**Study Guide**

**NUR1211**

**Respiratory and GI**

**Function of the respiratory system normal and abnormal breath sounds/ sputum studies and nursing interventions**

* Upper respiratory tract, known as the upper airway, warms and filters inspired air so that the lower respiratory tract (the lungs) can accomplish gas exchange or diffusion.
* Gas exchange involves delivering oxygen to the tissues through the bloodstream and expelling waste gases, such as carbon dioxide, during expiration.

**Oxygen delivery:**  method of oxygen delivery types of masks and percentages, and safety measures

* **Low-flow Oxygen delivery systems**
1. Nasal cannula: delivers Fi02 of 24% to 44% at a flow rate of 1 to 6 L/min
2. Simple face mask: delivers an Fi02 of 40 -60% at a flow rates of 5 to 8 L/min
3. Partial rebreather mask: cover the client the client’s nose and mouth, delivers an Fi02 of 50 to 75% at a flow rates of 8 to 11 L/min
4. Nonrebreather mask: Covers the client’s nose and mouth, delivers an Fi02 of 80% to 95% at a flow rate of 10 to 15 L/min to keep the reservoir bag 1/2 full during inspiration and expiration this system has known to deliver the highest amount of oxygen.
5. **High-flow oxygen delivery systems**
6. **Venturi Mask:** covers the clients nose and mouth delivers a Fi02 of 24% to 60- 100% at a flow rates of ¼-4 to L/min via different size adapters, which allow specific amounts of air mix with oxygen. The venture deliver precise amount of oxygen to patients helpful to patient with COPD
7. **Aerosol:**  face tent: loosely around the face and neck
8. Transtracheal oxygen 8-10 L/min 28-100%
9. Face tent 10-40 mL/breath deliver o2 only on inspiration

Management of patients with chest and lower respiratory tract disorders

Atelectasis: signs and symptoms prevention/ nursing intervention, and client teaching

**Care of patients with pneumonia**, Diagnostics, treatments/ types/classification of pneumonia, nursing intervention/medical management /risk factors/ clinical manifestation/ pharmacologic and prevention

Pneumonia is an inflammation of the lung parenchyma caused by various microorganisms, including bacteria, mycobacteria, fungi, and viruses.

-S/s: fever, cough, sputum production, rigors, pleuritic chest pain, dyspnea, tachycardia, tachypnea, pleural pain, respiratory distress

-Diagnosis: Hx, physical exam, chest x-ray, blood culture (looking for bloodstream invasion [bacteremia]), and sputum examination.

-Treatment: antibiotic

 If there is no known MDR ceftriaxone, ampicillin, levofloxacin, or ertapenem are used.

Care of patients with **Pulmonary Tuberculosis**; transmission and risk factors/ pathophysiology/clinical manifestations diagnostic test, type of isolation treatment, and nursing action

-bacterial infection causing fever, coughing, weight loss, and chest pain, diminished bronchial sounds, cracles, fremitus

-affects lung parenchyma

-spreads by airborne transmission: talking, coughing, sneezing, laughing, or singing

-pathophysiology: infection occurs 2-10 weeks after exposure

-tests: Hx, physical exam, tuberculin test, chest x ray

Reaction of 0 to 4 mm is considered not significant.

Reaction of 5 mm or greater may be(significant in people considered to be at risk= HIV risk factor).

Induration of 10 mm or greater is usually considered (significant in people who have normal or mildly impaired immunity).

-Drugs:

isoniazid -bactericidal, take on empty stomach, prescribed with B6, monitor for hepatotoxicity

rifampin – bacteriostatic and bactericidal, monitor liver function, urine may change to orange color, may interfere with oral birth control

pyrazinamide – bacteriostatic and bactericidal, observe for hepatotoxicity, increase fluids, report yellowing of skin or eyes

ethambutol – bacteriostatic, represses RNA, monthly eye exams, stop meds if ocular toxicity occurs

Care of patient with **asthma,** treatments, diagnostic procedures, and nursing actions

-chronic airway inflammation: airway edema, mucous hypersecretion, formation of mucous plugs

-S/s: cough, chest tightness, wheezing, dyspnea

-Testing: sputum and blood test, serum levels of IgE if allergy, ABG

-Treatment: corticosteroids – most effective anti-inflammatories (theophylline)

**COPD**/ signs and symptoms/ diagnostic procedures, treatments, and nursing interventions

-slowly progressive respiratory disease of airflow obstruction involving the airways, pulmonary parenchyma, or both.

\*characterized by airflow limitation or obstruction that is not fully reversible

-Treatment: inhaled bronchodilator, non invasive ventilation, corticosteroids (roflumilast, macrolides), smoking cessation, physical activity, vaccination. Diagnosis and treatment of comorbidities

-Diagnosis: ABG, chest xray, CT

|  |  |  |
| --- | --- | --- |
| **SPIROMETRY TEST** |  **NORMAL** |  **ABNORMAL** |
| **FVC and FEV1** | **Equal to or greater than 80%** | **Mild 70-79%Moderate 60-69%Severe less than 60%** |
| **FEV1/FVC** | **Equal to or greater than 70%** | **Mild 60-69%Moderate 50-59%****Severe less than 50%** |

-Obstructive lung disease is FEV1/FVC ration of less than 70%

**Emphysema** signs and symptoms, nursing interventions

-impaired gas exchanged because of alveolar wall damage

-S/s: increased CO2 retention, minimal cyanosis, purse lip breathing, dyspnea, orthopneic, barrel chest, exertional dyspnea, anxious, speaks in short jerky sentences, thin appearance, use of accessory muscles to breath.

**Bronchitis:** signs and symptoms/ diagnostic tests/ medical managements, medication, and nursing intervention

-disease of the airway with presence of cough and sputum production for at least 3 months in each of 2 consecutive years

-increased mucous production, thickened bronchial walls, alveolar damage, more susceptible to respiratory infection,

-S/s: dusky to cyanotic, recurrent cough and sputum, hypoxia, hypercapnia, acidosis, edematous, increased RR, exertional dyspnea, digital clubbing, cardiac enlargement, use of accessory muscles to breath, crackles, wheezing

**Gastritis**: signs and symptoms, pathophysiology, diagnostic procedures, medical managements, and nursing intervention

-localized or patchy inflammation of the gastric mucosa or stomach lining

-can be acute or chronic

-GI mucosa damaged by NSAIDS, aspirin, alcohol, most common cause is infection from H Pylori

-Gastritis prohibits absorption of B12 which leads to pernicious anemia.

 \*Schilling test = B12

-patho: the mucosal barrier is penetrated, hydrochloric aids comes in contact with mucosa, injury to small vessels, edema, hemorrhage, and possible ulcer formation

-S/s: epigastric pain, n/v, weight loss, decreased appetite, changes in stool color, anorexia, feeling of fullness, black tarry stools

-Diagnostic procedures: upper GI xray, upper GI endoscopy, stool test, urea breath test for h pylori, CBC to check for anemia

-med management: GI rest: 6-12 hours NPO and then slowly introduce clear liquids followed by heavier liquids and gradual introduction of solid foods.

* + Esomeprazole, lansoprazole, or pantoprazole 30 to 60 mg intravenously twice daily may be given initially, increased as necessary to maintain intragastric pH greater than 4.
	+ Administer H2-receptor antagonists: Block gastric secretions.
	+ Administer antacids as prescribed: Buffering agents to correct pH balance of acidic gastric environment.
	+ Administer PPIs as prescribed: ¬Antisecretory agents to suppress gastric acid secretion.

**Peptic ulcers**, signs and symptoms, diagnostics procedure/ medical management/risk factors/ complications/ surgical management and diet

-an ulcer is a break in the lining of the mucosa

-peptic ulcers and erosion in the stomach and duodenum

-2 types: duodenal make up 80% and gastric 5-10%

**Gastric cancer**: risk factors, signs and symptoms, clinical manifestation, treatments, diagnostic tests, medication and surgical management, nursing interventions and complication

**Gastroesophageal Reflux Disease** (GERD): Clinical Manifestations of Gerd, medical managements/medications, diet and nursing management

**Hernias**; Types of Hernias and clinical manifestation, medical and surgical management, nursing intervention and teaching.

**Appendicitis**; Pathophysiology, Clinical Manifestations diagnostic findings and medical managements;

**Nursing Interventions,**

**Diverticulitis**; *Pathophysiology, Clinical Manifestations; risk factors; medical management*

**Diverticulosis**; clinical manifestation of diverticulosis. Medical management, diet

**Irritable Bowel Syndrome**; clinical manifestation and management, *treatment for IBS* ***Dietary Modification***

***Crohn’s Disease;*** *Diagnostic Findings.*

**Ulcerative Colitis**;*Diagnostics findings, medical management, medications, nutrition, complication nursing interventions*

*IBS and IBD; signs and symptoms, pathophysiology*

**COLORECTAL CANCER***;* Risk factors for colorectal cancer, Pathophysiology; Clinical Manifestations; signs and symptoms **Diagnostic Studies for Colorectal Cancer, treatments and nursing intervention**

**Intestinal Obstruction;** clinical manifestation, nursing intervention medical management

Know pre-and post-procedures nursing interventions for the following:

* + UGI
	+ BE-enema
	+ Colonoscopy
	+ Endoscopy

Hematocrit: men 41-50% women 36-48

Hemoglobin: men 14-18g/100mL women12-16g/100mL

WBC: 4500-11,000

BUN: 10-31 mg/dL

Common Respiratory Medications

* Acetylcysteine (Mucomyst)
* Guaifenesin (Robitussin)
* Codeine
* Hydrocodone bitartrate (Hycodan)
* Diphenhydramine HCL (Benadryl)
* Promethazine HCL (Phenergan)
* Methyprednisone (Solumedrol)
* Acetylcysteine (Mucomyst)
* Guaifenesin (Robitussin)
* Codeine
* Hydrocodone bitartrate (Hycodan)
* Diphenhydramine HCL (Benadryl)
* Promethazine HCL (Phenergan)
* Methyprednisone (Solumedrol)

Book Notes

Chapter 17

Ventilation: movement of air in and out of the airways

Upper respiratory tract – (upper airway) warms and filters inhaled air

-Nose: filters impurities and warms inhaled air

-Paranasal sinuses

-Pharynx, tonsils, and adenoids

Lower respiratory tract – (lungs) gas exchange and diffusion