

THE ESSENTIAL GUIDE FOR NURSES

NCLEX SHORT REVIEW



SCRUB NERD HQ



2025

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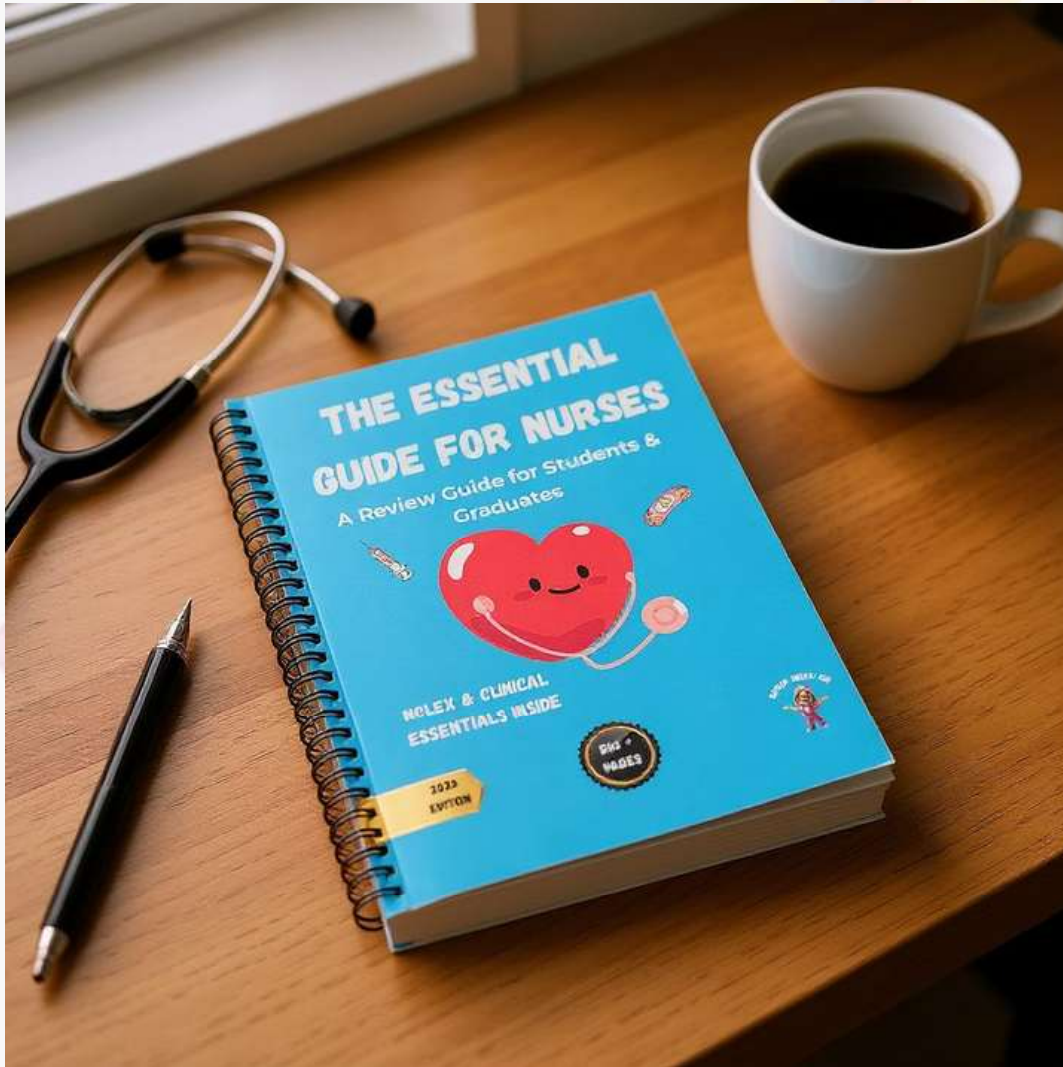
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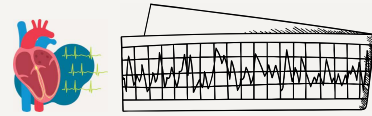
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5 NCLEX-style pharmacology questions

1. FUROSEMIDE (LASIX) – LOOP DIURETIC

Q1: A nurse is administering furosemide IV to a patient with congestive heart failure. Which assessment finding requires immediate intervention?

- A. Blood pressure of 110/70 mmHg
- B. Potassium level of 2.8 mEq/L
- C. Urine output of 300 mL over 6 hours
- D. Patient reports ringing in the ears



✓ **Correct Answer:** B. Potassium level of 2.8 mEq/L

🧠 **Rationale:** Furosemide causes potassium loss (hypokalemia). A level of 2.8 is dangerously low and may lead to cardiac arrhythmias. Immediate intervention (potassium replacement) is needed. Tinnitus may occur but isn't life-threatening.

DIGOXIN (LANOXIN) – CARDIAC GLYCOSIDE

Q2: Which sign should alert the nurse to potential digoxin toxicity?

- A. Heart rate of 80 bpm
- B. Yellow vision or visual halos
- C. Blood pressure of 130/80 mmHg
- D. Mild headache



✓ **Correct Answer:** B. Yellow vision or visual halos

🧠 **Rationale:** Visual disturbances (e.g., seeing halos or yellow-green tints) are classic early signs of digoxin toxicity. Others include nausea, anorexia, bradycardia, and confusion. Always check the apical pulse before giving.

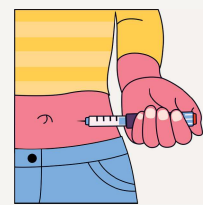
INSULIN GLARGINE (LANTUS) – LONG-ACTING INSULIN

Q3: Which statement by the patient indicates correct understanding of insulin glargine?

- A. "I will mix glargine with my short-acting insulin in one syringe."
- B. "I will take it with meals to prevent a sugar spike."
- C. "I will take it once daily at the same time every day."
- D. "It starts working within 15 minutes."

✓ **Correct Answer:** C. "I will take it once daily at the same time every day."

🧠 **Rationale:** Glargine is long-acting and should not be mixed with other insulins. It has no peak and lasts 24 hours, making consistent timing critical.



WARFARIN (COUMADIN) – ANTICOAGULANT

Q4: The nurse is reviewing discharge instructions for a patient on warfarin. Which statement requires further teaching?

- A. "I will avoid leafy green vegetables like spinach."
- B. "I will use a soft toothbrush and electric razor."
- C. "I can take aspirin if I get a headache."
- D. "I will have my INR checked regularly."

✓ **Correct Answer:** C. "I can take aspirin if I get a headache."

🧠 **Rationale:** Aspirin increases bleeding risk and should be avoided unless specifically prescribed. Patients should be taught about drug interactions and bleeding precautions.



SERTRALINE (ZOLOFT) – SSRI ANTIDEPRESSANT

Q5: A patient taking sertraline reports increased agitation, sweating, tremors, and confusion. What is the nurse's priority action?

- A. Reassure the patient and monitor
- B. Give acetaminophen and encourage rest
- C. Hold the medication and notify the provider
- D. Ask if they've taken any caffeine or energy drinks

✓ **Correct Answer:** C. Hold the medication and notify the provider

🧠 **Rationale:** These are signs of serotonin syndrome, a potentially life-threatening condition. Immediate intervention is required – stop the drug and report to the HCP.



Pediatric Growth & Development Milestones

6-MONTH-OLD MILESTONE

Q1: A nurse is assessing a 6-month-old infant. Which milestone should the infant be able to perform?

- A. Sit unsupported
- B. Use a neat pincer grasp
- C. Roll from back to front
- D. Walk with assistance

✓ **Correct Answer:** C. Roll from back to front

🧠 **Rationale:** By 6 months, most infants can roll in both directions. Sitting unsupported usually occurs closer to 7–8 months, pincer grasp develops around 9–10 months, and walking with assistance happens around 12 months.



RED FLAG IN LANGUAGE DEVELOPMENT

Q2: Which finding in a 12-month-old child should be reported to the healthcare provider?

- A. Says “mama” and “dada”
- B. Does not walk independently
- C. Does not point to objects
- D. Has stranger anxiety

✓ **Correct Answer:** C. Does not point to objects

🧠 **Rationale:** Lack of pointing or gesturing at 12 months may signal a developmental delay or an early sign of autism spectrum disorder. Walking independently may still be developing at this age and is less concerning.



SOCIAL PLAY IN TODDLERS

Q3: Which type of play is expected in a 2-year-old child?

- A. Cooperative play
- B. Associative play
- C. Parallel play
- D. Solitary play

✓ **Correct Answer:** C. Parallel play

🧠 **Rationale:** Parallel play (playing alongside other children without interaction) is typical in toddlers aged 1.5–2.5 years. Cooperative and associative play come later, typically in the preschool years.

PARALLEL PLAY



4-YEAR-OLD MILESTONE

Q4: Which activity should a 4-year-old child be able to perform?

- A. Ride a tricycle
- B. Skip and hop on one foot
- C. Draw a stick figure with six body parts
- D. Copy a triangle

✓ **Correct Answer:** B. Skip and hop on one foot

🧠 **Rationale:** At age 4, children develop the coordination to hop and skip on one foot. Drawing complex figures and copying shapes like triangles are expected closer to 5 years old.



FINE MOTOR SKILL AT 9 MONTHS

Q5: A nurse is assessing a 9-month-old baby. Which fine motor skill should the child demonstrate?

- A. Use a neat pincer grasp
- B. Transfers objects hand-to-hand
- C. Scribbles with a crayon
- D. Builds a tower of 2 blocks

✓ **Correct Answer:** B. Transfers objects hand-to-hand

🧠 **Rationale:** Transferring objects is a key 6–9 month milestone. Pincer grasp refines closer to 9–12 months, scribbling and block stacking occur later (12–18 months and beyond).

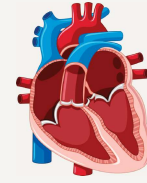


Cardiovascular System

HEART FAILURE – FLUID OVERLOAD

Q1: Which clinical finding is most consistent with left-sided heart failure?

- A. Jugular vein distension (JVD)
- B. Crackles in bilateral lung bases
- C. Peripheral edema
- D. Hepatomegaly



✓ **Correct Answer:** B. Crackles in bilateral lung bases

🧠 **Rationale:** Left-sided heart failure causes pulmonary congestion, leading to crackles, dyspnea, and orthopnea. Right-sided failure causes JVD, peripheral edema, and hepatomegaly.

MYOCARDIAL INFARCTION (MI) – CLASSIC PRESENTATION

Q2: A client arrives at the emergency department with chest pain unrelieved by rest, nausea, and diaphoresis. What should the nurse do first?

- A. Ask about recent physical activity
- B. Apply oxygen and assess vital signs
- C. Prepare the client for chest x-ray
- D. Offer antacids for gastric relief



✓ **Correct Answer:** B. Apply oxygen and assess vital signs

🧠 **Rationale:** These are classic symptoms of acute myocardial infarction (MI). Oxygen and vitals are a priority under emergency response protocols (**MONA: Morphine, Oxygen, Nitrates, Aspirin**).

DEEP VEIN THROMBOSIS (DVT)

Q3: A nurse is assessing a client's leg for a suspected DVT. Which finding supports this diagnosis?

- A. Pale, cool leg with diminished pulses
- B. Sudden calf pain and swelling
- C. Bilateral ankle edema
- D. Numbness and tingling in both feet



✓ **Correct Answer:** B. Sudden calf pain and swelling

🧠 **Rationale:** DVT usually presents with unilateral leg pain, swelling, warmth, and tenderness. It may lead to a life-threatening PE if not addressed quickly.

PERICARDITIS – CLASSIC SIGN

Q4: A patient with pericarditis reports sharp chest pain that worsens when lying flat. What is the expected finding on auscultation?

- A. S3 heart sound
- B. Harsh systolic murmur
- C. Pericardial friction rub
- D. Wheezing over the lung fields



✓ **Correct Answer:** C. Pericardial friction rub

🧠 **Rationale:** Pericardial friction rub is a hallmark of pericarditis. Pain is often pleuritic and positional — relieved by sitting up and leaning forward.

HYPERTENSION – TARGET ORGAN DAMAGE

Q5: Which symptom in a hypertensive patient requires immediate evaluation for potential complications?

- A. Mild morning headaches
- B. Visual changes and severe headache
- C. Fatigue in the evening
- D. Occasional nosebleeds



✓ **Correct Answer:** B. Visual changes and severe headache

🧠 **Rationale:** These are signs of hypertensive crisis or encephalopathy, which can lead to stroke, brain hemorrhage, or organ damage. Requires emergency intervention.

Respiratory system

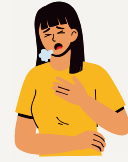
ASTHMA EXACERBATION – RED FLAG SIGN

Q1: A nurse is caring for a child experiencing an acute asthma exacerbation. Which finding is most concerning?

- A. Loud expiratory wheezing
- B. Use of accessory muscles
- C. Decreased breath sounds
- D. Oxygen saturation of 95%

✓ **Correct Answer:** C. Decreased breath sounds

🧠 **Rationale:** Decreased or absent breath sounds in a patient with asthma may indicate severe airway obstruction or impending respiratory failure — a medical emergency. Wheezing and the use of accessory muscles are expected in moderate asthma.



COPD – EXPECTED CLINICAL FINDINGS

Q2: Which assessment finding is expected in a patient with chronic obstructive pulmonary disease (COPD)?

- A. Sudden onset chest pain and dyspnea
- B. Barrel-shaped chest and clubbed fingers
- C. Inspiratory stridor
- D. Frothy pink sputum

✓ **Correct Answer:** B. Barrel-shaped chest and clubbed fingers

🧠 **Rationale:** COPD (especially emphysema) leads to air trapping, causing barrel chest and chronic hypoxia, which can result in clubbing. Sudden pain may suggest PE or pneumothorax. Pink sputum → pulmonary edema.



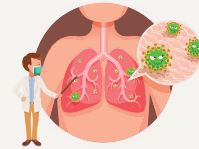
PNEUMONIA – CLASSIC SYMPTOMS

Q3: Which signs are most characteristic of pneumonia?

- A. Bradycardia, hypotension, confusion
- B. Dry cough, clear breath sounds, fatigue
- C. Crackles, fever, productive cough
- D. Stridor, wheezing, nasal flaring

✓ **Correct Answer:** C. Crackles, fever, productive cough

🧠 **Rationale:** Pneumonia typically presents with fever, chills, productive cough, crackles, and sometimes dyspnea due to infection and fluid in the alveoli.



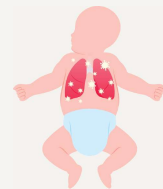
RESPIRATORY DISTRESS IN INFANTS

Q4: Which sign indicates severe respiratory distress in a 6-month-old infant?

- A. Occasional nasal flaring
- B. Grunting and retractions
- C. Pink skin and alert behavior
- D. Occasional cough

✓ **Correct Answer:** B. Grunting and retractions

🧠 **Rationale:** Grunting, nasal flaring, and retractions (especially subcostal or intercostal) are signs of increased work of breathing and indicate respiratory distress in infants. These are NCLEX red flags.



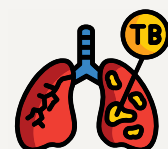
TUBERCULOSIS (TB) – ISOLATION PRECAUTION

Q5: A patient is admitted with suspected tuberculosis. What is the most appropriate infection control measure?

- A. Place the patient on droplet precautions
- B. Provide a surgical mask for the patient
- C. Initiate airborne precautions with an N95 mask
- D. Use contact precautions and gloves only

✓ **Correct Answer:** C. Initiate airborne precautions with N95 mask

🧠 **Rationale:** TB is an airborne disease, requiring N95 masks, a negative pressure room, and airborne isolation. Surgical masks are for droplet precautions and protect others when worn by the patient.



Endocrine System

DIABETIC KETOACIDOSIS (DKA)

Q1: A nurse is assessing a teenager with type 1 diabetes. Which finding is most consistent with diabetic ketoacidosis (DKA)?

- A. Bradycardia and hypertension
- B. Cool, clammy skin
- C. Fruity-smelling breath and deep rapid respirations
- D. Sudden weight gain and blurred vision

✓ **Correct Answer:** C. Fruity-smelling breath and deep rapid respirations

🧠 **Rationale:** DKA causes ketone buildup, leading to fruity (acetone) breath and Kussmaul respirations (deep, rapid breathing). These are compensatory signs of metabolic acidosis.



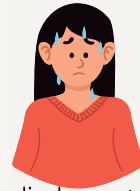
HYPOGLYCEMIA – RED FLAG SIGN

Q2: Which symptom in a diabetic patient indicates hypoglycemia and needs immediate action?

- A. Excessive thirst
- B. Slow wound healing
- C. Cool, pale skin with irritability
- D. Frequent urination

✓ **Correct Answer:** C. Cool, pale skin with irritability

🧠 **Rationale:** Hypoglycemia causes diaphoresis, shakiness, confusion, pale/cool skin, and irritability. This is a medical emergency and requires fast-acting glucose.



HYPOTHYROIDISM – CLASSIC PRESENTATION

Q3: Which of the following is a typical symptom of hypothyroidism?

- A. Heat intolerance and weight loss
- B. Nervousness and tachycardia
- C. Cold intolerance and constipation
- D. Bulging eyes and goiter

✓ **Correct Answer:** C. Cold intolerance and constipation

🧠 **Rationale:** Hypothyroidism slows metabolism, causing fatigue, weight gain, cold intolerance, constipation, dry skin, and bradycardia. Bulging eyes (exophthalmos) and goiter → hyperthyroidism.



CUSHING'S SYNDROME – KEY FEATURES

Q4: A nurse is assessing a patient with Cushing's syndrome. Which finding is expected?

- A. Hypoglycemia and hypotension
- B. Moon face and truncal obesity
- C. Muscle wasting and weight loss
- D. Hyperpigmentation and low sodium

✓ **Correct Answer:** B. Moon face and truncal obesity

🧠 **Rationale:** Cushing's is caused by excess cortisol, leading to central obesity, moon face, buffalo hump, hyperglycemia, and easy bruising. Hyperpigmentation is seen in Addison's disease.



SIADH VS. DIABETES INSIPIDUS

Q5: A patient has a syndrome of inappropriate antidiuretic hormone (SIADH). Which lab result is most likely?

- A. High serum sodium and high urine output
- B. Low serum sodium and concentrated urine
- C. High potassium and dilute urine
- D. Low calcium and low specific gravity

✓ **Correct Answer:** B. Low serum sodium and concentrated urine

🧠 **Rationale:** SIADH leads to water retention, diluting the blood (↓ sodium) and concentrating the urine. The opposite is true in diabetes insipidus, which causes polyuria and hypernatremia.



Gastrointestinal (GI) System

APPENDICITIS – CLASSIC PRESENTATION

Q1: A 10-year-old child presents to the ER with abdominal pain, fever, and nausea. Which assessment finding most strongly suggests acute appendicitis?

- A. Pain in the left upper quadrant
- B. Rebound tenderness at McBurney's point
- C. Pain relieved by eating
- D. Visible peristalsis in the abdomen

✓ **Correct Answer:** B. Rebound tenderness at McBurney's point

🧠 **Rationale:** Appendicitis classically presents with RLQ pain, especially at McBurney's point, along with nausea, low-grade fever, and rebound tenderness. Sudden relief may indicate rupture — an emergency.



GASTROESOPHAGEAL REFLUX DISEASE (GERD)

Q2: Which teaching point is most important for a patient newly diagnosed with GERD?

- A. "Eat large meals to reduce acid output."
- B. "Lie flat for 30 minutes after meals."
- C. "Avoid spicy and acidic foods."
- D. "Drink milk right before bed."

✓ **Correct Answer:** C. "Avoid spicy and acidic foods."

🧠 **Rationale:** GERD is aggravated by acidic, fatty, and spicy foods. Patients should eat small meals, avoid lying down after eating, and raise the head of the bed.



UPPER VS. LOWER GI BLEED

Q3: A nurse is monitoring a patient with suspected upper GI bleeding. Which symptom would support this diagnosis?

- A. Bright red rectal bleeding
- B. Tarry, black stools (melena)
- C. Bloody vomit with clots
- D. Frank red blood in the stool

✓ **Correct Answer:** B. Tarry, black stools (melena)

🧠 **Rationale:** Melena indicates digested blood, typically from an upper GI source (esophagus, stomach, or duodenum). Bright red stool suggests a lower GI bleed.



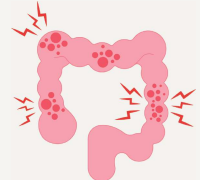
ULCERATIVE COLITIS VS. CROHN'S

Q4: A patient with ulcerative colitis is experiencing frequent bloody stools and cramping. What additional symptom is most consistent with this condition?

- A. Fatty, floating stools
- B. Right lower quadrant pain
- C. Continuous lesions in the colon
- D. Fistulas and skip lesions

✓ **Correct Answer:** C. Continuous lesions in the colon

🧠 **Rationale:** Ulcerative colitis affects the colon only, with continuous mucosal inflammation. Crohn's may involve the entire GI tract with skip lesions and fistulas.



BOWEL OBSTRUCTION – RED FLAG SIGNS

Q5: A nurse suspects a bowel obstruction in a patient with abdominal distension and vomiting. Which assessment finding requires immediate action?

- A. Hyperactive bowel sounds
- B. Reports of flatus
- C. High-pitched tinkling sounds
- D. Absent bowel sounds with firm, distended abdomen

✓ **Correct Answer:** D. Absent bowel sounds with firm, distended abdomen

🧠 **Rationale:** This indicates paralytic ileus or complete obstruction — a medical emergency. High-pitched sounds may occur early, but silent abdomen with distension suggests worsening.



Urinary System

URINARY TRACT INFECTION (UTI) IN OLDER ADULTS

Q1: Which symptom in an older adult may indicate a urinary tract infection (UTI)?

- A. Sudden-onset confusion
- B. Increased thirst
- C. Urinary retention
- D. High fever and chills

✓ **Correct Answer:** A. Sudden-onset confusion

🧠 **Rationale:** Acute confusion or delirium is often the first sign of UTI in older adults, even without typical symptoms like burning or fever. This is frequently tested on the NCLEX.



ACUTE GLOMERULONEPHRITIS (AGN) – PEDIATRIC SIGN

Q2: A child recovering from a streptococcal infection now has dark-colored urine and facial puffiness. What other symptom is expected?

- A. Increased urine output
- B. Low blood pressure
- C. Hematuria and periorbital edema
- D. Severe abdominal pain

✓ **Correct Answer:** C. Hematuria and periorbital edema

🧠 **Rationale:** AGN commonly follows strep throat and presents with cola-colored urine, facial edema, hypertension, and reduced urine output.



URINARY OUTPUT – RED FLAG IN POST-OP PATIENT

Q3: A post-op patient has a urinary output of 20 mL/hr for 3 hours. What is the nurse's priority action?

- A. Document the finding and reassess in 4 hours
- B. Elevate the patient's legs to improve circulation
- C. Notify the healthcare provider immediately
- D. Encourage fluid intake and ambulation

✓ **Correct Answer:** C. Notify the healthcare provider immediately

🧠 **Rationale:** Urine output <30 mL/hr is a sign of possible acute kidney injury (AKI) or hypoperfusion. This is an NCLEX red flag requiring prompt provider notification.



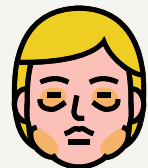
NEPHROTIC SYNDROME – CLASSIC FEATURES

Q4: Which finding is most characteristic of nephrotic syndrome in a pediatric patient?

- A. Dry skin and sunken eyes
- B. Facial edema, proteinuria, and frothy urine
- C. Severe abdominal pain and bloody stools
- D. Polyuria with fruity breath odor

✓ **Correct Answer:** B. Facial edema, proteinuria, and frothy urine

🧠 **Rationale:** Nephrotic syndrome presents with massive protein loss, leading to edema (especially periorbital), frothy urine, hypoalbuminemia, and hyperlipidemia.



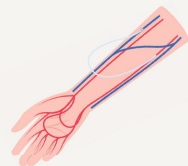
HEMODIALYSIS – RED FLAG ASSESSMENT

Q5: Which finding in a patient undergoing hemodialysis requires immediate intervention?

- A. Dry skin and fatigue
- B. Palpable thrill at the AV fistula site
- C. Absence of bruit or thrill in AV fistula
- D. Mild hypotension post-treatment

✓ **Correct Answer:** C. Absence of bruit or thrill in AV fistula

🧠 **Rationale:** The absence of a bruit or thrill suggests a clotted or non-functioning fistula, which is a medical emergency. A functioning AV fistula should have a palpable thrill and audible bruit.



Mental Health

SCHIZOPHRENIA – HALLUCINATIONS

Q1: A client with schizophrenia reports hearing voices telling them to harm themselves. What is the nurse's priority action?

- A. Ask what the voices are saying
- B. Tell the client the voices aren't real
- C. Place the client in seclusion immediately
- D. Redirect the client to a quiet activity

✓ **Correct Answer:** A. Ask what the voices are saying

🧠 **Rationale:** Always assess for command hallucinations, which can lead to self-harm or violence. Safety is the priority, and understanding the content is essential before planning the next step.



DEPRESSION – SUICIDE RISK

Q2: A client hospitalized with major depressive disorder says, "Everything would be better if I just disappeared." What is the most appropriate response?

- A. "You should think more positively."
- B. "Are you thinking of hurting yourself?"
- C. "Try to focus on your recovery."
- D. "That's not true — you're important to your family."

✓ **Correct Answer:** B. "Are you thinking of hurting yourself?"

🧠 **Rationale:** Always assess suicidal ideation directly using therapeutic communication. Asking about suicide does not increase risk — it helps identify danger and guide intervention.



MANIA – NURSING INTERVENTION

Q3: A patient in a manic episode is pacing, talking rapidly, and interrupting group activities. What is the nurse's best response?

- A. Ask the patient to sit quietly with the group
- B. Provide a quiet room and offer finger foods
- C. Confront the behavior in front of others
- D. Offer a sedative and remove the patient

✓ **Correct Answer:** B. Provide a quiet room and offer finger foods

🧠 **Rationale:** During mania, the patient needs low-stimulation, safety, and nutritional support. Finger foods are ideal due to restlessness. Avoid confrontation or group setting overload.



OCD – COMPULSIONS

Q4: A client with obsessive-compulsive disorder (OCD) repeatedly washes their hands and appears anxious. What is the most therapeutic approach?

- A. Encourage them to stop immediately
- B. Tell them their hands are already clean
- C. Allow time for the ritual, then gradually reduce it
- D. Ignore the behavior and change the subject

✓ **Correct Answer:** C. Allow time for the ritual, then gradually reduce it

🧠 **Rationale:** Rituals reduce anxiety in OCD. Do not stop them abruptly. Over time, support the patient in gradual reduction and alternative coping strategies.



ANOREXIA NERVOSA – PRIORITY FINDING

Q5: Which assessment finding in a client with anorexia nervosa requires immediate intervention?

- A. Mild hair thinning
- B. Bradycardia (HR 48 bpm)
- C. Preoccupation with food
- D. Cold hands and feet

✓ **Correct Answer:** B. Bradycardia (HR 48 bpm)

🧠 **Rationale:** Severe bradycardia is a life-threatening complication of anorexia due to malnutrition and cardiac muscle wasting. It may indicate the need for hospitalization or cardiac monitoring.



Maternity Nursing

FETAL HEART MONITORING – LATE DECELERATIONS

Q1: During labor, the fetal monitor shows recurrent late decelerations. What is the nurse's priority action?

- A. Turn the patient to the left side
- B. Check cervical dilation
- C. Encourage the patient to push harder
- D. Administer fundal pressure



✓ **Correct Answer:** A. Turn the patient to the left side

🧠 **Rationale:** Late decelerations suggest uteroplacental insufficiency. Priority interventions: reposition (left side), oxygen, stop Pitocin, increase IV fluids — all to improve placental perfusion.

FUNDAL ASSESSMENT – POSTPARTUM UTERUS

Q2: On postpartum day 1, where should the nurse expect the fundus to be located?

- A. Two fingers above the umbilicus
- B. Two fingers below the umbilicus
- C. Level with the umbilicus
- D. In the right lower quadrant



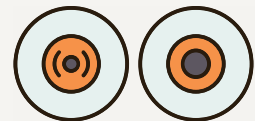
✓ **Correct Answer:** C. Level with the umbilicus

🧠 **Rationale:** Within the first 24 hours postpartum, the fundus is firm and at the umbilicus (U/O). It should descend ~1 fingerbreadth per day afterward. A deviated fundus suggests a full bladder.

TRUE VS. FALSE LABOR

Q3: Which characteristic indicates true labor?

- A. Contractions stop with rest or hydration
- B. Irregular contractions with no cervical change
- C. Contractions felt only in the abdomen
- D. Cervical dilation and effacement occur



✓ **Correct Answer:** D. Cervical dilation and effacement occur

🧠 **Rationale:** True labor is confirmed by progressive cervical changes. False labor (Braxton Hicks) has irregular contractions and no cervical dilation.

ECTOPIC PREGNANCY – RED FLAG

Q4: A patient at 8 weeks of gestation reports severe lower abdominal pain and shoulder tip pain. What is the nurse's immediate concern?

- A. Appendicitis
- B. Threatened miscarriage
- C. Ectopic pregnancy with rupture
- D. Round ligament pain



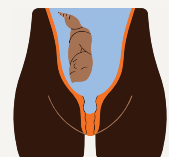
✓ **Correct Answer:** C. Ectopic pregnancy with rupture

🧠 **Rationale:** Sudden unilateral lower abdominal pain with referred shoulder pain may indicate a ruptured ectopic pregnancy — a life-threatening emergency due to internal bleeding.

AMNIOTIC FLUID ASSESSMENT – NORMAL FINDING

Q5: The nurse is performing an amniotic fluid assessment at term. Which finding indicates normal fluid characteristics?

- A. Green fluid with odor
- B. Clear fluid with white flecks
- C. Thick, brownish fluid
- D. Yellow, sticky fluid



✓ **Correct Answer:** B. Clear fluid with white flecks

🧠 **Rationale:** Normal amniotic fluid is clear to slightly cloudy with white flecks (vernix). Green or brown fluid may indicate meconium — a sign of fetal distress. Odor suggests infection.

Medical-Surgical

STROKE (CVA) – EARLY PRIORITY ASSESSMENT

Q1: A patient arrives in the emergency department with slurred speech and right-sided weakness. What is the nurse's priority action?

- A. Assess the client's blood glucose
- B. Perform a complete neurological exam
- C. Prepare the patient for a CT scan
- D. Administer oxygen via nasal cannula



✓ **Correct Answer:** A. Assess the client's blood glucose

🧠 **Rationale:** Hypoglycemia can mimic stroke symptoms, and it must be ruled out immediately before assuming stroke. It's fast, reversible, and critical to identify early.

POSTOPERATIVE COMPLICATION – PULMONARY EMBOLISM

Q2: A patient who had hip surgery 2 days ago suddenly reports dyspnea, chest pain, and restlessness. What should the nurse do first?

- A. Encourage coughing and deep breathing
- B. Elevate the lower extremities
- C. Place the patient in high Fowler's position and apply oxygen
- D. Offer reassurance and monitor oxygen saturation



✓ **Correct Answer:** C. Place the patient in high Fowler's position and apply oxygen

🧠 **Rationale:** These are classic signs of a pulmonary embolism (PE). Oxygen and positioning are immediate priorities while alerting the provider and preparing for diagnostics.

POSTOPERATIVE ASSESSMENT – RED FLAG

Q3: A nurse is caring for a patient 12 hours after abdominal surgery. Which finding requires immediate intervention?

- A. Absent bowel sounds
- B. Temperature of 37.6°C (99.6°F)
- C. Pain at the incision site
- D. Firm, distended abdomen with no flatus



✓ **Correct Answer:** D. Firm, distended abdomen with no flatus

🧠 **Rationale:** This could indicate paralytic ileus or bowel obstruction, a serious post-op complication. Absence of flatus, distension, and pain together are red flags.

GI BLEED – PRIORITIZATION

Q4: A patient with upper GI bleeding reports dizziness and has a BP of 84/50 mmHg. What is the nurse's priority?

- A. Insert a Foley catheter to monitor output
- B. Prepare for endoscopy
- C. Start a large-bore IV for fluids
- D. Apply oxygen and place the client in semi-Fowler's position



✓ **Correct Answer:** C. Start a large-bore IV for fluids

🧠 **Rationale:** Signs of hypovolemic shock require fluid resuscitation immediately. Starting a large-bore IV ensures access for rapid fluid/blood administration. ABCs + circulation.

CHRONIC KIDNEY DISEASE – DIETARY EDUCATION

Q5: A patient with chronic kidney disease (CKD) asks about diet. Which food should the nurse recommend the patient avoid?

- A. White rice
- B. Apples
- C. Baked salmon
- D. Canned tomato soup



✓ **Correct Answer:** D. Canned tomato soup

🧠 **Rationale:** CKD patients must limit sodium, potassium, and phosphorus. Canned foods are high in sodium and potassium and should be avoided. Salmon has phosphorus, but may be allowed in moderation.

Hematology

IRON-DEFICIENCY ANEMIA – CLINICAL SIGNS

Q1: Which finding is most likely in a client with iron-deficiency anemia?

- A. Ruddy complexion and facial flushing
- B. Pale skin, fatigue, and spoon-shaped nails
- C. Petechiae on the chest and arms
- D. Enlarged spleen and night sweats

✓ **Correct Answer:** B. Pale skin, fatigue, and spoon-shaped nails

🧠 **Rationale:** Iron-deficiency anemia presents with pallor, fatigue, brittle hair, glossitis, and koilonychia (spoon-shaped nails). The other signs suggest different hematologic conditions.



SICKLE CELL CRISIS – IMMEDIATE PRIORITY

Q2: A client with sickle cell disease is admitted with severe leg pain and swelling. What is the nurse's first action?

- A. Encourage ambulation
- B. Apply warm compresses
- C. Start IV fluids and apply oxygen
- D. Administer aspirin and elevate the leg

✓ **Correct Answer:** C. Start IV fluids and apply oxygen

🧠 **Rationale:** A vaso-occlusive crisis causes pain and tissue ischemia. Hydration and oxygen help reduce sickling and restore perfusion — both are priority nursing actions.



THROMBOCYTOPENIA – RED FLAG SYMPTOM

Q3: Which assessment finding in a patient with thrombocytopenia should be reported immediately?

- A. Yellow sclera
- B. Bruising on the arms and legs
- C. Nosebleed that won't stop
- D. Low-grade fever

✓ **Correct Answer:** C. Nosebleed that won't stop

🧠 **Rationale:** Thrombocytopenia causes a bleeding risk. Uncontrolled bleeding (like epistaxis) is a red flag for critical platelet levels and may require transfusion or emergency care



NEUTROPENIA – INFECTION RISK

Q4: A client undergoing chemotherapy has a neutrophil count of 500/ μ L. Which nursing action is most appropriate?

- A. Place the client in droplet precautions
- B. Offer fresh fruit and salad to improve nutrition
- C. Limit visitors and place in protective isolation
- D. Insert a Foley catheter for accurate output

✓ **Correct Answer:** C. Limit visitors and place in protective isolation

🧠 **Rationale:** A neutrophil count $<1,000$ (neutropenia) increases infection risk. Protective isolation, no fresh flowers or raw food, and strict hygiene are essential. This is a major NCLEX concept.



HEMOPHILIA – ACTIVITY TEACHING

Q5: A child with hemophilia A wants to play sports. Which activity is most appropriate?

- A. Soccer
- B. Swimming
- C. Football
- D. Gymnastics

✓ **Correct Answer:** B. Swimming

🧠 **Rationale:** Children with bleeding disorders like hemophilia should avoid high-impact or contact sports. Swimming is a safe, low-impact option that promotes exercise with minimal trauma risk.



Neurological System

INCREASED INTRACRANIAL PRESSURE (ICP) – RED FLAG

Q1: A patient with a head injury begins to show widening pulse pressure, bradycardia, and irregular respirations. What should the nurse do first?

- A. Reassess in 15 minutes
- B. Elevate the head of the bed to 30 degrees
- C. Apply a warm blanket and monitor vitals
- D. Suction the airway and increase oxygen

✓ **Correct Answer:** B. Elevate the head of the bed to 30 degrees

🧠 **Rationale:** These are signs of Cushing's triad — a late and life-threatening sign of increased ICP. Elevating the head of the bed promotes venous drainage and reduces pressure.



STROKE – RIGHT HEMISPHERE EFFECTS

Q2: A patient with a right-sided stroke is at risk for which behavior?

- A. Aphasia and slow, cautious behavior
- B. Emotional lability and speech impairment
- C. Impulsive behavior and poor judgment
- D. Difficulty swallowing and dry mouth

✓ **Correct Answer:** C. Impulsive behavior and poor judgment

🧠 **Rationale:** Right hemisphere stroke affects perception, impulse control, and judgment. These patients often neglect the left side and may underestimate their deficits.



SEIZURE PRECAUTIONS – SAFETY FIRST

Q3: A nurse is caring for a patient with a seizure disorder. Which item is most important to have at the bedside?

- A. Oral suction device
- B. Restraints
- C. Padded tongue blade
- D. Ambu bag and nasal cannula

✓ **Correct Answer:** A. Oral suction device

🧠 **Rationale:** Suction helps clear secretions after a seizure to maintain the airway. Never place objects in the mouth during a seizure. Safety includes side rails up, padding, and positioning.



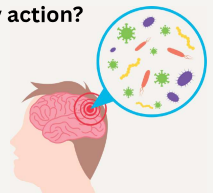
MENINGITIS – RED FLAG IN CHILDREN

Q4: A nurse assesses a 1-year-old with high fever, irritability, and a positive Brudzinski's sign. What is the priority action?

- A. Encourage fluid intake
- B. Place in a dark, quiet room and monitor for seizures
- C. Apply cooling blanket and recheck temperature
- D. Obtain a stool sample for culture

✓ **Correct Answer:** B. Place in a dark, quiet room and monitor for seizures

🧠 **Rationale:** Meningitis causes meningeal irritation, photophobia, and seizure risk. A positive Brudzinski's sign indicates this. Quiet environment and seizure precautions are critical.



SPINAL CORD INJURY – AUTONOMIC DYSREFLEXIA

Q5: A patient with a spinal cord injury at T4 complains of a pounding headache, flushed face, and nasal congestion. What should the nurse do first?

- A. Notify the healthcare provider immediately
- B. Raise the head of the bed and check for bladder distension
- C. Administer acetaminophen for headache
- D. Lower the head of the bed and assess BP

✓ **Correct Answer:** B. Raise the head of the bed and check for bladder distension

🧠 **Rationale:** This is classic autonomic dysreflexia, a life-threatening condition caused by a noxious stimulus (often a full bladder or impacted bowel). Sit the patient up and relieve the cause immediately.



Musculoskeletal System

COMPARTMENT SYNDROME – RED FLAG

Q1: A nurse is assessing a patient with a newly applied long leg cast. Which finding indicates compartment syndrome and requires immediate action?

- A. Swelling and bruising around the cast
- B. Pain relieved by elevation
- C. Dull, aching pain at rest
- D. Severe pain unrelieved by opioids and tingling in the foot

✓ **Correct Answer:** D. Severe pain unrelieved by opioids and tingling in the foot

🧠 **Rationale:** Unrelieved pain, paresthesia, pallor, and pulselessness are signs of compartment syndrome, a surgical emergency. Early detection is critical to prevent permanent damage.



FRACTURE – CAST CARE TEACHING

Q2: Which teaching point is most important for a patient with a new arm cast?

- A. "Insert a pen cap to scratch itches inside the cast."
- B. "Keep the cast covered with plastic when showering."
- C. "Apply lotion to dry skin under the cast."
- D. "Elevate the arm above the heart for the first 24 hours."

✓ **Correct Answer:** D. "Elevate the arm above the heart for the first 24 hours."

🧠 **Rationale:** Elevation reduces swelling and compartment syndrome risk. Never insert objects inside the cast. Covering with plastic is okay during showers, but ensure the cast stays dry.



OSTEOARTHRITIS VS. RHEUMATOID ARTHRITIS

Q3: Which assessment finding is most typical of osteoarthritis rather than rheumatoid arthritis?

- A. Joint stiffness improves with use
- B. Symmetrical joint swelling in fingers
- C. Fatigue and low-grade fever
- D. Systemic inflammation with morning stiffness

✓ **Correct Answer:** A. Joint stiffness improves with use

🧠 **Rationale:** In osteoarthritis, stiffness is usually worse in the morning but improves with movement. RA causes symmetrical joint swelling, systemic inflammation, and fatigue.



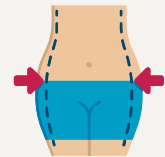
HIP REPLACEMENT – POST-OP POSITIONING

Q4: A nurse is caring for a patient who had a total hip replacement. Which position should be avoided to prevent dislocation?

- A. Supine with legs slightly abducted
- B. Sitting in a high chair with knees lower than hips
- C. Side-lying with pillow between legs
- D. Hip flexion greater than 90 degrees

✓ **Correct Answer:** D. Hip flexion greater than 90 degrees

🧠 **Rationale:** After a total hip arthroplasty, avoid hip flexion >90°, internal rotation, and adduction to prevent dislocation. Keep legs abducted with a pillow or wedge.



SCOLIOSIS SCREENING – KEY SIGN

Q5: During a school scoliosis screening, which finding would prompt referral for further evaluation?

- A. Equal shoulder height
- B. Straight spine when bending forward
- C. Uneven scapulae and rib hump when bending
- D. Lordosis while standing straight

✓ **Correct Answer:** C. Uneven scapulae and rib hump when bending

🧠 **Rationale:** A rib hump or uneven shoulders/scapulae during the Adam's forward bend test is a hallmark sign of scoliosis. Referral for orthopedic evaluation is indicated.



Critical Care Nursing

SHOCK – EARLY WARNING SIGN

Q1: A post-op patient suddenly becomes restless, pale, and has a BP of 92/56 mmHg. Which action should the nurse take first?

- A. Recheck the vital signs in 15 minutes
- B. Notify the provider of abnormal results
- C. Increase the IV fluid rate as ordered
- D. Assess for signs of bleeding or fluid loss

✓ **Correct Answer:** D. Assess for signs of bleeding or fluid loss

🧠 **Rationale:** Restlessness and hypotension may indicate early hypovolemic shock. Identifying and stopping the cause (e.g., internal bleeding) is the top priority before interventions.



MECHANICAL VENTILATION – ALARM RESPONSE

Q2: A ventilator's high-pressure alarm goes off. What should the nurse do first?

- A. Silence the alarm and continue care
- B. Reconnect the ventilator tubing
- C. Suction the airway for secretions
- D. Check for kinks or biting on the tube

✓ **Correct Answer:** D. Check for kinks or biting on the tube

🧠 **Rationale:** High-pressure alarms signal increased airway resistance — often due to kinks, secretions, coughing, or tube biting. Always assess the tubing and patient before suctioning.



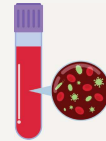
SEPSIS – EARLY IDENTIFICATION

Q3: Which finding in a patient with pneumonia suggests possible sepsis?

- A. BP 130/80 mmHg, HR 88 bpm
- B. Temperature 37.8°C (100°F) and fatigue
- C. Confusion, RR 28, and urine output 20 mL/hr
- D. Productive cough with green sputum

✓ **Correct Answer:** C. Confusion, RR 28, and urine output 20 mL/hr

🧠 **Rationale:** These are signs of organ dysfunction (altered mental status, tachypnea, oliguria) consistent with sepsis. Early detection and rapid intervention are life-saving.



CHEST TUBE – RED FLAG ASSESSMENT

Q4: A nurse is caring for a patient with a chest tube. Which finding requires immediate intervention?

- A. Gentle bubbling in the suction control chamber
- B. Drainage of 90 mL in 4 hours
- C. Absence of tidaling in the water seal chamber
- D. Serosanguinous drainage at the insertion site

✓ **Correct Answer:** C. Absence of tidaling in the water seal chamber

🧠 **Rationale:** No tidaling may indicate the tube is kinked, clamped, or blocked, or the lung has re-expanded. It must be assessed immediately to prevent complications like tension pneumothorax.



ICP MONITORING – POST-TBI

Q5: A patient with a traumatic brain injury (TBI) has an intracranial pressure (ICP) of 22 mmHg. What is the nurse's priority action?

- A. Keep the patient flat to reduce brain ischemia
- B. Turn the patient to the right side every hour
- C. Elevate the head of the bed to 30 degrees
- D. Administer a cold compress to the forehead

✓ **Correct Answer:** C. Elevate the head of the bed to 30 degrees

🧠 **Rationale:** Normal ICP is <15 mmHg. Elevated ICP requires head elevation, neutral neck alignment, and minimal stimulation. A 30° HOB is standard to improve venous drainage.



Arterial Blood Gases (ABGs)

RESPIRATORY ACIDOSIS – COMMON CAUSE

Q1: A client has the following ABG:

pH 7.30, PaCO₂ 55 mmHg, HCO₃ 24 mEq/L.

Which condition is most likely the cause?

- A. Prolonged vomiting
- B. Severe diarrhea
- C. Narcotic overdose with hypoventilation
- D. Hyperventilation during a panic attack

✓ **Correct Answer:** C. Narcotic overdose with hypoventilation

🧠 **Rationale:** The ABG shows respiratory acidosis (low pH, high CO₂). Narcotics depress the respiratory center, causing CO₂ retention and hypoventilation.



ABG NORMAL RANGES – IDENTIFICATION

Q2: Which ABG result reflects a normal acid-base balance?

- A. pH 7.28, PaCO₂ 48, HCO₃ 25
- B. pH 7.38, PaCO₂ 40, HCO₃ 24
- C. pH 7.45, PaCO₂ 30, HCO₃ 18
- D. pH 7.52, PaCO₂ 28, HCO₃ 25

✓ **Correct Answer:** B. pH 7.38, PaCO₂ 40, HCO₃ 24

🧠 **Rationale:** This ABG reflects normal values:

- pH: 7.35–7.45
- PaCO₂: 35–45 mmHg
- HCO₃: 22–26 mEq/L



METABOLIC ALKALOSIS – CLINICAL TRIGGER

Q3: Which condition is most likely to lead to metabolic alkalosis?

- A. Diabetic ketoacidosis
- B. Hyperventilation
- C. Prolonged vomiting or nasogastric suction
- D. Severe burns with fluid loss

✓ **Correct Answer:** C. Prolonged vomiting or nasogastric suction

🧠 **Rationale:** Loss of acidic gastric contents leads to alkalosis. NG suction and persistent vomiting cause increased bicarbonate retention and elevated pH.



ABG COMPENSATION

Q4: A patient has the following ABG:

pH 7.36, PaCO₂ 50 mmHg, HCO₃ 29 mEq/L

How should the nurse interpret this?

- A. Fully compensated respiratory acidosis
- B. Uncompensated metabolic acidosis
- C. Fully compensated metabolic alkalosis
- D. Partially compensated respiratory alkalosis

✓ **Correct Answer:** A. Fully compensated respiratory acidosis

🧠 **Rationale:** The pH is normal but on the acidic side, with high CO₂ and high HCO₃ — indicating the kidneys have compensated for a respiratory problem.



PRIORITIZATION – CRITICAL ABG VALUE

Q5: A patient's ABG is:

pH 7.12, PaCO₂ 60 mmHg, HCO₃ 23 mEq/L

Which nursing action is the priority?

- A. Encourage the patient to drink fluids
- B. Prepare for intubation and ventilatory support
- C. Recheck ABGs in one hour
- D. Monitor urinary output

✓ **Correct Answer:** B. Prepare for intubation and ventilatory support

🧠 **Rationale:** This is severe respiratory acidosis (low pH, very high CO₂). The patient may be in respiratory failure and needs immediate airway support.



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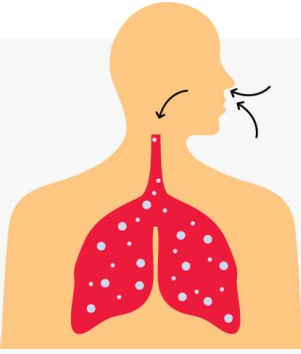
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ABCs



A Airway

PURPOSE

The first priority is to keep the airway open and unobstructed to allow oxygen to reach the lungs.

POSSIBLE PROBLEMS:

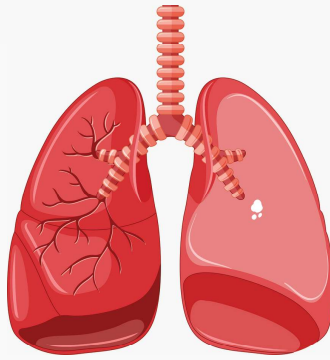
- Tongue obstruction
- Choking on a foreign object
- Swelling (e.g., from anaphylaxis)
- Blockage by secretions or vomit

SIGNS & SYMPTOMS (S&S)

- Inability to speak or cry
- Stridor (high-pitched breathing sound)
- Gurgling or choking sounds
- Cyanosis (blue lips, face)

TREATMENT/INTERVENTIONS

- Perform head-tilt, chin-lift or jaw-thrust maneuver
- Suction secretions or remove visible obstructions
- Administer oxygen if needed
- Call rapid response or initiate emergency code if airway is compromised



B Breathing

PURPOSE

Ensure the patient is effectively ventilating and oxygenating

POSSIBLE PROBLEMS:

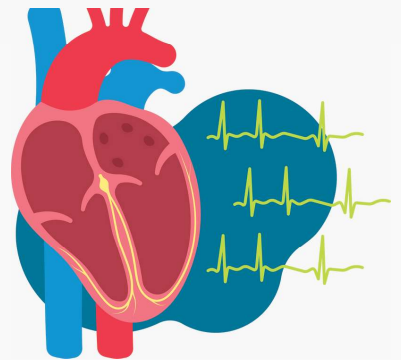
- Asthma, COPD exacerbation
- Pneumonia
- Pulmonary embolism
- Chest trauma

SIGNS & SYMPTOMS (S&S)

- Abnormal respiratory rate
- Use of accessory muscles
- Cyanosis
- Shortness of breath

TREATMENT/INTERVENTIONS

- Administer oxygen via nasal cannula, mask, or non-rebreather
- Encourage coughing or deep breathing
- Position patient upright (high Fowler's) to aid lung expansion
- Prepare for assisted ventilation if needed



C Circulation

PURPOSE

Ensure blood is circulating effectively to deliver oxygen and nutrients to organs

POSSIBLE PROBLEMS:

- Hypovolemia
- Shock
- Arrhythmias (irregular heartbeats)
- Myocardial infarction
- Cardiac arrest

SIGNS & SYMPTOMS (S&S)

- Weak or absent pulse
- Pale, cool, or clammy skin
- Dizziness or confusion
- Bleeding

TREATMENT/INTERVENTIONS

- Control bleeding (apply pressure or dress wounds)
- Start IV access and administer fluids (e.g., normal saline)
- Monitor heart rate, BP, and ECG
- Perform CPR and defibrillation if cardiac arrest occurs

Blood Transfusion

RECIPIENT BLOOD TYPES	DONOR BLOOD TYPES							
	O-	O+	B-	B+	A-	A+	AB-	AB+
	AB+							
	AB-							
	A+							
	A-							
	B+							
	B-							
	O+							
	O-							

	A	B	AB	O
Antigen	A	B	A & B	NONE
Antibodies	B	A	NONE	A & B
Recipient	A,O	B,O	ALL	O
Donor	A,AB	B,AB	AB	ALL



TYPES OF TRANSFUSION REACTIONS

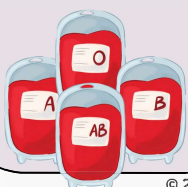


REACTION	SIGNS & SYMPTOMS	NURSING ACTIONS
Hemolytic	Fever, chills, back pain, hypotension, chest pain	Stop transfusion, notify provider, flush line
Febrile (non-hemolytic)	Fever, chills, headache	Stop transfusion, monitor, may restart per order
Allergic (mild)	Itching, rash, hives	Stop, give antihistamines, resume if ordered
Anaphylactic	Dyspnea, hypotension, anxiety, shock	Stop transfusion, call provider, epinephrine
Circulatory overload	Crackles, cough, dyspnea, distended neck veins	Slow rate, raise HOB, notify provider
Sepsis	Fever, chills, hypotension, shock	Stop transfusion, send bag to lab, cultures

✓ NURSING CONSIDERATIONS

- Verify patient ID and blood type with two licensed personnel.
- Ensure consent is obtained and documented.
- Use an 18–20 gauge IV for transfusion when possible.
- Use only 0.9% Normal Saline (NS) with blood (never dextrose or lactated Ringer's).
- Begin transfusion **slowly for the first 15 minutes** while monitoring closely.
- Stay with the patient for the first 15 minutes – most serious reactions occur early.
- Complete transfusion within 4 hours to prevent bacterial growth.
- Take and document vital signs: **Before starting**

15 minutes into the transfusion
Every hour
At completion



Colloids vs. Crystalloids

CRYSTALLOIDS

- **Definition:** Water-based IV fluids with **small** molecules (e.g., electrolytes, glucose) that easily pass through capillary membranes.
- **Particle Size:** Small
- **Distribution:** Rapidly distributes between intravascular and interstitial spaces.



- **Advantages:**
 - Inexpensive and easily accessible
 - Suitable for a wide range of conditions
- **Limitations:**
 - Large volumes may cause edema
 - Short-lived effect in the bloodstream (dilutes quickly into tissues)

- **Uses:**
 - Fluid resuscitation (e.g., dehydration, shock)
 - Electrolyte replacement
 - Short-term intravascular volume expansion



- **Examples:**
 - Isotonic: 0.9% Normal Saline (NS), Lactated Ringer's (LR), D5W
 - Hypotonic: 0.45% NS, 0.33% NS
 - Hypertonic: D5NS, D5LR, 3% NS, D10W

COLLOIDS

- **Definition:** IV fluids containing **large** molecules (e.g., proteins or starches) that remain in the intravascular space and exert oncotic pressure (pull water into vessels).
- **Particle Size:** Large
- **Distribution:** Stay primarily in the vascular space.



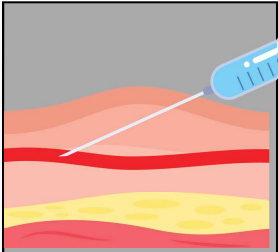
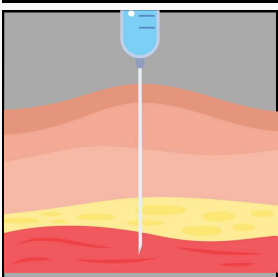
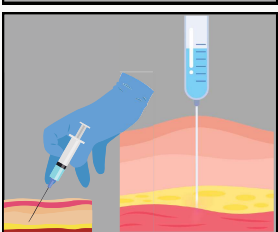
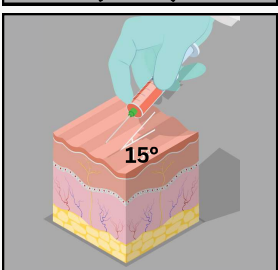
- **Advantages:**
 - Effective volume expanders – smaller volumes required
 - Remain in circulation longer than crystalloids
- **Limitations:**
 - More expensive than crystalloids
 - Risk of allergic reactions, coagulopathy, renal effects

- **Uses:**
 - Hypovolemia (especially with low albumin)
 - Burns, trauma, and surgery
 - Liver disease, severe blood loss
 - Blood transfusions (e.g., hemorrhage, anemia)



- **Examples:**
 - Albumin (5%, 25%)
 - Dextran, Hetastarch (Hespan)
 - Fresh Frozen Plasma (FFP)
 - Whole Blood
 - Packed Red Blood Cells (PRBCs)
 - Platelets
 - Cryoprecipitate

Parenteral Administration

 INTRAVENOUS (IV)	COMMON USES: • IV fluids • Medications • Blood transfusions • Contrast dye for imaging • Emergency access for medication	SITE SELECTION TIPS: • Best sites: dorsal hand, forearm, cephalic or basilic veins • Avoid: ◦ Areas of flexion (wrist, AC) ◦ Edema, bruising, infection ◦ Same side as mastectomy, dialysis fistula, or lymph node removal	INSERTION ANGLE: • 10–30° angle • Bevel up 
 INTRAMUSCULAR (IM)	COMMON USES: • Vaccines • Suspensions • Oil-Based Meds • Irritating meds	SITE SELECTION TIPS: • Deltoid (Max Volume: 1 mL) • Ventrogluteal (Max Volume: Up to 3 mL) • Vastus Lateralis (Max Volume: Up to 2) • If the volume exceeds the recommended maximum, consider: Splitting the dose into 2 injections 	INSERTION ANGLE: • 90° angle
 SUBCUTANEOUS (SUBQ)	COMMON USES: • Insulin • Heparin / Enoxaparin • Vaccines (e.g., MMR, varicella) • Hormones (e.g., GLP-1 agonists)	SITE SELECTION TIPS: • Outer upper arm • Abdomen (at least 2 inches away from the umbilicus) • Anterior thigh • Upper buttocks • Scapular area • Rotate sites to prevent lipodystrophy 	INSERTION ANGLE: • 45° or 90° angle
 INTRADERMAL (ID)	COMMON USES: • Tuberculosis (TB) screening (Mantoux test) • Allergy testing • Some local anesthetics	SITE SELECTION TIPS: • Inner forearm (most common) • Upper chest • Upper back (between scapulae)	INSERTION ANGLE: • 5° - 15° angle

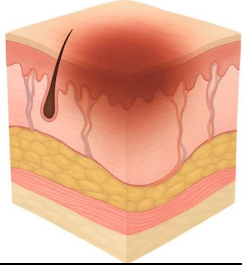
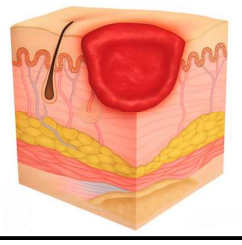
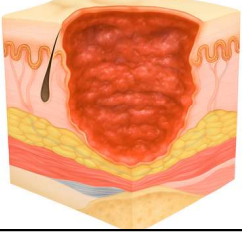
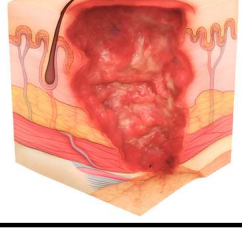
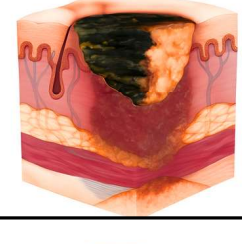
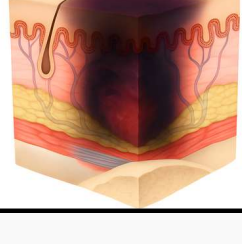
GAUGE	COLOR	USES	GAUGE	COLOR	USES
14	Orange	Trauma, massive fluid/blood resuscitation	20	Pink	Most common for general IV fluids and medications
16	Gray	Surgery, trauma, rapid infusions, blood transfusion	22	Blue	Elderly, small veins, antibiotics, maintenance fluids
18	Green	Blood products, anesthesia, large-volume fluids	24	Yellow	Pediatrics, neonates, extremely small or fragile veins



Pressure Ulcers (Pressure Injuries)

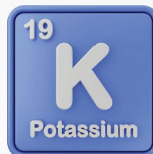
DEFINITION:

Pressure ulcers are localized injuries to the skin and/or underlying tissue resulting from prolonged pressure, usually over bony prominences. They may also involve shear and friction forces.

STAGE 1		- Intact skin with non-blanchable redness, usually over a bony prominence - May appear darker in individuals with dark skin (blanching may not be visible) - Area may feel painful, firm or soft, warmer or cooler than the surrounding tissue - Early detection can be difficult in patients with dark skin tones
STAGE 2		- Partial-thickness skin loss involving the dermis - Appears as a shallow, open ulcer with a red-pink wound bed - May also present as an intact or ruptured serum-filled blister - No sloughing or bruising is present - Not used to classify skin tears, tape burns, maceration, or excoriation
STAGE 3		- Full-thickness skin loss with visible subcutaneous fat - Bone, tendon, or muscle is not exposed - Slough may be present, but does not obscure depth - May involve undermining or tunneling - Shallow over areas with little fat (e.g., nose, ears) - Deep in areas with more adipose tissue (e.g., buttocks)
STAGE 4		- Full-thickness tissue loss with exposed bone, tendon, or muscle - Slough or eschar may be present, but does not obscure depth - Commonly involves undermining and tunneling - Depth varies by location: shallow in areas without subcutaneous tissue (e.g., nose, ear), deeper in areas with more soft tissue - May extend into muscle or joint structures, increasing the risk of osteomyelitis (bone infection)
UNSTAGEABLE		- Full-thickness tissue loss, but the wound base is obscured by slough (yellow, tan, green, brown) or eschar (tan, brown, black) - Depth and stage cannot be determined until the slough/eschar is removed - Stable eschar (dry, intact, no redness or drainage) on the heels should not be removed, as it acts as the body's natural protective barrier
DEEP TISSUE INJURY (DTI)		- Appears as a purple or maroon area of discolored intact skin or a blood-filled blister - Caused by damage to deep soft tissue from pressure and/or shear - May feel painful, boggy, firm, warm, or cool compared to nearby skin - It can be difficult to detect in dark skin tones - May progress to a thin blister or develop thin eschar as it evolves

Hyperkalemia vs Hypokalemia

Hyperkalemia >5 mEq/L



Hypokalemia <3.5 mEq/L

Causes:

- Renal failure
- Potassium-sparing diuretics (spironolactone)
- ACE inhibitors
- Cell lysis (trauma, burns, tumor lysis)
- Acidosis

Causes:

- Diuretics (loop/thiazide)
- Vomiting, diarrhea
- NG suctioning
- Excess insulin
- Poor intake or malnutrition

Signs & Symptoms:

- **"MURDER"** mnemonic:
- **M**uscle weakness
- **U**rine output ↓
- **R**espiratory distress
- **D**ecreased cardiac contractility
- **E**CG changes (peaked T, widened QRS)
- **R**eflexes ↓ or absent

"Tight and Contracted"
When potassium is high, everything becomes overstimulated and then crashes



Signs & Symptoms:

- Muscle cramps, weakness, paralysis
- Fatigue
- Constipation, ileus
- Weak, irregular pulse
- Flat T waves, U waves on ECG

"Low and Slow"
When potassium is low, everything slows down:



Nursing Considerations:

- Monitor ECG continuously
- Calcium gluconate (protects the heart)
- Insulin + glucose (pushes K⁺ into cells)
- Kayexalate (removes K⁺ via stool)
- Dialysis (if severe and unresponsive)
- Avoid salt substitutes (they contain potassium)

Nursing Considerations:

- Monitor ECG & respiratory function
- Replace potassium orally or IV (**never IV push!**)
- Encourage potassium-rich foods (bananas, potatoes, oranges)
- Monitor magnesium—often low together

Quick Tip:

- Never give a potassium IV push or IM → it can cause fatal arrhythmias
- If you see peaked T waves, act fast → protect the heart and lower K⁺
- Muscles, nerves, and the heart become overexcited, then crash → arrhythmias, paralysis



Quick Tip:

- Give K⁺ slowly via an infusion pump
- Encourage potassium-rich foods: bananas, spinach, potatoes, oranges

REMEMBER:

- **B-A-N-A-N-A** = BRADYCARDIA, ABSENT BOWEL SOUNDS, NAUSEA, ALTERED MENTAL STATUS, NUMBNESS AND ARRHYTHMIAS.

Diabetes

Diabetes Mellitus is a chronic metabolic disorder characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. It affects carbohydrate, fat, and protein metabolism.

Expected Range

Glucose test: 70 - 110 mg/dL

HBA1C : < 5.7%

Type	Description	Onset	Characteristics
	Autoimmune destruction of pancreatic β -cells $\rightarrow$ absolute insulin deficiency	Usually <30 yrs	Rapid onset, requires lifelong insulin
	Insulin resistance + relative insulin deficiency	Usually >40 yrs	Gradual onset, often linked to obesity
 Gestational DM	Glucose intolerance during pregnancy	2nd/3rd trimester	Risk to fetus; may resolve postpartum

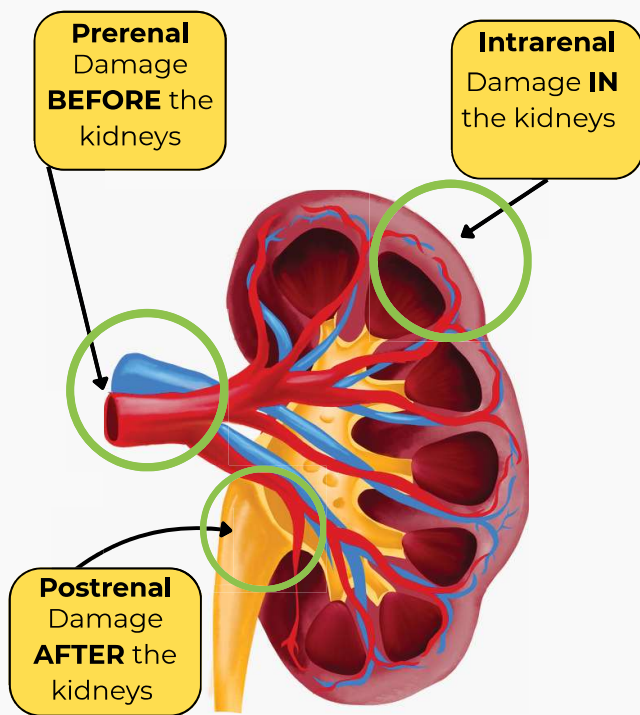
Signs & Symptoms			
	 Polyphagia Cells are "starving" because glucose can't enter without insulin (esp. in Type 1 DM)	 Polydipsia Dehydration from fluid loss due to polyuria	 Polyuria Osmotic diuresis caused by high blood glucose pulling water into the urine

Treatment

Type 1 Diabetes	Type 2 Diabetes	Gestational Diabetes
Requires lifelong insulin therapy 	Lifestyle Modifications (First Line) - Weight reduction - Regular aerobic + resistance exercise - Balanced, low glycemic index diet - Smoking cessation and alcohol moderation Oral and Non-Insulin Injectables Possibly Insulin 	- Diet and exercise (first line) - Insulin if needed (safe during pregnancy)

Acute Kidney Injury (AKI)

Acute Kidney Injury (AKI) is a **sudden decline in kidney function** resulting in the **accumulation of waste products, fluid imbalance, and electrolyte disturbances**. It develops **within hours to days** and is often **reversible** with prompt treatment.



Causes – 3 Categories:

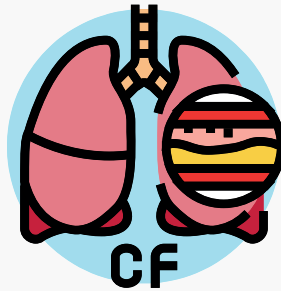
	Definition	Examples
Prerenal failure	Decreased blood flow to kidneys	Hypovolemia, shock, sepsis, heart failure, dehydration
Intrarenal failure	Direct damage to kidney tissue	Nephrotoxic drugs, acute tubular necrosis, glomerulonephritis
Postrenal failure	Obstruction of urine flow	Kidney stones, enlarged prostate (BPH), tumors, strictures

Phases of AKI

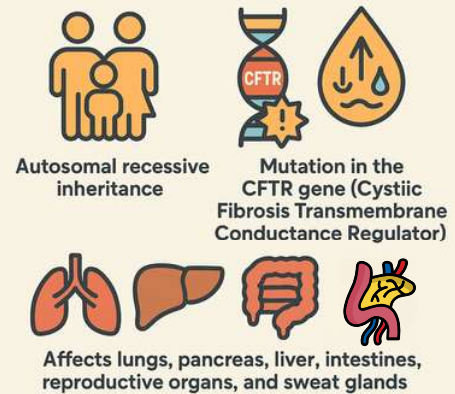
Phase	Description	Treatment
Initiation	Kidney insult occurs; early signs may be subtle	- Identify and treat the underlying cause (e.g., infection, hypovolemia) - Maintain adequate perfusion and BP - Avoid nephrotoxic agents (e.g., NSAIDs, contrast dye)
Oliguric	Urine output drops; ↑ BUN/creatinine; fluid overload; acidosis may be subtle.	- Fluid restriction to prevent overload - Monitor electrolytes, especially K⁺ - Administer diuretics (e.g., furosemide, if responsive) - Manage hyperkalemia (e.g., insulin + glucose) - Consider dialysis if complications arise
Diuretic	Gradual ↑ in urine output; risk of dehydration, electrolyte loss	- Monitor for signs of dehydration - Replace fluids carefully - Monitor and correct electrolyte imbalances (e.g., hypokalemia, hyponatremia) - Maintain I&O and daily weights
Recovery	Gradual normalization of kidney function	- Monitor renal labs (BUN, creatinine, GFR) - Reinforce fluid and dietary management - Educate the patient to avoid nephrotoxic substances - Gradually reintroduce medications as kidney function improves

Cystic Fibrosis (CF)

- Cystic fibrosis is a genetic disorder affecting the exocrine glands, leading to the production of thick, sticky mucus that obstructs the respiratory, digestive, and reproductive tracts.



Etiology & Pathophysiology



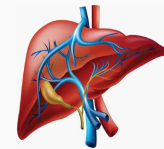
SIGNS & SYMPTOMS



- Chronic cough with thick mucus
- Recurrent respiratory infections
- Wheezing, dyspnea, and SOB
- Nasal polyps and chronic sinusitis
- Clubbing of fingers (chronic hypoxia)



- Blocked pancreatic ducts → Enzymes cannot reach the intestines
- Malabsorption of nutrients
- Failure to thrive and poor weight gain
- Pancreatitis (recurrent or chronic)
- Increased risk of Type 1 or CF-related diabetes (CFRD)



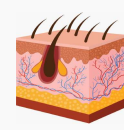
- Thick bile blocks bile ducts → biliary cirrhosis
- Hepatomegaly (enlarged liver)
- Jaundice
- Elevated liver enzymes
- Portal hypertension (in advanced cases)



- Meconium ileus (in neonates) → bowel obstruction at birth
- Distended abdomen, constipation
- Intussusception or rectal prolapse (due to increased intra-abdominal pressure)
- Risk of intestinal obstruction



- Males:** 95% are infertile due to congenital bilateral absence of the vas deferens (CBAVD)
- Females:** thick cervical mucus may hinder sperm penetration → subfertility



- Salty-tasting skin (due to excess chloride in sweat)
- Risk of hyponatremic dehydration in hot weather or during illness
- Electrolyte imbalances (**↓ sodium, chloride, potassium**)

NURSING CONSIDERATIONS

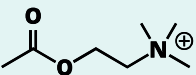
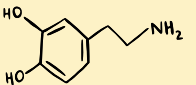
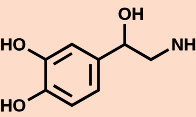
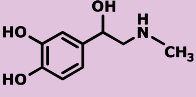
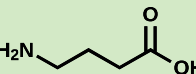
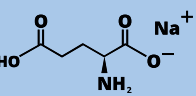
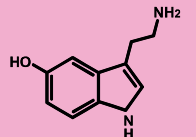
- Encourage physical activity to support airway clearance and overall health
- Monitor respiratory status: auscultate lungs, O₂ sats
- Monitor for signs of infection or respiratory distress
- Administer prescribed enzymes with all meals and snacks
- Monitor growth and weight gain
- Provide emotional and psychosocial support
- Educate the family about infection control at home

DIAGNOSTICS

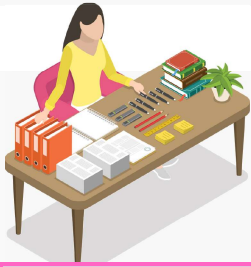
- Newborn screening (immunoreactive trypsinogen)
- Sweat chloride test (**gold standard**): ≥60 mmol/L is diagnostic
- Genetic testing (for CFTR mutations)
- Chest X-ray, pulmonary function tests (PFTs)
- Stool fat analysis



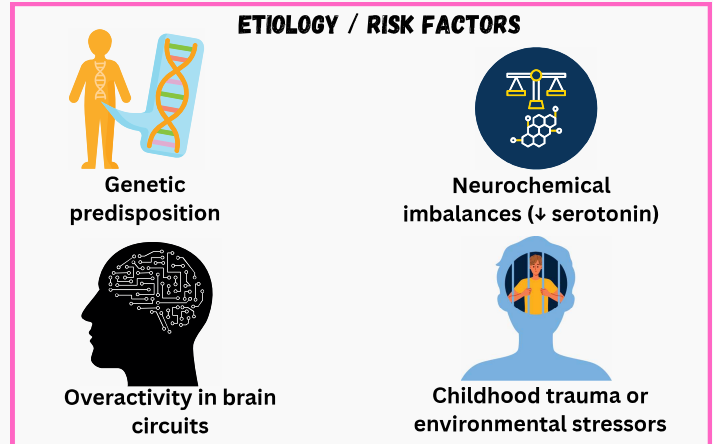
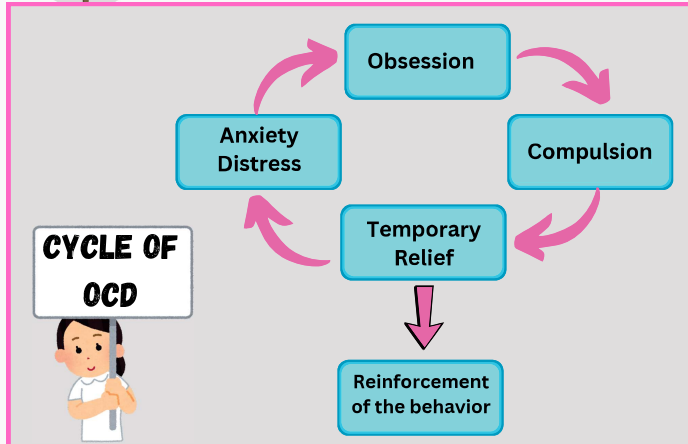
Neurotransmitters in Mental Health

	FUNCTION	LOW LEVELS	HIGH LEVELS	ASSOCIATED DISORDERS
 Acetylcholine (ACh)	• Memory • Learning • Muscle contraction	• Memory loss • Cognitive decline	• Muscle cramps • Depressed mood	• Alzheimer's disease • Dementia
 Dopamine	• Mood • Reward/pleasure • Motor control • Attention	• Depression • Parkinson's disease • Anhedonia	• Schizophrenia • Mania • Hallucinations • Delusions	• Schizophrenia • Parkinson's • Addiction • Bipolar disorder
 Norepinephrine	• Alertness • Mood regulation • Attention	• Fatigue • Depression • Poor concentration	• Anxiety • Mania • Hypertension	• Depression • Anxiety disorders • PTSD
 Epinephrine (Adrenaline)	• Fight-or-flight • Heart rate • Vasoconstriction	• Fatigue • Poor stress response	• Anxiety • Panic • Hypertension	• Panic disorder • PTSD
 GABA	• Reduces neuronal excitability • Promotes calmness	• Anxiety • Seizures • Insomnia	• Excessive sedation • Slowed cognition	• Anxiety disorders • Seizures • Panic attacks
 Glutamate	• Learning • Memory • Neuronal plasticity	• Poor cognition • Fatigue	• Neurotoxicity • Excitotoxicity • Seizures	• Alzheimer's • Stroke • Epilepsy • Schizophrenia
 Serotonin	• Mood • Appetite • Sleep • Pain perception	• Depression • Anxiety • Insomnia	• Serotonin syndrome • Agitation	• Depression • OCD • Anxiety • Eating disorders

Obsessive-compulsive Disorder (OCD)



- Obsessive-Compulsive Disorder (OCD) is a chronic anxiety disorder characterized by the presence of:
- **Obsessions:** Recurrent, intrusive, unwanted thoughts, urges, or images that cause distress
- **Compulsions:** Repetitive behaviors or mental acts performed to reduce anxiety or prevent a feared outcome



COMMON OBSESSIONS & COMPULSIONS

• Fear of contamination • Excessive handwashing, cleaning	• Fear of harm occurring (to self or others) • Checking locks, appliances repeatedly	• Intrusive sexual or violent thoughts • Mental rituals (e.g., repeating phrases)	• Need for symmetry or order • Arranging items "just right"	• Fear of making mistakes • Re-reading or re-writing repeatedly
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NURSING INTERVENTIONS

- Use calm, nonjudgmental therapeutic communication.
- Do not abruptly stop compulsions — this may increase anxiety.
- Encourage participation in Cognitive Behavioral Therapy (CBT), especially **Exposure and Response Prevention (ERP)**: expose the client to the fear trigger without allowing the compulsion.
- Educate the client on coping strategies and stress management.
- Reinforce medication adherence (e.g., SSRIs such as fluoxetine or fluvoxamine).
- Promote routine and structure to reduce unpredictability.
- Assess for functional impact (e.g., "Is OCD interfering with work, school, or hygiene?")

MEDICATIONS

- **SSRIs** (First-line treatment): Fluoxetine, Fluvoxamine, Sertraline
- **TCA** (2nd-line): Clomipramine
- **Antipsychotics** (Adjunct): Risperidone



NCLEX TIP

- For OCD, prioritize interventions that gradually reduce compulsions (e.g., **CBT with ERP**), not those that reinforce avoidance or stop rituals abruptly.



Pharmacokinetics: ADME

- Pharmacokinetics is the study of how the body affects a drug after administration — essentially, what the body does to the drug. It involves four key processes, remembered by the acronym **ADME**.

A

A – ABSORPTION

FACTORS AFFECTING ABSORPTION



- The process by which a drug moves from its site of administration into the bloodstream.

- Route:** IV (immediate), oral (slower, affected by GI motility and pH)
- Formulation:** Liquid > tablet > enteric-coated (**slowest**)
- Gastrointestinal pH:** Some drugs require an acidic environment for absorption (e.g., calcium carbonate), while others may be impaired by acid-reducing agents (e.g., proton pump inhibitors).
- Presence of food:** May delay or enhance absorption
- Blood flow to the site**
- NCLEX Tip:** Enteric-coated meds should not be crushed. Some drugs (e.g., **levothyroxine**) must be taken on an empty stomach for proper absorption.

D

D – DISTRIBUTION

INFLUENCING FACTORS

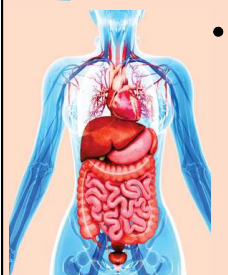


- Movement of the drug from the bloodstream into tissues and organs.

- Blood flow:** Highly perfused organs (such as the heart, kidneys, and brain) receive more drug initially.
- Protein binding:** Drugs bind to plasma proteins (e.g., albumin); only the free (unbound) drug is active.
- Barriers:** Blood-brain barrier (only lipid-soluble drugs cross easily), placental barrier
- NCLEX Tip:** In hypoalbuminemia (e.g., liver disease), more free drug circulates → **↑ toxicity risk**.

M

M – METABOLISM

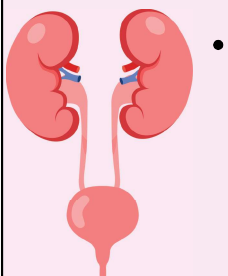


- Chemical alteration of the drug, usually in the liver, into more water-soluble compounds for excretion.

- Main site:** Liver (via the cytochrome P450 enzyme system)
- First-pass effect:** Oral drugs may be largely inactivated during the first liver pass before reaching circulation.
- Geriatric consideration:** In older adults, decreased liver metabolism may require lower dosages to avoid drug accumulation and toxicity
- NCLEX Tip:** Liver dysfunction = **↓ metabolism** → **drug accumulation**. Monitor LFTs (e.g., ALT, AST).

E

E – EXCRETION



- Removal of the drug and its metabolites from the body.

- Primary organ:** Kidneys
- Other routes:** Bile, lungs (anesthetics), sweat, saliva, breast milk
- Key consideration:** Renal impairment (especially in older adults) can reduce drug clearance. Always assess kidney function using estimated GFR (eGFR), as creatinine levels alone may not accurately reflect renal clearance, especially in elderly patients.
- NCLEX Tip:** Monitor creatinine and GFR before administering nephrotoxic drugs (e.g., aminoglycosides, vancomycin).

Quick Mnemonic Tip

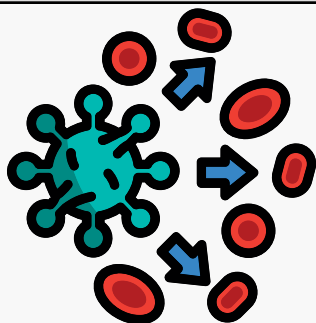
- ADME = All Drugs Must Exit** — helps you remember the order: Absorption, Distribution, Metabolism, and Excretion.

Nursing Pharmacology: What You Must Know



RESPIRATORY SYSTEM

CATEGORY	COMMON SUFFIX/PREFIX	EXAMPLE	NOTES
BRONCHODILATORS (BETA-2 AGONISTS)	• terol	- Albuterol, - Salmeterol	Used in asthma/COPD
ANTICHOLINERGICS (RESPIRATORY)	• tropium	- Ipratropium - Tiotropium	Dry mouth, monitor for urinary retention
LEUKOTRIENE RECEPTOR ANTAGONISTS	• lukast	- Montelukast - Zafirlukast	Asthma prevention
CORTICOSTEROIDS (INHALED)	sone ide	- Fluticasone - Budesonide	Rinse mouth to prevent thrush



IMMUNE / HEMATOLOGIC

CATEGORY	COMMON SUFFIX/PREFIX	EXAMPLE	NOTES
ANTICOAGULANTS	parin xaban	- Heparin - Enoxaparin - Apixaban	- Monitor aPTT/INR - Bleeding risk
ANTIPLATELETS	• grel	- Clopidogrel - Prasugrel	Bleeding risk
MONOCLONAL ANTIBODIES	• mab	- Adalimumab - Infliximab	Immunosuppressive effects
IMMUNOSUPPRESSANTS	limus rolimus	- Tacrolimus - Sirolimus	- Risk for infection and nephrotoxicity - Monitor WBC count, BUN, and creatinine.

Patient Education: Insulin Therapy

ENDOCRINE
SYSTEM

MONITORING BLOOD SUGAR

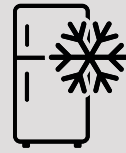
- Check blood glucose before meals and at bedtime
- Keep a daily log of readings



- **WATCH FOR:**
- **Hypoglycemia:** shaky, sweaty, dizzy, confusion, hunger
- **Hyperglycemia:** thirst, frequent urination, blurry vision, fatigue

HOW TO STORE INSULIN

• UNOPENED VIALS/PENS



- Keep in refrigerator (36–46°F / 2–8°C)

- Do NOT freeze insulin
- Keep away from direct sunlight or heat

• LABEL OPENED VIAL WITH DATE



- Can be kept at room temperature up to 28 days (check label)

INJECTION INSTRUCTIONS



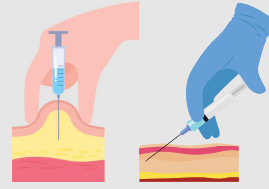
Use a new needle each time



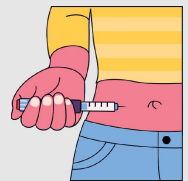
Rotate injection sites



Clean skin with alcohol before injecting



Pinch skin, inject at 90° angle (or 45° if thin)



Hold pen or syringe in place for 5–10 seconds before removing

Tip: Abdomen absorbs fastest → best for rapid-acting insulin

INJECTION INSTRUCTIONS



- Thigh
- Buttocks (slowest)



- Abdomen (fastest)
- Arm

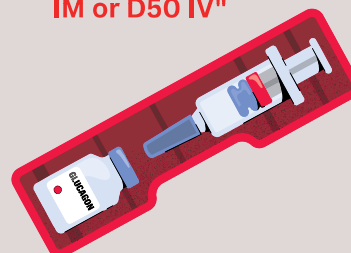
MANAGING HYPOGLYCEMIA

RULE OF 15:

- Eat 15g of fast-acting sugar (e.g., 4 oz juice, 1 tbsp honey, glucose tabs)
- Wait 15 minutes, recheck glucose
- Repeat if < 70 mg/dL



- **If unconscious → glucagon IM or D50 IV**



• NCLEX QUESTION STYLE TIP

- **! When asked:**
- "What action should the nurse take first?"
- **Choose the option that prevents harm, such as:**
 1. Ensuring food is available before giving rapid insulin
 2. Checking blood glucose before administration
 3. Teaching correct injection rotation to avoid complications

Diuretics Overview



- Diuretics are medications that promote the excretion of sodium and water from the kidneys, reducing fluid volume in the body. They are commonly used to treat conditions such as:

- Hypertension
- Heart failure
- Edema (renal, hepatic)
- Intracranial/intraocular pressure (specific types)

MAIN CLASSES OF DIURETICS

Loop Diuretics

Example:

- Furosemide
- Bumetanide



- Potent diuresis, K⁺ wasting

Thiazide Diuretics

Example:

- Hydrochlorothiazide



- Moderate diuresis, K⁺ wasting

K⁺-Sparing Diuretics

Example:

- Spironolactone
- Eplerenone



- Retains K⁺, mild diuretic

Osmotic Diuretics

Example:

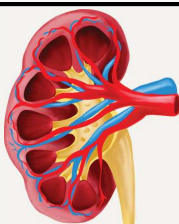
- Mannitol



- Pulls fluid into nephron; used for ICP/IOP
- Mannitol is contraindicated in active intracranial bleeding.

MECHANISM OF ACTION (SIMPLIFIED)

- **Loop & Thiazide:** Block sodium & chloride reabsorption → ↑ water excretion
- **K⁺-Sparing:** spironolactone = aldosterone antagonist; amiloride = Na⁺ channel blocker
- **Osmotic:** Pulls water into tubules via osmosis → ↑ urine output



COMMON SIDE EFFECTS

- **Loop & Thiazide:**
 - Ototoxicity (loop, especially furosemide IV push)
 - Hypokalemia, dehydration, hypotension, dizziness
- **K⁺-Sparing**
 - Hyperkalemia, gynecomastia (spironolactone)
- **Mannitol**
 - Electrolyte imbalances and rebound ↑ ICP if not monitored
 - Pulmonary edema, fluid overload (early phase)

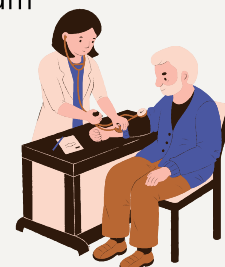


NURSING CONSIDERATIONS

- Monitor electrolytes (especially K⁺ and Na⁺)
- Check BP and I&O regularly
- Give in the morning to reduce nighttime urination
- Daily weights and strict I&O



- **Loop diuretics:** Push IV slowly to avoid ototoxicity
- **Spironolactone:** Avoid potassium-rich foods or K⁺ supplements
- **Mannitol:** Use a filter needle, monitor for crystallization
- **Educate** the patient about "orthostatic hypotension," for loop/thiazide

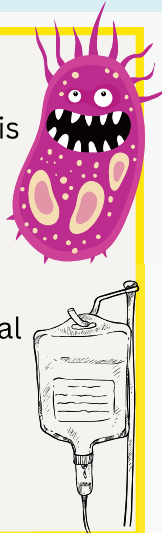


Vancomycin

ANTIBIOTICS

MECHANISM OF ACTION (MOA)

- Inhibits bacterial cell wall synthesis by binding to peptidoglycan precursors.
- **Bactericidal:** effective mainly against gram-positive bacteria, including MRSA and *C. difficile* (oral form).
- Not absorbed orally – IV for systemic infections, PO for *C. difficile*.



KNOW BEFORE YOU GIVE

- Check for allergy to vancomycin or other glycopeptides.
- Assess baseline renal function (BUN, creatinine) – adjust dose in renal impairment.
- Draw trough level just before the 4th dose or per facility policy:
- Target trough: **10–20 mcg/mL**
- Administer IV slowly (≥ 60 minutes for 1 g dose) to avoid Red Man Syndrome



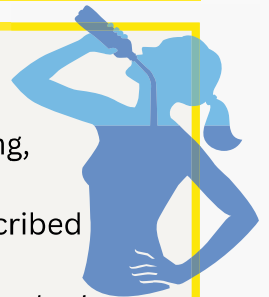
RED FLAG SIDE EFFECTS

- **Ototoxicity** (hearing loss, tinnitus) – especially with prolonged or high-dose therapy.
- **Nephrotoxicity** – monitor BUN/Cr and hydration status.
- **Red Man Syndrome** (non-allergic histamine reaction): flushing, rash, hypotension from rapid infusion.
- **Thrombophlebitis** – irritation at IV site.



PATIENT EDUCATION

- Report hearing changes (ringing, muffled sounds).
- Take oral form exactly as prescribed for *C. difficile*.
- Drink plenty of fluids to help protect your kidneys while on this medication.
- Inform the patient that this drug may interact with other nephrotoxic or ototoxic meds (e.g., aminoglycosides, loop diuretics).



NURSING CONSIDERATIONS

- Infuse IV over at least 60 minutes (1 g dose); consider 90–120 minutes for higher doses to minimize infusion reactions
- Monitor trough levels before next dose:
- Ideal trough: 10–20 mcg/mL
- Monitor:
- Renal function (BUN, creatinine)
- Hearing function if on long-term therapy
- IV site for infiltration, phlebitis



MNEMONIC: “VANCO”

- V** • Very toxic to ears (ototoxicity)
- A** • Assess trough (10–20)
- N** • Nephrotoxic → monitor kidney labs
- C** • *C. diff* → oral route
- O** • Only infuse slowly (Red Man Syndrome)



NCLEX TIP

- If flushing or hypotension occurs during infusion, stop the infusion, assess, and restart at a slower rate. Do not treat as an allergic reaction unless accompanied by respiratory symptoms or hives.

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