

Diseases Review

NCLEX Study



Pharmacology Table

Origin	Example	Rationale	Common Side Effects
Ase pain	Streptase	Thrombolytic-dissolves clots	Severe bleeding & abdominal
Azole	Miconazole	Antifungal-treat fungal infections	Rash burning
Caine	Lidocaine	Anesthetic	Nausea orthostatic hypotension
Cef / Ceph	Cephalosporin	Treat bacterial infections	Rash stomach cramps
Cillin	Penicillin	Treat bacterial infections	Nausea/vomiting diarrhea
Floxacin	Fluoroquinolone	Treats bacterial infections	Nausea anaphylaxis
Cycline	Tetracycline	Antibiotic	Toxicity in pregnancy discolors teeth
Dazole	Nitroimidazole	Treats bacterial/skin infections	Skin irritation dryness
Dipine	Nifedipine (CCBs)	Dilates arteries	Low blood pressure & edema
Prazole	Pantoprazole (PPIs)	Reduces acid in stomach	Headache & diarrhea
Profen	Ibuprofen (NSAID)	Decrease inflammation	Increase bleeding stomach upset
Pheny toin	Dilantin	Prevents seizures	Increase hair growth, stomach pain
Mycin / Micin	Gentamicin	Treat bacterial infections	Ototoxicity flank pain

Origin	Example	Rationale	Common Side Effects
Olol	Beta blocker	Lowers BP	Lowers HR, SOB in respiratory pts
Cort	Cortisone	Anti-inflammatory	Increased blood sugar, edema
Arin	Warfarin	Prevent blood clots	Bleeding, bruises
Pril	ACE inhibitor	Treat high blood pressure	Nonproductive cough, dizziness
Sartan	Cozaar (ARBs)	treat high BP	Angioedema hyperkalemia
Statin	Simvastatin (C10AA)	Lowers cholesterol level	Headache weakness
Semide	Loop diuretic	Removes water from body	Increased urination hyponatremia, hypokalemia
Thiazide	Thiazide diuretic	Removes water from body	Increased urination hypokalemia
Actone	Potassium sparing	Removes water from body	Increased urination hyperkalemia
Setron	Ondansetron(5-HT)	Prevents nausea	Diarrhea, fatigue
Terol	Salmeterol-(B2)	Relieve breathing problems	Irregular heartbeat headache
Vir	Acyclovir	Treat viral infections	Nausea/vomiting diarrhea
Zepam / Zolam	Lorazepam	Treats anxiety/ seizures	Confusion sleepiness

CCBs= Calcium channel blockers **PPi**s= Proton Pump Inhibitors

ARBs= Angiotensin II receptor antagonist **C10AA**= HMG-CoA reductase inhibitor

5-HT= Serotonin receptor antagonist

B2= Beta agonist

List of Medical Diseases/Conditions

Atrial fibrillation (A Fib)

- Irregular heartbeat (arrhythmia) often, but not always, resulting in a fast heart beat (greater than 100 bpm) at rest. Atrial fibrillation increases the risk of stroke so patients with this condition typically are placed on anticoagulants. Ex: Warfarin. Important things to monitor in these patients are INR levels, heart rate and changes in circulation.

Precautions: Standard

Pneumonia

- Pneumonia is an acute inflammation of the lungs caused by a bacterial, viral, mycoplasma, fungal, protozoal, or mycobacterial infection.

Types of Pneumonia:

Health care-associated pneumonia- Affects patients who are not hospitalized but who have close contact with the health care system, such as those who reside in long-term care facilities or who have regular hemodialysis.

Community-acquired pneumonia- Occurs in the community setting or within the first 48 hours of admission to a health care facility because of community exposure.

Aspiration pneumonia- Can occur in a community or health care facility setting and results from inhalation of foreign matter, such as vomitus or food particles, into the bronchi (most common in older patients, patients with a decreased level

of consciousness, and those receiving nasogastric tube feedings); microaspiration, or aspiration of microbiologic organisms.

Nursing Interventions: include encouraging coughing and deep breathing. Administer antibiotic therapy as ordered.

Precautions: Contact (May be placed on Droplet if patient is positive for specific bacterial strains in sputum.

Diverticular disease

- Diverticulosis is a chronic condition of multiple diverticula formation that develops most commonly in middle age. It is typically discovered during routine colonoscopy screening, is often asymptomatic, and does not usually require treatment. Diverticulitis is an inflammatory complication of diverticulosis. It causes signs and symptoms that can have serious consequences. Most uncomplicated diverticulitis patients with mild symptoms are treated with antibiotics and a clear liquid diet.

Nursing interventions: includes monitoring for strict intake and output and administering antibiotics.

Precautions: Standard

Crohn's disease

- Crohn's disease is an inflammatory disorder affecting mostly the distal ileum and colon. Crohn disease results in the malabsorption of water and nutrients, which may lead to fluid and electrolyte imbalances. Anemia often results, secondary to poor dietary intake and/or absorption of vitamins and nutrients.

Nursing Interventions: include monitoring intake and output and laboratory values.

Precautions: Standard

Irritable bowel syndrome

- IBS is a disorder that produces chronic, uncontrolled inflammation of the intestinal mucosa, which can affect any part of the gastrointestinal (GI) tract, causing edema, ulceration, bleeding, and profound fluid and electrolyte losses. Patients experience abdominal cramping, pain with diarrhea, nausea, dehydration, weight loss, cachexia, and anemia. Patients may experience an average of 5 to 10 diarrhea stools each day that also contain mucus leading to anemia, hypovolemia, and malnutrition. Anemia is related to active bleeding and poor intake and/or absorption of nutrients.

Nursing interventions: includes monitoring hemoglobin levels and intake and output.

Precautions: Standard

COPD

- COPD is a lung disease characterized by progressive airflow limitation resulting from small-airway disease and parenchymal destruction. Major risk factors include exposure to smoke (including tobacco, cooking fires, and fuel), occupational dust, or fumes. Oxygen should be titrated to improve hypoxemia, with an arterial oxygen saturation (SaO₂) goal of 88% to 92% in patients without complications. The first intervention usually involves increasing the dose or frequency of a currently prescribed, short-acting inhaled bronchodilator, such as the beta 2-agonist albuterol (Ventolin HFA).

Nursing interventions: include auscultating lung sounds and monitoring for shortness of breath.

Precautions: Standard

Acute Pancreatitis

- Acute pancreatitis is a sudden inflammation that lasts for a short time. It may range from mild discomfort to a severe, life-threatening illness. The most common symptom is abdominal pain.

Nursing Interventions: involve placing patient as NPO to inhibit pancreatic stimulation and secretion of pancreatic enzymes, administration of parenteral nutrition and insertion of nasogastric tube to suction and relieve nausea and vomiting, decrease painful abdominal distention and paralytic ileus and remove hydrochloric acid so that it does not stimulate the pancreas.

Precautions: Standard

Cushing's disease

- Cushing disease is marked by the formation of a pituitary microadenoma (a tumor less than 10 mm in size). This benign, basophilic (highly granulated) tumor produces adrenocorticotropic hormone (ACTH) and is composed of corticotrophin cells, which cause hyperplasia of the adrenal glands and result in an excess secretion of cortisol.

Nursing Interventions: Strictly monitor your patient's intake and output and obtain daily weights. Your patient is at risk for transient diabetes insipidus post-procedure. Observe for large volumes of dilute urine output; if this occurs, your patient may become hypotensive and go into shock. Persistent headaches unrelieved by mild analgesics may indicate an increase in ICP. Monitor your patient's neurologic status for changes in level of consciousness and pupillary response because this may indicate neurologic complications.

Precautions: Standard (These patients are also immunocompromised so they may also be on neutropenic precautions (reverse isolation)).

Addison's disease

- Primary adrenal cortical insufficiency is a relatively rare disorder also known as Addison disease.

Nursing Intervention: Follow the "5 S's" for management:

1. Salt replacement
2. Sugar (dextrose) replacement
3. Steroid replacement
4. Support of physiologic functions.
5. Search for and treat any identified cause.

Precautions: Standard

Diabetes mellitus

- Diabetes mellitus (DM) is a chronic disease characterized by insufficient production of insulin in the pancreas or when the body cannot effectively use the insulin it produces.

Type 1 is a lack of insulin production. **Type 2** is the body's ineffective use of insulin.

Nursing Interventions: Administer regular insulin by intermittent or by continuous IV method. Observe for signs of hypoglycemia: changes in LOC, cold and clammy skin, rapid pulse, hunger, irritability, anxiety, headache, lightheadedness, shakiness.

Precautions: Standard

Diabetes insipidus

- Diabetes insipidus (DI) is a condition which causes frequent urination. The reduction in production or release of ADH results in a fluid and electrolyte imbalance caused by increased urinary output.

Nursing Interventions: Monitor laboratory values and intake and output

Dietary measures: limiting sodium intake to less than 3 g per day help to reduce urine output. Fluid replacement: hypotonic saline is administered intravenously.

Precautions: Standard

Heart failure

- The heart's inability to pump enough blood to meet the body's oxygen and nutrient demands. Diuretics play a major role in CHF treatment. Diuretics act within the kidney to promote increased urination.

Nursing Interventions: Monitor the patient's pulse rate and BP and check for postural hypotension due to dehydration. Monitor the number of patients use at night to facilitate breathing.

Precautions: Standard

Urinary tract infection

- Urinary tract infection is a common kidney infection due to a lack of proper hygiene and indwelling catheters. Pyelonephritis is particular type of urinary tract infection (UTI) in which the renal tissue becomes inflamed due to the prolonged presence of a pathogen.

Nursing Interventions: Administer oral and IV antibiotics, and monitor for signs of infection, such as burning, fever and especially confusion in the elderly.

Precautions: Standard (Depending on the microbiology report, patient may also be placed on contact precautions)

Asthma

- Asthma is a chronic inflammatory disorder of the airway characterized by airway hyper responsiveness, mucus hypersecretion, and reversible airflow limitation.

Nursing Interventions: includes assessing and supporting the patient's airway, breathing, and circulation and monitoring his clinical status and vital signs. Administer systemic corticosteroids as prescribed. Prednisone, methylprednisolone, prednisolone, hydrocortisone, and dexamethasone are commonly prescribed and should be administered for 3 to 10 days.

Precautions: Standard

Coronary artery disease

- Characterized by the accumulation of plaque within coronary arteries, which progressively enlarge, thicken and calcify.

Nursing Interventions: Monitor for signs of chest pain and administer antianginal medications. Monitor blood pressure, heart rate and prep patient for surgery.

Precautions: Standard

Cerebrovascular Accident (CVA)

- The sudden impairment of cerebral circulation in one or more of the blood vessels supplying the brain which causes hemorrhage from a tear in the vessel wall or impairs the cerebral circulation by a partial or complete occlusion of the vessel lumen with transient or permanent effects.

Nursing Interventions: Closely monitor patient's neurological status and functional level in comparison to their baseline. Monitor vital signs and changes in blood pressure.

Precautions: Standard

Kidney disease

- Kidney disease is also marked by end stage renal disease which is a permanent loss of function of the kidneys. Patients typically excrete little or no urine and are unable to properly filter out excess electrolytes in their blood.

Nursing Interventions: Closely monitor patient's electrolyte values especially potassium, sodium, BUN and creatinine. Monitor blood pressure and administer medications.

Precautions: Standard

Hepatic encephalopathy

- A loss of brain function that occurs when the liver is unable to remove toxins from the blood.

Nursing Interventions: Monitor ammonia levels and monitor level of consciousness.

Precautions: Standard

Hypertension

- Characterized by abnormal blood pressure readings, and controlled with diet and medications.

Nursing Interventions: Monitor blood pressure frequently. Many patients are typically asymptomatic. Administer blood pressure medications. Educate. Monitor for signs and symptoms of stroke.

Precautions: Standard

Hypothyroidism

- A condition where the thyroid gland does not produce enough thyroid hormone.

Nursing Interventions: Monitor labs for FreeT3, T4 and TSH levels. Administer oral medication such as Synthroid. Everything slows down so you'll see weight gain, fatigue, and constipation symptoms in the body.

Precautions: Standard

Hyperthyroidism

- A condition caused by an overproduction of the thyroid hormone.

Nursing Interventions: Monitor labs for FreeT3, T4 and TSH levels. Administer oral medication such as Tapazole. Everything speeds up so monitor for tachycardia, diarrhea and complications of Graves disease.

Precautions: Standard

Sickle cell anemia

- A condition in which there are not enough healthy red blood cells to carry oxygen because the cells are <sickle= in shape.

Nursing Interventions: Pain control management is very essential with these patients, as well as administering oxygen. Many of these patients require blood transfusions on a regular basis.

Precautions: Standard

Abdominal Aneurysm

- An abdominal aortic aneurysm is an enlarged area in the lower part of the aorta, the major blood vessel that supplies blood to the body.

Nursing Interventions: Monitor for signs of rupture and notify MD immediately. Prep patient for surgery. NPO for at least 8 hours, obtain consent.

Precautions: Standard

Renal failure

- A condition in which the kidneys fail to adequately filter waste toxins out of the body. Acute kidney failure is reversible and oftentimes occurs suddenly.

Nursing Interventions: Monitor kidney function tests (BUN, Creatine) and monitor output.

Precautions: Standard

Pernicious Anemia

- When the body does not produce enough intrinsic factor, and fails to absorb vitamin B12, it is known as pernicious anemia. Some stomach conditions, or procedures that are carried out on the stomach, can stop it absorbing enough vitamin B12. For example, a gastrectomy (the

removal of part of the stomach) increases the risk of developing vitamin B12 deficiency anemia.

Nursing Interventions: Monitoring blood count levels and administering B12 injections.

Precautions: Standard

Liver Cirrhosis

- Cirrhosis is a chronic disease characterized by replacement of normal liver tissue with diffuse fibrosis that disrupts the structure and function of the liver.

The three classifications of Cirrhosis:

Alcoholic cirrhosis -scar tissue characteristically surrounds the portal areas. This is the most prevalent type that is caused by long history of chronic alcoholism

Postnecrotic cirrhosis- consists of broad bands of scar tissue and results from previous acute viral hepatitis or drug-induced massive hepatic necrosis.

Biliary cirrhosis- consists of scarring of the liver around the bile ducts. This type of cirrhosis usually results from chronic biliary obstruction and infection (cholangitis). It is much less common than the other two classifications of cirrhosis.

Nursing Interventions: administer vitamins, fluid/electrolyte replacement and monitor for ascites.

Precautions: Standard

Myasthenia gravis

- Myasthenia gravis is a chronic autoimmune neuromuscular disease characterized by varying degrees of weakness of the skeletal (voluntary) muscles of the body. Methods of treatment include medication, surgery, plasmapheresis, and I.V. immunoglobulin (IVIg) Corticosteroids, such as prednisone, and immunosuppressing agents, help to improve muscle strength by suppressing abnormal antibody production.

Nursing Interventions: Monitor for changes in breathing and functional levels; administer corticosteroids.

Precautions: Standard (May be placed on neutropenic precautions (reverse isolation) due to being immunocompromised).

Nursing Procedures You Must Know

Chest Tube

- Closed chest drainage - observe for leaks, maintain, measure output, assess and document respiratory status, assess dressing. Do not clamp the chest tube during transport or ambulation unless specifically ordered by the doctor. Clamping the chest tube in patients with an air leak increases the chance for pneumothorax. Note the pattern of the bubbling. If it fluctuates with respirations (i.e. occurs on exhalation in a patient breathing spontaneously), the most likely source is the lung. Water seal -Check the fluid level in the water seal and adjust to 2 cm.

Nursing Interventions: Monitor for signs of leaks, kinks, bleeding at the dressing site, and changes in the patient's respirations.

Blood Transfusion

- Blood products: Administer blood with normal saline bag. Check, administer, and document blood product administration. Monitor patient during administration. Follow policy/procedure to use if a transfusion reaction occurs.

Thoracentesis

- Thoracentesis is a procedure in which a needle is inserted through the back of the chest wall into the pleural space (a space that exists between the two lungs and the interior chest wall) to remove fluid or air.

Nursing Interventions: Check for consent and verify procedure. Monitor closely for blood pressure, breathing, and coughing. Monitor site for signs of bleeding

Urinary Catheter Insertion

- Procedure should be done only using aseptic technique. Explain procedure to patient. Use hand hygiene. Monitor for signs of infection. Monitor urine color, odor or signs of sediments.

Nasogastric/Tube Feeding

Care of the patient with nasogastric tube - check for placement and patency, maintain suction, check bowel sounds, perform nasal care, and document. Tube feeding- check for placement, administer feedings, check (usually every four hours) and record residual.

Paracentesis

- A procedure to take out an excess of fluid that has collected in the abdomen (peritoneal fluid) also known as ascites. Ascites may be caused by infection, inflammation, an injury, or other conditions, such as cirrhosis or cancer. The fluid is taken out using a long, thin needle put through the abdomen. The fluid is sent to a lab and studied to find the cause of the fluid buildup.

Contact Precautions

Perform hand hygiene before touching patient and prior to wearing gloves.

Wear gloves when touching the patient and the patient's immediate environment or belongings. Wear a gown if substantial contact with the patient or their environment is likely to occur.

Perform hand hygiene after removal of PPE; note: use soap and water when hands are visibly soiled (e.g., blood, body fluids), or after caring for patients with known or suspected infectious diarrhea (e.g., *Clostridium difficile*, norovirus).

Droplet precautions

- Respiratory viruses (e.g., influenza, parainfluenza virus, adenovirus, respiratory syncytial virus, human metapneumovirus), *Bordetella* or pertussis). Place the patient in an exam room with a closed door as soon as possible. PPE use includes wearing a facemask, such as a procedure or surgical mask, for close contact with the patient; the facemask should be donned upon entering room. If substantial spraying of respiratory fluids is anticipated, gloves and gown as well as goggles (or face shield in place of goggles) should be worn. Instruct patient to wear a facemask when exiting the exam room, avoid coming into close contact with other patients, and practice respiratory hygiene and cough etiquette.

Airborne Precautions

- Apply to patients known or suspected to be infected with a pathogen that can be transmitted by airborne route; these include, but are not limited to: Tuberculosis, Measles, Chickenpox, localized (in immunocompromised

patient) or disseminated herpes zoster (until lesions are crusted over) (You must know these). Place the patient immediately in an airborne infection isolation room (negative pressure).

PPE use includes wearing a fit-tested N-95 or higher level disposable respirator, when caring for the patient the respirator should be placed on prior to room entry and removed after exiting room.

Fluid & Electrolyte Balance

To function normally, the body must keep fluid levels from varying too much in the areas of the body that contain fluid (called compartments). The three main compartments are: fluid within cells, fluid in the space around cells and blood.

Hyponatremia

- Occurs when the body contains too little sodium for the amount of fluid it contains. A low sodium level has many causes, including consumption of too many fluids, kidney failure, heart failure, cirrhosis, and use of diuretics.

Hypernatremia

- Occurs when the body contains too little water for the amount of sodium. Hypernatremia involves dehydration, which can have many causes, including not drinking enough fluids, diarrhea, kidney dysfunction, and diuretics.

Hypokalemia

- A low potassium level. Can make muscles feel weak, cramp, twitch, or even become paralyzed and abnormal heart rhythms may develop.

Usually, eating foods rich in potassium or taking potassium supplements by mouth is all that is needed.

Hyperkalemia

- The level of potassium in blood is too high. The most common cause of mild hyperkalemia is the use of drugs that decrease blood flow to the kidneys or prevent the kidneys from excreting normal amounts of potassium.

Hypomagnesemia

- The level of magnesium in blood is too low. Although blood contains very little magnesium, some is still necessary for normal nerve and muscle function and for development of bone and teeth. Hypomagnesemia is also associated with the cause for the rhythm torsades de pointes. Conditions can be improved quickly with the treatment of IV magnesium.

Hypermagnesemia

- The level of magnesium in blood is too high.

Bone contains most of the magnesium in the body. Very little circulates in the blood. Hypermagnesemia may cause weakness, low blood pressure, and impaired breathing.

Hypocalcemia

- Most commonly results when too much calcium is lost in urine or when not enough calcium is moved from bones into the blood. For your patients that have had a thyroidectomy surgical procedure, it is important to closely monitor their calcium levels for hypocalcemia.

Abnormally low levels of calcium can cause symptoms like confusion, muscle cramps and tingling.

Hypercalcemia

- The level of calcium in blood is too high. A high calcium level may result from a problem with the parathyroid glands, as well as from diet, cancer, or disorders affecting bone. If the calcium level is very high or if symptoms of brain dysfunction or muscle weakness appear, fluids and diuretics are given intravenously as long as kidney function is normal. Drugs such as calcitonin and corticosteroids can be used to treat hypercalcemia.

IV Fluids

Isotonic solutions

- A solution is isotonic when the concentration of dissolved particles is similar to that of plasma. The types of isotonic solutions are 0.9% sodium chloride (0.9% NaCl), lactated Ringer's solution, 5% dextrose in water (D5W), and Ringer's solution.

A solution of 0.9% sodium chloride is simply salt water. It should be used cautiously in certain patients, such as those with cardiac or renal disease, because of the risk for fluid volume overload.

Lactated Ringer's (LR) is the most physiologically adaptable fluid because its electrolyte content is most closely related to the composition of the body's blood serum and plasma. Because of this, LR is another choice for first-line fluid resuscitation for certain patients, such as those with burn injuries. LR is used to replace GI tract fluid losses, fistula drainage, and fluid losses due to burns and trauma. It's also given to patients experiencing acute blood loss or hypovolemia due to third-space fluid shifts.

D5W is basically a sugar water solution that provides some calories, but it doesn't replace electrolytes. However, it's appropriate to treat hypernatremia because it dilutes the extra sodium in extracellular fluid.

Hypotonic solutions have a lower concentration, or tonicity, of solutes (electrolytes). The infusion of hypotonic crystalloid solutions lowers the serum osmolality within the vascular space, causing fluid to shift from the intravascular space to both the intracellular and interstitial spaces. Types of hypotonic fluids include 0.45% sodium

chloride (0.45% NaCl), 0.33% sodium chloride, 0.2% sodium chloride, and 2.5% dextrose in water.

Hypertonic solutions contain a higher concentration of sodium and chloride than what is normally contained in plasma. These examples include 3% sodium chloride (3% NaCl), and 5% sodium chloride (5% NaCl). These solutions are highly hypertonic and should be used only in critical situations to treat hyponatremia. Give them slowly and cautiously to avoid intravascular fluid volume overload and pulmonary edema.

Blood products Use an 18-gauge or larger needle to infuse colloids. Monitor the patient for signs and symptoms of hypervolemia, including increased BP, dyspnea, crackles in the lungs, JVD, edema, and bounding pulse. Closely monitor intake and output. Colloid solutions can interfere with platelet function and increase bleeding times, so monitor the patient's coagulation indexes.

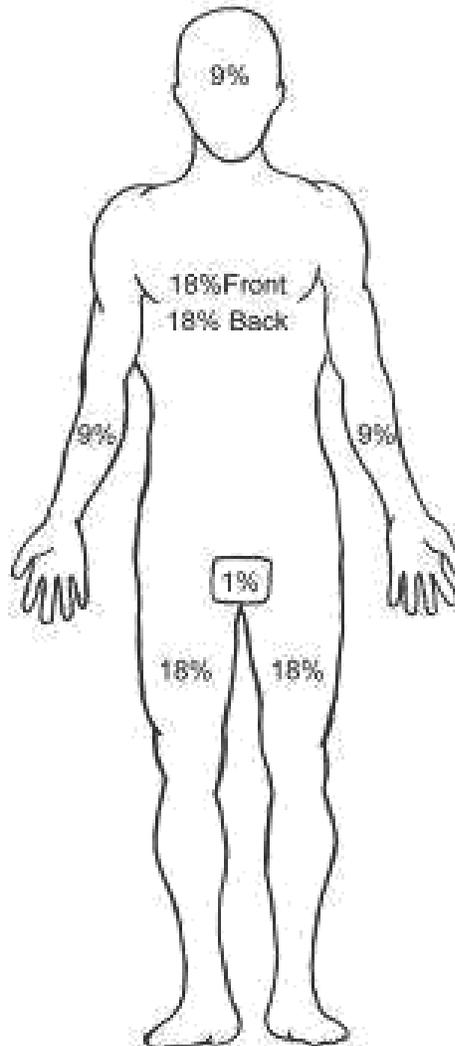
Key Reminder

Frequently assess the patient's response to I.V. therapy, monitoring for signs and symptoms of hypervolemia, such as hypertension, bounding pulse, pulmonary crackles, shortness of breath, peripheral edema, jugular venous distention (JVD), and extra heart sounds, such as S3. Monitor intake and output, hematocrit, and hemoglobin. Elevate the head of bed to 35 to 45 degrees, unless contraindicated.

Rules

Rule of Nines

The rule of nines assesses the percentage of burn and is used to help guide treatment decisions, including fluid resuscitation, and becomes part of the guidelines to determine transfer to a burn unit. You can estimate the body surface area on an adult that has been burned by using multiples of 9.



MONA

MONA

Mona is an acronym used to help remember the initial treatment for acute coronary syndrome. MONA stands for morphine, oxygen, nitroglycerin and aspirin. It is important to understand that the acronym represents the steps in treatment, but not necessarily the order in which they are administered.

The M in MONA stands for morphine. Morphine is administered to patients with acute coronary syndrome to decrease pain when pain is not resolved with nitroglycerin.

The O in MONA stands for oxygen administration. When blood flow is decreased to the heart in acute coronary syndrome, a portion of the heart is deprived of oxygen. Supplemental oxygen may be administered as part of the initial treatment for acute coronary syndrome in order to improve oxygenation of the ischemic heart tissue.

The N in MONA stands for nitroglycerin. Another medication used as part of the initial treatment for acute coronary syndrome is nitroglycerin. Nitroglycerin is used to decrease chest pain and may be administered as soon as pain starts. It causes arterial and venous dilatation, which decreases the workload of the heart and reduces myocardial oxygen demand. Nitroglycerin may be administered in sublingual tablets at a dose of 0.3 mg to 0.4 mg every five minutes, for up to three doses every five minutes.

The A in MONA stands for aspirin. Aspirin is also part of the initial treatment for acute coronary syndrome. Aspirin is used to prevent further clot formation by

decreasing platelet aggregation. If possible, the aspirin should be chewed to allow for faster absorption.

RICE

These four interventions are prescribed for early treatment of acute soft tissue injuries, such as a: sprain, strain or bone injury.

The acronym R.I.C.E. stands for:

Rest

Ice

Compression

Elevation

Rest: Reduce or stop using the injured area for 48 hours.

Ice: Put an ice pack on the injured area for 20 minutes at a time, 4 to 8 times per day. Use a cold pack, ice bag, or a plastic bag filled with crushed ice that has been wrapped in a towel.

Compression: Compression of an injured ankle, knee, or wrist may help reduce the swelling. These include bandages such as elastic wraps, special boots, air casts and splints.

Elevation: Keep the injured area elevated above the level of the heart. Use a pillow to help elevate an injured limb.

ABGs

Normal Values and Acceptable Ranges of the ABG Elements

ABG Element	Normal Value	Range
pH	7.4	7.35 to 7.45
PaO₂	90mmHg	80 to 100 mmHg
SaO₂	95%	93 to 100%
PaCO₂	40mmHg	35 to 45 mmHg
HCO₃	24mEq/L	22 to 26mEq/L

Acidosis (acidemia) occurs when pH drops below 7.35

Alkalosis (alkalemia) occurs when the pH rises above 7.45

A respiratory problem is determined if the PaCO₂ is less than 35mmHg (alkalosis) or greater than 45 mmHg (acidosis)

A metabolic problem is when the HCO₃ is less than 22mEq/L (acidosis) or greater than 26mEq/L (alkalosis).

Compensated- the pH level is normalized (within the normal range)

Uncompensated- the pH level is abnormal and either the PaCO₂ is

abnormal or the HCO₃ is abnormal Partially Compensated- the pH level is

abnormal, the PaCO₂ is abnormal, and the HCO₃ is abnormal

Key Nurse Role Differences

CNA- Handles your patient's hygiene needs, ADLs, toileting, monitoring patient safety and linen changes. They can also walk your patient if there is a physician order.

LVN- Similar role as RN but cannot push or give any intravenous medications. Also is responsible for nursing interventions but not nursing assessment.

RN- Provides nursing assessments applies the nursing process and can give intravenous medications/fluids.

*It's important to understand the differences between each role because you will be tested on this.

Physical Restraints

Three general categories of restraints exist: 4 physical restraint, chemical restraint, and seclusion

Physical restraint, the most frequently used type, is a specific intervention or device that prevents the patient from moving freely or restricts normal access to the patient's own body. Physical restraint may involve: applying a wrist, ankle, or waist restraint.

Chemical restraint

Chemical restraint involves the use of a drug to restrict a patient's movement or behavior, where the drug or dosage used isn't an approved standard of treatment for the patient's condition. For example, a provider may order Haldol or Ativan in

a high dosage for a postsurgical patient who won't go to sleep. (If the drug is the standard treatment for the patient's condition, such as an antipsychotic for a patient with psychosis or a benzodiazepine for a patient with alcohol-withdrawal delirium, then this is not considered a chemical restraint.) Many healthcare facilities prohibit the use of medications for chemical restraint.

Seclusion

With seclusion, a patient is held in a room involuntarily and prevented from leaving. Many emergency departments and psychiatric units have a seclusion room. Typically, medical-surgical units do not have a seclusion room. Seclusion is used only for patients who are behaving violently. Use of a physical restraint together with seclusion for a patient who's behaving in a violent or self-destructive manner requires continuous nursing monitoring.

Advance Directives

The Advance Directive is a written document by a competent person, regarding their health care preference. An Advance Directive may include a living will and/or a durable power of attorney for health care. A living will is a written directive regarding the course, continuation, or discontinuation of medical treatment in the event that a person becomes incompetent.

A durable power of attorney for health care is a written designation to authorize one or more person(s) to make health care decisions in the event of a person becoming incompetent to make their own decisions.

Informed consent is the legal obligation to provide full disclosure to a patient regarding potential risks and outcomes of tests and treatments. The obligation is operative in the development of the Advance Directive because the corollary is the right not to consent to treatment.

Developmental Stages of Transition

Trust Versus Mistrust (Birth to About 18 Months)

The infant is taking the world in through with their mouth, eyes, ears, and sense of touch. A baby whose mother is able to anticipate and respond to its needs in a consistent and timely manner despite its oral aggression will eventually learn to tolerate the inevitable moments of frustration and deprivation.

Autonomy Versus Shame and Doubt (About 18 Months to About 3 Years)

This oral-sensory stage of infancy, marked by the potential development of basic trust aiming toward the achievement of a sense of hope. Here, the child will develop an appropriate sense of autonomy, otherwise doubt and shame will undermine free will (also known as the terrible twos stage).

Initiative Versus Guilt (About 3 Years to About 5 Years)

Here, the child's task is to develop a sense of initiative as opposed to further shame or guilt. The lasting achievement of this stage is a sense of purpose. The child's increasing mastery of locomotor and language skills expands its participation in the outside world and stimulates omnipotent fantasies of wider exploration and conquest

Industry Versus Inferiority (About 5 Years to About 13 Years)

Here the child is in the school-age, so-called stage of latency. He tries to master the crisis of industry versus inferiority aiming toward the development of a sense of competence.

Identity Versus Role Confusion (About 13 Years to About 21 Years)

At puberty, the fifth stage, the task of adolescence is to navigate their <identity crisis= as each individual struggles with a degree of <identity confusion=.

Intimacy Versus Isolation (About 21 Years to About 40 Years)

Young adulthood, at the stage of generality or sixth stage, is marked by the crisis of intimacy versus isolation, out of which may come the achievement of a capacity for love (they are learning who they are).

Generativity Versus Stagnation (About 40 Years to About 60 Years)

Care is the virtue that corresponds to this stage. This failure of generativity can lead to profound personal stagnation, covered by a variety of escapisms, such as alcohol and drug abuse, and sexual and other infidelities. Mid-life crisis may also occur during this stage.

Integrity Versus Despair (About 60 Years to Death)

The individual in possession of the virtue of wisdom and a sense of integrity has room to tolerate the proximity of death and to achieve.

Maternal Nursing

The **antepartum** or pre-natal period starts when the woman's pregnancy is diagnosed and ends just before the baby is delivered.

The following are the goals of antepartum care: To evaluate the health status of the mother and the fetus, estimate the gestational age, identify the patient at risk for complications, anticipate problems before they occur and prevent them if possible, and promote patient education and communication.

Age of Gestation (AOG)

Should be estimated to calculate the exact date of delivery and the estimated weight and height of the fetus. The following are some estimates of AOG methods:

Nagele's Rule

Naegele's rule - rule for calculating an expected delivery date; subtract three months from the first day of the last menstrual period and add seven days to that date.

McDonald's Method

Fundal height, or McDonald's Method, is a measure of the size of the uterus to assess fetal growth and development. It is measured from the top of the pubic bone to the top of the uterus in centimeters and it should match the baby's gestational age.

Bartholomew's Rule

This method estimates the age of gestation relative to the height of the fundus of the uterus above the symphysis pubis.

Prolapsed Cord

A prolapsed cord is the descent of the umbilical cord into the vagina ahead of the fetal thereby presenting part with resulting compression of the cord between the presenting part and the maternal pelvis.

Premature Rupture of Membranes PROM

Is the rupture of chorion and amnion before the onset of labor. The gestational age of the fetus and estimates of viability affect management.

Shoulder Dystocia

In shoulder dystocia, the anterior shoulder of the baby is unable to pass under the maternal pubic arch.

Induction of Labor

Oxytocin-induced labor must be done with careful, ongoing monitoring; oxytocin is a powerful drug. Hyperstimulation of the uterus may result in titanic contractions prolonged to more than 90 seconds, which could cause fetal compromise due to impaired uteroplacental perfusion, abruption placentae, laceration of the cervix, uterine rupture, or neonatal trauma.

Important Tip: Know what kind of signs or symptoms to pay attention to that would warn you to stop the oxytocin.

Mental Health

Bipolar Disorder

Bipolar disease is classified as bipolar I (sustained mania with depressive episodes) or bipolar II (at least one major depression episode with at least one hypomanic episode). People with bipolar disorder experience unusually intense emotional states that occur in distinct periods called "mood episodes".

Schizophrenia

A mental disorder where patients do not think clearly, or act normally in social situations and cannot differentiate between reality and fantasy and do not have normal emotional responses. Schizophrenia is characterized by having two or more symptoms a significant portion of the time over a period of one month. Symptoms may include: delusions, hallucinations, disorganized speech, disorganized behavior, and negative symptoms (loss of pleasure, flat affect, poor grooming, poor social skills, and social withdrawal).

Delirium

Is an acute state of confusion that usually affects older adults following surgery or a serious illness. A longer length of stay can oftentimes be associated with an increase in mortality. Providing as much normalcy for these patients is essential. Examples of this may include maintaining a sleep/wake cycle pattern, reality orientation and maintaining a safe environment.

Dementia

Is a chronic state of confusion typically seen by elderly patients over time. Interventions may include providing meaningful stimuli, maintaining a safe environment, and avoiding stressful situations.

Psychotropic Medications

A psychotropic medication is a term for psychiatric medicines that alter chemical levels in the brain which impact mood and behavior.

Atypical antipsychotics- Used to treat the symptoms of schizophrenia and bipolar disorder. Drug examples may include Risperidal, Seroquel, and Zyprexa.

Anti-Manic & Mood Stabilizing Drugs- Mood stabilizers are medicines that treat and prevent highs (manic or hypomanic episodes) and lows (depressive episodes). Examples may include Lithium, Lamictal and Tegretol.

Tricyclic Antidepressants- These medications work by inhibiting the reuptake of norepinephrine and serotonin by pre-synaptic neurons into the central nervous system. Examples may include Anfranil and Elavil.

Selective Serotonin Reuptake Inhibitors (SSRI) are currently the most common type of anti-depressants prescribed for depression. Examples include Prozac, Paxil, Celexa, and Zoloft.

MAOIs- Medications that are also used to treat depression that inhibit monamine oxidase. Because of the role that MAOs play in the inactivation of neurotransmitters in the brain, MAO dysfunction (too much or too little MAO activity) is thought to be responsible for a number of psychiatric and neurological disorders such as depression and schizophrenia. Examples of these drugs include Marplan, Nardil, and Parnate.

Serotonin Norepinephrine Reuptake Inhibitors (SNRIs) work by preventing the body from filtering excess serotonin and norepinephrine. SNRIs have the power to significantly improve mood, outlook, and behavior in people with depression.

Examples include Effexor, Pristiq and Cymbalta.

Important Thing to Remember: Most antidepressant medications typically take within 2 weeks to begin working in patients and 6 to 8 weeks before they feel the full effect of the medication.

Benzodiazepines- This is a class of agents that work in the central nervous system to act selectively on the gamma-aminobutyric acid-A (GABA-A) receptors in the brain. Some examples may include Ativan, Klonopin, Valium, and Xanax.

Typical Antipsychotics- Used to reduce anxiety and agitation that often happen in schizophrenia. They can also reduce problems with thinking or remembering (cognitive impairment) and reduce or control delusions and hallucinations (psychosis). Example may include Haldol.

Important Thing to Remember: Most common dangerous side effect of Haldol is QT prolongation.

Therapeutic Communication

Therapeutic Communication

Therapeutic relationships are goal-oriented and directed at learning and growth promotion.

Requirements for Therapeutic Relationship are Rapport, Empathy, Trust, Respect, and Genuineness (RETRG).

Therapeutic Communication Techniques Using Silence - allows client to take control of the discussion, if he or she so desires.

Accepting - conveys positive regard.

Giving recognition 3 acknowledging, indicating awareness.

Offering self - making oneself available.