain tissue compression

2. Meningitis: Bacteria/virus enters CNS (usually via respiratory tract) → inflammatory response → increased CSF production → increased ICP

3. Alzheimer's: Amyloid plaques and neurofibrillary tangles → loss of neuronal connections → brain atrophy

Etiology & Risk Factors

- **CVA:** Hypertension (primary risk), Diabetes, Smoking, Atrial Fibrillation.
- **Meningitis:** *Streptococcus pneumoniae*, *Neisseria meningitidis* (common in crowded settings).
- **Seizures:** Fever (in children), head trauma, metabolic imbalances, or idiopathic (Epilepsy).
- **Alzheimer's:** Age, family history, and cardiovascular factors.

3. Utilizing FHP for Neurological Assessment

Gordon's Functional Health Patterns help identify the functional impact of brain dysfunction.



Functional Health Neurological Manifestations / Alterations Pattern

Cognitive-Perceptual Memory loss (Alzheimer's), Aphasia (Stroke), **Photophobia** (Meningitis), Aura (Seizures).

Activity-Exercise **Hemiplegia** (one-sided paralysis), ataxia, or tonic-clonic movements.

Nutritional-Metabolic **Dysphagia** (difficulty swallowing - high risk in Stroke), weight loss.

Elimination Urinary or fecal incontinence; constipation due to immobility.

Self-Perception Loss of independence, personality changes, or depression.

4. Signs, Symptoms & Diagnostics

Clinical Features

- **CVA:** Facial drooping, arm weakness, speech difficulty (FAST criteria).
- **Meningitis:** **Nuchal Rigidity** (stiff neck), Kernig's sign, Brudzinski's sign, high fever.
- **Alzheimer's:** The 4 A's: Amnesia, Aphasia, Apraxia, Agnosia.
- **Headaches:** * *Migraine:* Unilateral, throbbing, with aura.
 - *Cluster:* Severe periorbital pain.

Diagnostic Investigations

- **CT Scan (Non-contrast):** First-line for Stroke (to rule out hemorrhage).
- **Lumbar Puncture (LP):** Gold standard for Meningitis (CSF shows high protein, low glucose in bacterial).
- **EEG:** To identify focus of seizure activity.
- **MRI:** Detailed visualization of brain atrophy (Alzheimer's).

5. Management: Medical & Pharmacological

Pharmacological Treatment

Drug Class	Examples	Indication
Thrombolytics	tPA (Alteplase)	Dissolves clots in Ischemic Stroke (within 3–4.5 hours).
Anticonvulsants	Phenytoin, Levetiracetam	Seizure prevention and management.



Antibiotics	Ceftriaxone, Vancomycin	Immediate treatment for Bacterial Meningitis.
Cholinesterase Inhibitors	Donepezil (Aricept)	Manage cognitive symptoms in Alzheimer's.
Analgesics	Sumatriptan	Acute migraine treatment.

6. Nursing Management (The Nursing Process)

Nursing Diagnosis (NANDA)

1. **Ineffective Cerebral Tissue Perfusion** r/t interruption of blood flow or increased ICP.
2. **Risk for Aspiration** r/t impaired swallowing (Dysphagia).
3. **Risk for Injury** r/t seizure activity or wandering behavior (Alzheimer's).

Nursing Interventions (Evidence-Based)

- **Stroke Care:** Maintain NPO status until swallow screen is passed; elevate HOB to 30 degrees to manage ICP.
- **Seizure Precautions:** Pad side rails, have suction available, **never** insert anything in the mouth during a seizure.
- **Meningitis Care:** Droplet precautions (private room), low-light environment to reduce photophobia.
- **Alzheimer's Care:** Use a consistent routine, use simple "yes/no" questions, and ensure a safe, locked environment for wanderers.

7. Holistic Approach & Teaching Plan

Holistic Considerations

In Pakistan, neurological disorders are often misunderstood. Families may associate seizures with spiritual issues. Nurses must provide scientific education while providing emotional support for the "caregiver strain" commonly seen in Alzheimer's families.

Patient Teaching Plan

- **Stroke:** Control blood pressure; recognize FAST signs; importance of physical therapy.
- **Seizures:** Medication adherence is vital; avoid triggers (lack of sleep, flashing lights); do not drive until cleared.
- **Headaches:** Maintain a "Headache Diary" to identify triggers (food, stress, sleep).
- **Alzheimer's:** Encourage the use of memory aids (calendars, labels) and provide resources for caregiver support.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

- **CSF Findings:** In Bacterial Meningitis, glucose is **low** because bacteria eat it.
- **Stroke Window:** tPA must be given within **3 to 4.5 hours** of the "Last Known Well" time.
- **ICP Signs:** Cushing's Triad (Bradycardia, Hypertension with widening pulse pressure, irregular respirations) is a late sign of brain herniation.



Mnemonics for Memorization

BE FAST (Stroke): Balance, Eyes, Face, Arms, Speech, Time.

Signs of Meningitis: Brudzinski's (Bend the neck, knees fly up) and Kernig's (Knee cannot straighten).

Quick Revision Summary

Advanced neuro nursing requires rapid assessment and strict safety protocols. Priority is given to maintaining airway and cerebral perfusion. For chronic conditions like Alzheimer's, the focus shifts to safety and quality of life. Always treat the patient holistically by supporting the family caregivers.





Unit 9: Advanced Nursing Management of Endocrine Diseases

Course: Advance Concepts in Nursing

1. Overview of Endocrine Disorders

Endocrine disorders result from the hyposecretion or hypersecretion of hormones, leading to systemic metabolic imbalances. This unit focuses on **Diabetes Mellitus (DM)**, **Thyroid Disorders**, and **Parathyroid Disorders**.

Key Definitions

- **Diabetes Mellitus (DM):** A chronic multi-system disease characterized by hyperglycemia related to abnormal insulin production, impaired insulin utilization, or both.
- **Hypothyroidism:** A deficiency of thyroid hormone (T_3 , T_4) that causes a general slowing of the metabolic rate.
- **Hyperthyroidism:** A sustained increase in synthesis and release of thyroid hormones by the thyroid gland (e.g., Graves' Disease).
- **Hyperparathyroidism:** Overproduction of parathyroid hormone (PTH) leading to hypercalcemia.
- **Hypoparathyroidism:** Inadequate PTH leading to hypocalcemia.

2. Pathophysiology & Etiology

Pathophysiology

1. **Diabetes Mellitus:** * **Type 1:** Autoimmune destruction of pancreatic β -cells \rightarrow absolute insulin deficiency.
 - **Type 2:** Insulin resistance + β -cell fatigue \rightarrow relative insulin deficiency.
2. **Thyroid Disorders:** * **Hyper:** Increased metabolic rate and sensitive to sympathetic nervous system stimulation.
 - **Hypo:** Decreased metabolic rate \rightarrow accumulation of hydrophilic mucopolysaccharides in dermis (Myxedema).
3. **Parathyroid:** * PTH regulates calcium and phosphorus. High PTH pulls calcium from bones into the blood (hypercalcemia); Low PTH prevents calcium absorption (hypocalcemia).

Etiology & Risk Factors

- **DM:** Genetics, obesity, sedentary lifestyle (high prevalence in Pakistani urban populations).
- **Hypothyroidism:** Iodine deficiency (common in northern Pakistan), Hashimoto's thyroiditis, or post-surgical removal.
- **Hyperthyroidism:** Graves' disease (autoimmune), toxic nodular goiter.
- **Parathyroid:** Accidental removal during thyroidectomy (common cause of hypo) or tumors (hyper).



3. Utilizing FHP for Endocrine Assessment

Gordon's Functional Health Patterns assist in tracking the systemic metabolic effects of hormone imbalances.

Functional Health Endocrine Manifestations / Alterations Pattern

Nutritional-Metabolic	DM: Polyphagia, polydipsia, weight loss. Thyroid: Weight gain/cold intolerance (Hypo); Weight loss/heat intolerance (Hyper).
Elimination	DM: Polyuria. Thyroid: Constipation (Hypo); Diarrhea (Hyper).
Activity-Exercise	Fatigue, generalized weakness, or exercise intolerance.
Cognitive-Perceptual	DM: Paresthesia (neuropathy). Thyroid: Depression/slowed mentation (Hypo); Irritability/Insomnia (Hyper).
Self-Perception	Hyperthyroid: Disturbed body image due to Exophthalmos (bulging eyes) or Goiter.

4. Signs, Symptoms & Diagnostics

Clinical Features

- **DM:** The 3 P's: Polyuria, Polydipsia, Polyphagia.
- **Hyperthyroidism:** Tachycardia, tremors, moist skin, goiter, exophthalmos.
- **Hypothyroidism:** Bradycardia, dry/thick skin, periorbital edema, hoarseness.
- **Hypoparathyroidism:** Tetany, Chvostek's sign (facial twitch), and Trousseau's sign (carpal spasm).

Diagnostic Investigations

- **DM:** HbA1c \geq 6.5%, Fasting Plasma Glucose $>$ 126 mg/dL
- **Thyroid:** TSH (high in primary hypothyroidism; low in primary hyperthyroidism), Free T4
- **Parathyroid:** Serum calcium (normal: 8.5–10.5 mg/dL) and serum PTH levels

5. Management: Medical & Pharmacological

Pharmacological Treatment

Drug Class	Examples	Indication
Insulin	Regular, Glargine	NPH, Type 1 and advanced Type 2 DM.



**Oral
Hypoglycemics**

Metformin,
Glibenclamide

Type 2 DM.

**Thyroid
Replacement**

Levothyroxine

Hypothyroidism (Take in AM on empty stomach).

Anti-thyroid Drugs

Propylthiouracil (PTU)

Hyperthyroidism (prevents hormone synthesis).

**Calcium
Supplements**

Calcium Gluconate

Acute Hypocalcemia/Hypoparathyroidism.

6. Nursing Management (The Nursing Process)

Nursing Diagnosis (NANDA)

1. **Unstable Blood Glucose** r/t insulin deficiency or dietary non-compliance.
2. **Imbalanced Nutrition: More than body requirements** r/t decreased metabolic rate (Hypo).
3. **Risk for Injury** r/t tetany and seizures (Hypoparathyroidism).

Nursing Interventions (Evidence-Based)

- **DM Care:** Rotate injection sites to prevent lipodystrophy; monitor for hypoglycemia (cool, clammy skin → give 15 g simple carbohydrates)
- **Thyroid care:** For hyperthyroidism, provide a high-calorie diet (4,000–5,000 kcal) and a cool, quiet environment
- **Post-Thyroidectomy:** Keep a **Tracheostomy tray** and **Calcium Gluconate** at the bedside (risk of airway obstruction or accidental parathyroid removal).

7. Holistic Approach & Teaching Plan

Holistic Considerations

In Pakistan, the "Hakeem" culture often leads patients to stop insulin in favor of herbal remedies. Nurses must provide culturally sensitive education emphasizing that endocrine medications are typically lifelong and cannot be replaced by herbs.

Patient Teaching Plan

- **Foot Care (DM):** Inspect feet daily; never walk barefoot; cut nails straight across.
- **Sick Day Rules (DM):** Continue insulin even if nauseated; check glucose every 4 hours.
- **Thyroid:** Emphasize that Levothyroxine takes 4–8 weeks for full effect. Report chest pain (risk of hyper-metabolic cardiac stress).
- **Diet:** Iodine-rich foods (iodized salt) for prevention of goiter in endemic areas.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

- **HbA1c:** Reflects glucose control over the last 3 months.



- **Thyroid Storm:** A life-threatening emergency of hyperthyroidism (high fever, severe tachycardia).
- **Myxedema Coma:** The life-threatening emergency of hypothyroidism (hypothermia, hypotension).

Mnemonics for Memorization

Hypoglycemia (TIRED): Tachycardia, Irritability, Restlessness, Excessive hunger, Diaphoresis/Depression.

Hyperthyroid (STORM): Sweating, Tachycardia, Over-heated, Restless, Metabolism (High).

Quick Revision Summary

Advanced endocrine nursing centers on hormonal balance and preventing metabolic crises (DKA, Thyroid Storm, Tetany). The nursing process must focus on long-term self-management, medication adherence, and the prevention of chronic complications like diabetic retinopathy or neuropathy. Always monitor electrolytes (Calcium/Potassium) in endocrine patients.





Unit 10: Advanced Nursing Management of Reproductive Diseases

Course: Advance Concepts in Nursing

1. Overview of Reproductive Disorders

Reproductive health encompasses physical, mental, and social well-being in all matters relating to the reproductive system. In the Pakistani clinical context, these disorders often carry social sensitivity, requiring high levels of professionalism and empathy.

Key Definitions

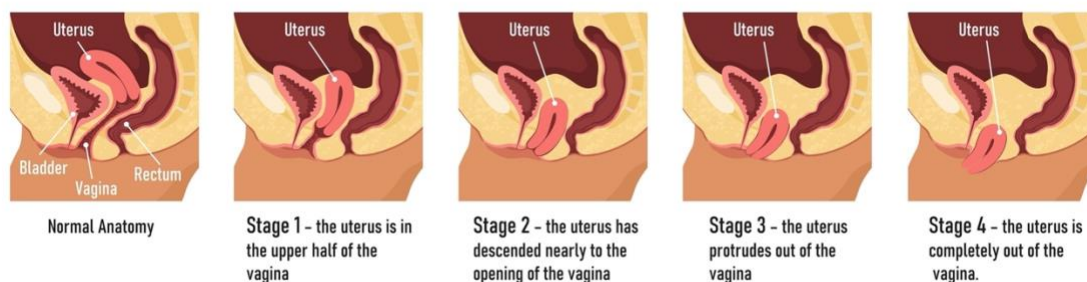
- **Pelvic Inflammatory Disease (PID):** An infectious and inflammatory disorder of the upper female genital tract, including the uterus, fallopian tubes, and adjacent pelvic structures.
- **Uterine Prolapse:** Descent of the uterus into or through the vaginal canal due to weakening of pelvic floor muscles and ligaments.
- **Vaginal Fistulas:** Abnormal openings between the vagina and other pelvic organs (e.g., Vesicovaginal [VVF] or Rectovaginal [RVF]).
- **Benign Prostatic Hyperplasia (BPH):** Non-malignant enlargement of the prostate gland that compresses the urethra, causing urinary obstruction.
- **Hypospadias & Epispadias:** Congenital anomalies of the male urethra where the opening is on the ventral (under) side or dorsal (top) side of the penis, respectively.

2. Pathophysiology & Etiology

Pathophysiology

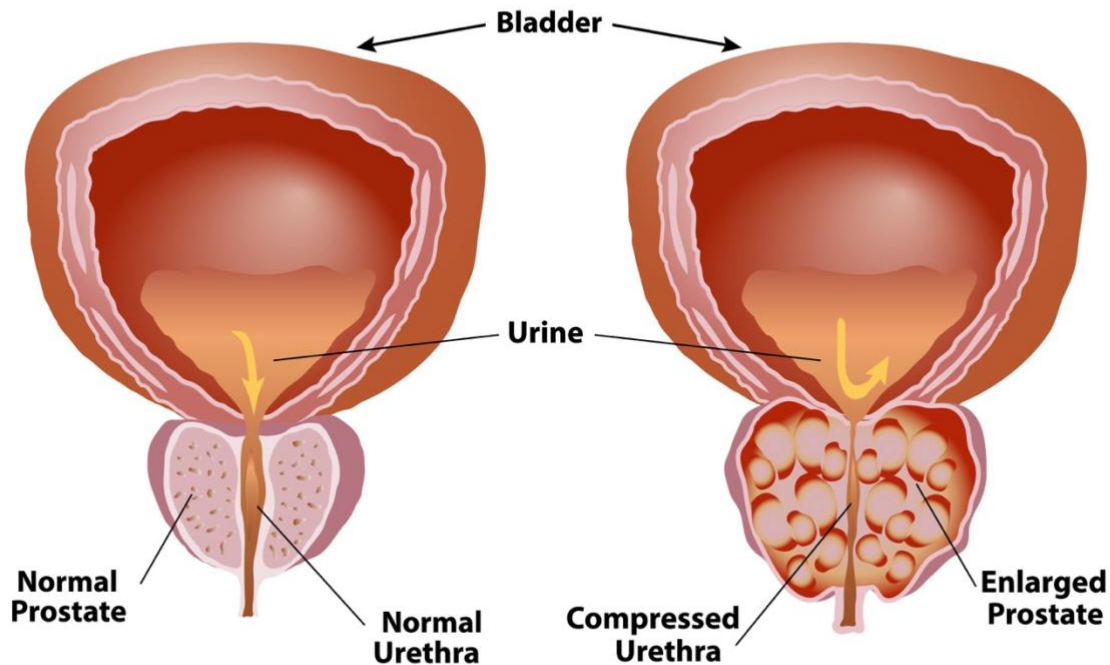
- PID: Pathogens (usually STIs or normal flora) ascend from the endocervix through the uterine cavity to the fallopian tubes → inflammation → scarring and adhesions
- Uterine Prolapse: Chronic increased intra-abdominal pressure or childbirth trauma → stretching of cardinal and uterosacral ligaments → displacement of the uterus

STAGES OF UTERINE PROLAPSE



3. **BPH:** Endocrine changes associated with aging (accumulation of dihydrotestosterone) → overgrowth of prostate tissue → urethral compression → urinary retention.
4. **Fistulas:** Tissue necrosis caused by prolonged obstructed labor or surgical injury

Benign Prostatic Hyperplasia



creates a communication between epithelial-lined cavities.

Etiology & Risk Factors

- **PID:** Multiple sexual partners, history of STIs, or recent IUD insertion.
- **Uterine Prolapse:** Multiparity (multiple births), obesity, chronic cough, and heavy lifting.
- **BPH:** Aging (common in men >50), family history, and obesity.
- **Fistulas:** In Pakistan, **obstructed labor** is the leading cause due to limited access to emergency obstetric care in rural areas.

3. Utilizing FHP for Reproductive Assessment

Gordon's Functional Health Patterns are crucial here as reproductive issues significantly impact self-esteem and roles.

Functional Health Manifestations / Alterations Pattern

Elimination **BPH:** Hesitancy, dribbling, nocturia. **VVF:** Constant urine leakage.

Cognitive-Perceptual **PID:** Chronic pelvic pain, "walking tenderness."

**Role-Relationship**

Infertility (PID), marital strain, or social isolation (due to fistula odor).

Sexuality-Reproductive

Dyspareunia (painful intercourse), discharge, or erectile dysfunction.

Nutritional-Metabolic

Fever and chills (Acute PID).

4. Signs, Symptoms & Diagnostics

Clinical Features

- **PID:** Lower abdominal pain, malodorous vaginal discharge, fever, and cervical motion tenderness (**Chandelier Sign**).
- **Uterine Prolapse:** "Something coming down" sensation, pelvic pressure, and stress incontinence.
- **BPH:** Decreased force of urinary stream, incomplete emptying, and frequency.
- **Hypospadias:** Abnormal spraying of urine, ventral curvature of the penis (**Chordee**).

Diagnostic Investigations

- **PID:** Endocervical cultures, elevated ESR/CRP, and Pelvic Ultrasound.
- **BPH: Digital Rectal Exam (DRE)** (reveals smooth, firm enlargement), PSA levels (to rule out cancer), and Uroflowmetry.
- **Prolapse:** Pelvic examination in lithotomy position.
- **Fistulas:** Methylene blue dye test (to locate the leak).

5. Management: Medical & Pharmacological

Pharmacological Treatment

Drug Class	Examples	Indication
Antibiotics	Ceftriaxone Doxycycline	+ Broad-spectrum treatment for PID.
α-Adrenergic Blockers	Tamsulosin (Flomax)	Relaxes prostatic smooth muscle in BPH.
5-α-Reductase Inhibitors	Finasteride	Shrinks the prostate gland over time.



Hormone Therapy



Estrogen cream

Improves tissue integrity in pelvic organ prolapse.



Surgical Management

- **BPH: TURP (Transurethral Resection of the Prostate)**—the gold standard.
- **Prolapse: Hysterectomy or Pessary insertion** (non-surgical).
- **Hypospadias:** Surgical redirection of the urethra (usually done before school age).

6. Nursing Management (The Nursing Process)

Nursing Diagnosis (NANDA)

1. **Impaired Urinary Elimination** r/t urethral obstruction (BPH) or anatomical defect (Fistula).
2. **Acute Pain** r/t inflammatory process (PID).
3. **Situational Low Self-Esteem** r/t urinary incontinence or perceived loss of femininity/masculinity.

Nursing Interventions (Evidence-Based)

- **Post-TURP Care:** Monitor **Continuous Bladder Irrigation (CBI)** to prevent clot obstruction. Urine should ideally be light pink.
- **PID Care:** Semi-Fowler's position to promote pelvic drainage and prevent abscess formation.
- **Fistula Care:** Perineal hygiene is a priority; frequent sitz baths and use of barrier creams to prevent skin excoriation.
- **Post-Op Hypospadias:** Maintain stent patency; encourage "double diapering" to protect the surgical site.

7. Holistic Approach & Teaching Plan

Holistic Considerations

In Pakistan, reproductive health is often shrouded in "Sharam" (shame). Nurses must provide a private environment and use a non-judgmental tone. For fistulas, holistic care includes social reintegration, as these women are often marginalized.

Patient Teaching Plan

- **Pelvic Floor Health:** Teach **Kegel Exercises** to strengthen muscles (for mild prolapse).
- **PID Prevention:** Complete the full course of antibiotics; treat the partner to prevent reinfection.
- **BPH:** Avoid caffeine/alcohol and limit fluid intake before bedtime to reduce nocturia.
- **Hypospadias:** Teach parents that circumcision should be delayed because the foreskin is needed for surgical repair.

8. Value-Enhancing Revision Elements

Important Exam-Focused Points

- **PID Complication:** Ectopic pregnancy and infertility are major long-term risks.

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- **TURP Syndrome:** Watch for hyponatremia and confusion caused by absorption of irrigation fluid.
- **VVF/RVF:** In Pakistani society, focus on the psychosocial impact and the need for skilled birth attendants to prevent these injuries.

Mnemonics for Memorization

BPH Symptoms (N.U.T.S): > Nocturia, Urgency, Turbulence (decreased), Straining.

Quick Revision Summary

Advanced nursing in reproductive health requires balancing technical skill (like CBI management) with high-level psychosocial support. Priority is given to infection control (PID), restoring elimination patterns (BPH/Fistulas), and sensitive patient education that respects cultural norms while promoting evidence-based outcomes.





Unit 11: Advanced Nursing Management of Oncology Diseases

Course: Advance Concepts in Nursing

1. Introduction to Oncology Nursing

Oncology nursing involves the care of patients diagnosed with cancer, focusing on the physiological, psychological, and social impacts of the disease and its treatment.

Key Definitions

- **Cancer:** A group of diseases characterized by uncontrolled growth and spread of abnormal cells.
- **Neoplasia:** New, abnormal growth of tissue; can be **Benign** (encapsulated, non-invasive) or **Malignant** (invasive, metastatic).
- **Metastasis:** The spread of cancer cells from the primary site to distant organs via blood or lymph.
- **Cancer Pain:** A complex sensation resulting from tumor pressure, infiltration of tissues, or side effects of treatments (Chemotherapy/Radiation).

2. Pathophysiology & Etiology

Pathophysiology

1. **Cellular Transformation:** Genetic mutations in DNA (oncogenes) lead to the loss of **Apoptosis** (programmed cell death).
2. **Angiogenesis:** Tumors "recruit" blood vessels to supply nutrients for rapid growth.
3. **Invasion:** Malignant cells secrete enzymes that break down basement membranes, allowing entry into the circulatory system.

Etiology & Risk Factors

- **Carcinogens:** Tobacco smoke (lung/oral cancer), radiation, and chemicals.
- **Biological:** Viral infections (HPV for cervical cancer; Hepatitis B/C for liver cancer—high prevalence in Pakistan).
- **Genetic:** BRCA1/BRCA2 mutations in breast cancer.
- **Lifestyle:** High-fat diets, obesity, and sedentary behavior.

3. Utilizing FHP for Oncology Assessment

Gordon's Functional Health Patterns are essential for identifying the profound systemic changes in cancer patients.

Functional Pattern	Health	Oncology Manifestations / Alterations
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Cognitive-Perceptual	Chronic Cancer Pain , "Chemo-brain" (cognitive fog), sensory changes.
Nutritional-Metabolic	Anorexia-Cachexia Syndrome (profound weight loss), nausea, stomatitis.
Activity-Exercise	Severe Cancer-Related Fatigue (CRF) , dyspnea, or limited mobility.
Elimination	Constipation (due to opioids) or diarrhea (due to radiation/chemo).
Self-Perception	Disturbed body image due to alopecia (hair loss) or surgical scarring.
Coping-Stress	Anxiety, fear of death, and spiritual distress.

4. Advanced Management of Cancer Pain

Pain is one of the most feared symptoms in oncology.

Classifications of Cancer Pain

1. **Noiceptive:** Damage to visceral or somatic tissue (gnawing, aching).
2. **Neuropathic:** Damage to peripheral nerves or CNS (burning, shooting).
3. **Breakthrough Pain:** A transitory flare of pain that occurs on a background of otherwise controlled stable pain.

Pharmacological Management (WHO Pain Ladder)

The WHO 3-step ladder is the gold standard for evidence-based cancer pain management:

- **Step 1 (Mild):** Non-opioids (Paracetamol, NSAIDs).
- **Step 2 (Moderate):** Weak opioids (Codeine, Tramadol).
- **Step 3 (Severe):** Strong opioids (Morphine, Fentanyl).

5. Medical & Nursing Management (The Nursing Process)

Medical Management

- **Chemotherapy:** Systemic agents that kill rapidly dividing cells.
- **Radiation Therapy:** Localized ionizing radiation to destroy tumor DNA.
- **Immunotherapy:** Boosting the patient's immune system to recognize and attack cancer cells.

Nursing Diagnosis (NANDA)

1. **Chronic Pain** r/t tumor infiltration and nerve compression.
2. **Imbalanced Nutrition: Less than body requirements** r/t side effects of treatment (nausea/vomiting).
3. **Risk for Infection** r/t bone marrow suppression (Neutropenia).

Nursing Interventions (Evidence-Based)

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- **Pain Control:** Administer analgesics **"By the Clock"** rather than PRN to maintain steady blood levels.
- **Neutropenic Precautions:** Strict handwashing, no fresh flowers/fruits, monitor temperature (Fever is a medical emergency in neutropenic patients).
- **Mouth Care:** For stomatitis, use soft toothbrushes and non-alcoholic mouthwashes.
- **Fatigue Management:** Encourage "Energy Conservation" techniques—pacing activities and prioritizing rest.

6. Holistic Approach to Oncology Care

In Pakistan, cancer is often seen as a death sentence, leading to fatalism. Holistic care involves:

- **Psychosocial Support:** Addressing the "taboo" of cancer and providing hope.
- **Spiritual Care:** Integrating religious beliefs and practices into the coping process.
- **Palliative Care:** Focusing on quality of life and comfort when a cure is no longer possible.

7. Patient Teaching Plan

- **Side Effect Management:** Teach how to manage nausea (small, frequent, dry meals).
- **Pain Management:** Instruct that addiction is rare in cancer patients; take meds as prescribed.
- **Skin Care:** During radiation, avoid lotions, perfumes, or scrubbing the marked area; protect from sunlight.
- **Infection Prevention:** Avoid crowds and individuals with active infections (flu/colds).

8. Value-Enhancing Revision Elements

Important Exam-Focused Points (IUB/PNC)

- **TNM Staging:** Tumor size, Node involvement, Metastasis status.
- **Oncologic Emergencies:** Superior Vena Cava Syndrome, Spinal Cord Compression, and Hypercalcemia.
- **Opioid Side Effects:** Always expect constipation; provide stool softeners prophylactically.

Mnemonics for Memorization

CAUTION (Seven Warning Signs of Cancer):

Change in bowel/bladder habits.

A sore that does not heal.

Unusual bleeding or discharge.

Thickening or lump.

Indigestion or difficulty swallowing.

Obvious change in wart or mole.

Nagging cough or hoarseness.

Quick Revision Summary

Advanced oncology nursing requires a balance of high-tech clinical skills (managing chemo/radiation) and high-touch psychosocial support. The priority is the management of cancer-related symptoms, specifically **Pain** and **Nutrition**, while strictly adhering to evidence-based protocols to prevent life-threatening complications like **Febrile Neutropenia**.



Advanced Concepts in Nursing: Comprehensive MCQ Bank

UNIT 1: Overview of Nursing Process & NANDA

1. Which step of the nursing process involves the systematic collection of subjective and objective data?
 - A. Diagnosis
 - B. Assessment
 - C. Planning
 - D. Implementation
2. A nursing diagnosis formulated as "Risk for Falls" is considered a:
 - A. Problem-focused diagnosis
 - B. Health promotion diagnosis
 - C. Two-part diagnosis
 - D. Three-part diagnosis
3. The "Related To" (r/t) portion of a nursing diagnosis represents which component of the PES format?
 - A. Problem
 - B. Etiology
 - C. Signs
 - D. Symptoms
4. In the SMART acronym for goal setting, what does the "R" stand for?
 - A. Reasonable
 - B. Reliable
 - C. Relevant
 - D. Rapid
5. Which framework is primarily used to prioritize nursing diagnoses?
 - A. Gordon's Functional Health Patterns
 - B. Maslow's Hierarchy of Needs
 - C. NANDA-I Taxonomy
 - D. The medical model
6. Revising a care plan because goals were "not met" occurs in which stage?
 - A. Assessment
 - B. Planning



- C. Implementation
 - D. Evaluation
7. A patient states, "I feel very anxious about my surgery." This is an example of:
- A. Objective data
 - B. Subjective data
 - C. Diagnostic data
 - D. Evaluation data
8. What is the primary purpose of a concept map in nursing?
- A. To replace the written care plan
 - B. To visualize relationships between patient problems and interventions
 - C. To memorize medical terminology
 - D. To record vital signs

UNIT 2: Overview of Functional Health Patterns (FHP)

9. Who developed the 11 Functional Health Patterns?
- A. Florence Nightingale
 - B. Marjory Gordon
 - C. Virginia Henderson
 - D. Dorothea Orem
10. Assessing a patient's 24-hour diet recall falls under which pattern?
- A. Health Perception-Health Management
 - B. Nutritional-Metabolic
 - C. Role-Relationship
 - D. Self-Perception
11. When a nurse asks, "Who do you turn to in a crisis?", which pattern is being assessed?
- A. Value-Belief
 - B. Cognitive-Perceptual
 - C. Coping-Stress Tolerance
 - D. Activity-Exercise
12. A patient with "Anasarca" (generalized edema) shows an alteration in which FHP?
- A. Elimination
 - B. Nutritional-Metabolic
 - C. Sleep-Rest
 - D. Sexuality-Reproductive



13. The Cognitive-Perceptual pattern focuses on:
- A. Sensory capabilities and pain perception
 - B. Exercise and ADLs
 - C. Family structure and social support
 - D. Religious and spiritual goals
14. Assessing if a patient uses sleep aids or feels rested falls under:
- A. Self-Perception pattern
 - B. Sleep-Rest pattern
 - C. Activity-Exercise pattern
 - D. Health Management pattern
15. What is the main advantage of FHP over the "Body Systems" model?
- A. It is shorter to document
 - B. It focuses on medical cures
 - C. It provides a holistic view of human responses
 - D. It ignores psychological factors
16. Cultural and religious practices are assessed in which pattern?
- A. Role-Relationship
 - B. Cognitive-Perceptual
 - C. Value-Belief
 - D. Self-Concept

UNIT 3: Nursing Management of Cardiovascular Diseases

17. Irreversible necrosis of heart muscle due to prolonged ischemia is defined as:
- A. Angina Pectoris
 - B. Myocardial Infarction
 - C. Coronary Artery Disease
 - D. Valvular Stenosis
18. Which cardiac biomarker is considered the most specific for myocardial injury?
- A. CK-MB
 - B. Myoglobin
 - C. Troponin I
 - D. LDH
19. In the "MONA" mnemonic for acute MI, what does "N" stand for?
- A. Naproxen



- B. Norepinephrine
C. Naloxone
D. Nitroglycerin
20. What is the "Gold Standard" for visualizing coronary artery blockages?
A. 12-Lead ECG
B. Echocardiography
C. Coronary Angiography
D. Exercise Stress Test
21. A patient with Mitral Stenosis is at high risk for which complication?
A. Heart Failure
B. Diabetes
C. Osteoporosis
D. PUD
22. What is the primary nursing goal during the acute phase of an MI?
A. Increase physical activity
B. Minimize myocardial oxygen demand
C. Promote weight gain
D. Discharge planning
23. "Time is Muscle" refers to a goal of reperfusion (PCI) within how many minutes?
A. 30 minutes
B. 60 minutes
C. 90 minutes
D. 180 minutes
24. Which drug class is used to prevent "ventricular remodeling" post-MI?
A. Statins
B. ACE Inhibitors
C. Antiplatelets
D. Nitrates

UNIT 4: Nursing Management of Respiratory Diseases

25. A "Barrel Chest" (increased AP diameter) is a characteristic clinical finding in:
A. Asthma
B. Pneumonia
C. COPD (Emphysema)

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D. Tuberculosis

26. What is the target SpO_2 range for a patient with chronic COPD?
- A. 95%–100%
 - B. 88%–92%
 - C. 70%–80%
 - D. 98%–99%
27. The DOTS strategy is the standard of care for which disease?
- A. Asthma
 - B. Pulmonary Tuberculosis
 - C. Bacterial Pneumonia
 - D. Lung Cancer
28. Which position is best for a patient experiencing acute respiratory distress?
- A. Supine
 - B. High-Fowler's
 - C. Trendelenburg
 - D. Left lateral
29. A patient with TB reports night sweats and a low-grade evening fever. This affects which FHP?
- A. Cognitive-Perceptual
 - B. Nutritional-Metabolic
 - C. Elimination
 - D. Value-Belief
30. In the "RIPE" mnemonic for TB, which drug can cause orange-colored body fluids?
- A. Rifampicin
 - B. Isoniazid
 - C. Pyrazinamide
 - D. Ethambutol
31. Pursed-lip breathing is taught to COPD patients to:
- A. Increase respiratory rate
 - B. Prevent airway collapse during expiration
 - C. Induce coughing
 - D. Decrease oxygen saturation
32. "Rusty sputum" is most commonly associated with which type of pneumonia?
- A. Viral



- B. Fungal
- C. Streptococcal
- D. Mycoplasma

UNIT 5: Nursing Management of GI & Metabolic Disorders

33. Which bacterium is the leading cause of Peptic Ulcer Disease in Pakistan?
- A. *E. coli*
 - B. *H. pylori*
 - C. *S. aureus*
 - D. *C. difficile*
34. A patient with Cirrhosis has a distended abdomen filled with fluid. This is called:
- A. Edema
 - B. Peritonitis
 - C. Ascites
 - D. Varices
35. The "5 F's" (Female, Forty, Fat, Fertile, Fair) are risk factors for:
- A. Intestinal Obstruction
 - B. Cholelithiasis
 - C. Peptic Ulcer
 - D. Liver Cirrhosis
36. Which medication is given to reduce ammonia levels in Hepatic Encephalopathy?
- A. Omeprazole
 - B. Lactulose
 - C. Spironolactone
 - D. Metformin
37. A positive Murphy's Sign indicates:
- A. Acute Appendicitis
 - B. Acute Cholecystitis
 - C. Liver Failure
 - D. Gastric Ulcer
38. In Intestinal Obstruction, high-pitched "tinkling" bowel sounds are usually heard:
- A. Below the obstruction
 - B. Proximal to the obstruction
 - C. Only in the stomach
 - D. During sleep



39. For a patient with PUD, which medication should be strictly avoided?
- A. Antacids
 - B. PPIs
 - C. NSAIDs (e.g., Aspirin)
 - D. Antibiotics
40. Melena (black tarry stools) is a sign of bleeding in the:
- A. Lower GI tract
 - B. Upper GI tract
 - C. Sigmoid colon
 - D. Rectum

UNIT 6: Nursing Management of Genitourinary Diseases

41. Which electrolyte imbalance is the most life-threatening complication of Renal Failure?
- A. Hyponatremia
 - B. Hypocalcemia
 - C. Hyperkalemia
 - D. Hypermagnesemia
42. Nephrotic Syndrome is characterized by which clinical triad?
- A. Hypertension, Fever, Pain
 - B. Proteinuria, Hypoalbuminemia, Edema
 - C. Hematuria, Dysuria, Stones
 - D. Oliguria, Jaundice, Confusion
43. A GFR of less than 15 mL/min indicates:
- A. Stage 1 CKD
 - B. Normal Kidney Function
 - C. Stage 5 (End-Stage) Renal Disease
 - D. Acute Kidney Injury
44. Phosphate binders like Calcium Acetate should be administered:
- A. On an empty stomach
 - B. Only at bedtime
 - C. With meals
 - D. Via IV only
45. Prerenal causes of Acute Kidney Injury include:
- A. Kidney stones



- B. Nephrotoxic drugs
C. Dehydration and hemorrhage
D. Bladder tumors
46. What is the priority nursing action before a patient undergoes Paracentesis?
A. Ask the patient to fast for 12 hours
B. Encourage the patient to void (empty bladder)
C. Administer a sedative
D. Check blood type
47. The "AWET BED" mnemonic describes the functions of the:
A. Liver
B. Heart
C. Lungs
D. Kidneys
48. A patient with renal calculi should be encouraged to drink how much fluid daily?
A. 500 mL
B. 1 Liter
C. 2–3 Liters
D. 5 Liters

UNIT 7: Nursing Management of Musculoskeletal Diseases

49. Which condition is a systemic autoimmune disease affecting synovial joints?
A. Osteoarthritis
B. Rheumatoid Arthritis
C. Osteoporosis
D. Osteomyelitis
50. The "Gold Standard" diagnostic test for Osteoporosis is:
A. X-ray
B. Bone Biopsy
C. DEXA Scan
D. Serum Calcium
51. Heberden's and Bouchard's nodes are classic signs of:
A. Rheumatoid Arthritis
B. Osteoarthritis
C. Gout



D. Septic Arthritis

52. In Rheumatoid Arthritis, "morning stiffness" typically lasts:

- A. Less than 10 minutes
- B. Exactly 20 minutes
- C. More than 1 hour
- D. Only during winter

53. Osteomyelitis is most commonly caused by which microorganism?

- A. *E. coli*
- B. *Staphylococcus aureus*
- C. *Mycobacterium*
- D. *Streptococcus*

54. Bisphosphonates (e.g., Alendronate) must be taken:

- A. With milk
- B. Just before sleep
- C. Sitting upright for 30 minutes after taking
- D. With a high-fat meal

55. "Kyphosis" or Dowager's hump is a common finding in:

- A. Advanced Osteoporosis
- B. Acute Osteomyelitis
- C. Early Osteoarthritis
- D. Hip Dysplasia

56. Sequestrum (dead bone) is a characteristic pathophysiology of:

- A. RA
- B. OA
- C. Osteomyelitis
- D. Bone Cancer

UNIT 8: Nursing Management of Neurovascular Diseases

57. The "FAST" acronym for Stroke assessment stands for:

- A. Face, Arms, Speech, Time
- B. Brain, Eyes, Activity, Strength
- C. Fever, Aphasia, Sleep, Tongue
- D. Face, Airway, Senses, Temperature

58. Thrombolytic therapy (tPA) for Ischemic Stroke must be given within:

- A. 1 hour



- B. 3–4.5 hours
C. 12 hours
D. 24 hours
59. Which clinical sign of Meningitis involves the knees flying up when the neck is bent?
- A. Kernig's Sign
B. Murphy's Sign
C. Brudzinski's Sign
D. Trousseau's Sign
60. In Bacterial Meningitis, the CSF analysis usually shows:
- A. High Glucose, Low Protein
B. Low Glucose, High Protein
C. Clear appearance
D. Normal WBC count
61. What is the primary nursing priority during a generalized seizure?
- A. Inserting a tongue depressor
B. Restraining the patient's limbs
C. Protecting the patient from injury
D. Administering oral water
62. The "4 A's" (Amnesia, Aphasia, Apraxia, Agnosia) are signs of:
- A. Stroke
B. Alzheimer's Disease
C. Meningitis
D. Cluster Headache
63. Cushing's Triad (Bradycardia, HTN, Irregular Respiration) indicates:
- A. Low Blood Sugar
B. Increased Intracranial Pressure (ICP)
C. Heart Attack
D. Dehydration
64. Which type of headache is characterized by severe unilateral periorbital pain?
- A. Tension headache
B. Migraine
C. Cluster headache
D. Sinus headache



UNIT 9: Nursing Management of Endocrine Diseases

65. The "3 P's" of Diabetes Mellitus are:
- A. Pain, Pallor, Pulselessness
 - B. Polyuria, Polydipsia, Polyphagia
 - C. Proteinuria, Pyuria, Polycythemia
 - D. Palpitations, Perspiration, Psychosis
66. HbA1c provides an average of blood glucose control over the past:
- A. 24 hours
 - B. 7 days
 - C. 1 month
 - D. 3 months
67. Cool, clammy skin and irritability in a diabetic patient suggest:
- A. Hyperglycemia
 - B. Hypoglycemia
 - C. Diabetic Ketoacidosis
 - D. Fluid overload
68. Levothyroxine for Hypothyroidism should be taken:
- A. At bedtime with food
 - B. In the morning on an empty stomach
 - C. Only when the patient feels tired
 - D. With a glass of milk
69. Exophthalmos (bulging eyes) is a classic sign of:
- A. Hypothyroidism
 - B. Hyperthyroidism (Graves' Disease)
 - C. Hypoparathyroidism
 - D. Diabetes Insipidus
70. Tetany and a positive Chvostek's sign indicate:
- A. High Calcium
 - B. Low Calcium
 - C. High Potassium
 - D. Low Potassium
71. Which medication is the first-line treatment for Type 2 Diabetes?
- A. Insulin



- B. Metformin
- C. Levothyroxine
- D. PTU

72. A "Thyroid Storm" is a life-threatening emergency of:

- A. Hypothyroidism
- B. Hyperthyroidism
- C. Hyperparathyroidism
- D. Addison's Disease

UNIT 10: Nursing Management of Reproductive Diseases

73. The "Chandelier Sign" (cervical motion tenderness) is indicative of:

- A. Uterine Prolapse
- B. BPH
- C. Pelvic Inflammatory Disease (PID)
- D. Hypospadias

74. "TURP Syndrome" post-prostate surgery is primarily caused by:

- A. Low blood pressure
- B. High glucose
- C. Absorption of irrigation fluid (Hyponatremia)
- D. Infection

75. In Pakistan, the most common cause of Vaginal Fistulas is:

- A. Road traffic accidents
- B. Prolonged obstructed labor
- C. Congenital defects
- D. Heavy lifting

76. A patient with BPH is prescribed Tamsulosin (Flomax) to:

- A. Shrink the prostate
- B. Relax prostatic smooth muscle
- C. Cure prostate cancer
- D. Increase testosterone

77. Kegel exercises are primarily recommended for patients with:

- A. PID
- B. BPH
- C. Uterine Prolapse (Mild)



D. Hypospadias

78. Hypospadias is a congenital condition where the urethral opening is on the:

- A. Top of the penis
- B. Tip of the glans
- C. Ventral (under) side of the penis
- D. Scrotum

79. After a TURP, if the CBI (Bladder Irrigation) drainage is dark red with clots, the nurse should:

- A. Decrease the irrigation rate
- B. Increase the irrigation rate
- C. Stop the irrigation
- D. Remove the catheter

80. A major long-term complication of untreated PID is:

- A. Diabetes
- B. Infertility
- C. BPH
- D. Uterine Prolapse

UNIT 11: Nursing Management of Oncology Diseases

81. The TNM staging system for cancer stands for:

- A. Time, Node, Muscle
- B. Tumor, Node, Metastasis
- C. Temperature, Nutrition, Mobility
- D. Toxicity, Neoplasia, Marrow

82. According to the WHO Pain Ladder, Step 3 (Severe Pain) management involves:

- A. Paracetamol
- B. Ibuprofen
- C. Weak opioids
- D. Strong opioids (e.g., Morphine)

83. Stomatitis (mouth sores) is a common side effect of:

- A. Dialysis
- B. Chemotherapy
- C. Insulin
- D. Antibiotics



84. Fever in a neutropenic oncology patient is considered:
- A. A normal side effect
 - B. A medical emergency
 - C. A sign of recovery
 - D. Something to monitor at home
85. "CAUTION" is a mnemonic used to remember:
- A. Steps of the nursing process
 - B. Seven warning signs of cancer
 - C. Side effects of Morphine
 - D. Rules for medication administration
86. Cancer-Related Fatigue (CRF) is best managed by:
- A. Total bed rest
 - B. Energy conservation and pacing
 - C. High-intensity exercise
 - D. Caffeine intake
87. Prophylactic stool softeners are usually prescribed with opioids to prevent:
- A. Diarrhea
 - B. Nausea
 - C. Constipation
 - D. Vomiting
88. Alopecia (hair loss) from chemotherapy is usually:
- A. Permanent
 - B. Reversible
 - C. Avoided by using cold water
 - D. Only on the scalp

MIXED CONCEPTUAL / CLINICAL SCENARIOS

89. A patient is being treated for heart failure. The nurse records daily weights. This falls under:
- A. Implementation
 - B. Assessment
 - C. Evaluation
 - D. Diagnosis
90. Which FHP is most impacted by a patient's "Fear of impending death"?



- A. Activity-Exercise
B. Self-Perception-Self-Concept
C. Nutritional-Metabolic
D. Elimination
91. A patient on Metformin is scheduled for a CT scan with contrast. The nurse should:
- A. Increase the dose
B. Hold Metformin (risk of lactic acidosis)
C. Give Metformin with the contrast
D. Administer IV insulin
92. The "3-part" nursing diagnosis (PES) is used for:
- A. Risk diagnoses
B. Health promotion diagnoses
C. Actual (problem-focused) diagnoses
D. Potential diagnoses
93. A patient with Chronic Bronchitis has peripheral edema and JVD. This indicates:
- A. Left-sided heart failure
B. Cor Pulmonale (Right-sided heart failure)
C. Kidney stones
D. Asthma attack
94. Which hormone is responsible for pulling calcium out of the bones?
- A. Insulin
B. Thyroxine
C. Parathyroid Hormone (PTH)
D. Calcitonin
95. In Pakistani culture, which pattern assessment requires extra privacy and sensitivity?
- A. Activity-Exercise
B. Sexuality-Reproductive
C. Elimination
D. Sleep-Rest
96. A patient with a "fistula" in the arm for dialysis is at risk for which FHP alteration?
- A. Cognitive-Perceptual
B. Self-Perception / Body Image
C. Elimination



D. Value-Belief

97. The "penumbra" in a stroke refers to:
- A. The dead core tissue
 - B. The healthy brain tissue
 - C. The salvageable tissue surrounding the core
 - D. The skull bone
98. Which endocrine gland is referred to as the "Master Gland"?
- A. Thyroid
 - B. Adrenal
 - C. Pituitary
 - D. Pancreas
99. When teaching a patient about a "Heart Healthy Diet," the nurse recommends:
- A. High sodium, high fat
 - B. Low sodium, low saturated fat
 - C. High protein, high potassium
 - D. No water, high sugar
100. Palliative care's primary focus is on:
- A. Curing the disease
 - B. Prolonging life at any cost
 - C. Providing comfort and quality of life
 - D. Performing surgery

Answer Key

Chapter 1: 1-B, 2-C, 3-B, 4-C, 5-B, 6-D, 7-B, 8-B

Chapter 2: 9-B, 10-B, 11-C, 12-B, 13-A, 14-B, 15-C, 16-C

Chapter 3: 17-B, 18-C, 19-D, 20-C, 21-A, 22-B, 23-C, 24-B

Chapter 4: 25-C, 26-B, 27-B, 28-B, 29-B, 30-A, 31-B, 32-C

Chapter 5: 33-B, 34-C, 35-B, 36-B, 37-B, 38-B, 39-C, 40-B

Chapter 6: 41-C, 42-B, 43-C, 44-C, 45-C, 46-B, 47-D, 48-C

Chapter 7: 49-B, 50-C, 51-B, 52-C, 53-B, 54-C, 55-A, 56-C

Chapter 8: 57-A, 58-B, 59-C, 60-B, 61-C, 62-B, 63-B, 64-C

Chapter 9: 65-B, 66-D, 67-B, 68-B, 69-B, 70-B, 71-B, 72-B

Chapter 10: 73-C, 74-C, 75-B, 76-B, 77-C, 78-C, 79-B, 80-B

Chapter 11: 81-B, 82-D, 83-B, 84-B, 85-B, 86-B, 87-C, 88-B

Mixed: 89-B, 90-B, 91-B, 92-C, 93-B, 94-C, 95-B, 96-B, 97-C, 98-C, 99-B, 100-C