Bailey Roth

- **Aortic Aneurysm**
  - **Signs of dissection: Sudden onset of 'tearing' or 'ripping' or 'stabbing' abdominal and back pain**
    - **Hypovolemic shock:**
      - **Diaphoresis**
      - **N/V**
      - **Faintness**
      - **Decreased or absent peripheral pulses**
      - **Neuro deficits**
      - **Hypotension/tachycardia**
      - **oliguria**
- **MI**
  - **Manifestations:**
    - **Chest pain/discomfort**
      - **Pain not relieved by rest or nitro**
    - **Increased JVD**
    - **Increased BP**
    - **Irregular pulse**
    - **SOB**
    - **Tachypnea**
    - **Dyspnea**
    - **Pulmonary edema**
    - **N/V**
    - **Decreased urinary output**
    - **Cool, clammy skin**
    - **Anxiety, restlessness**
    - **Impending doom**
  - **EKG changes:**
    - **ST elevation**
    - **T wave differences**
  - **Interventions:**
    - **O2 and med therapy**
    - **Frequent VS**
    - **Rest and HOB**
    - **Monitor I&O**
    - **Frequent position changes**
    - **Evaluate interventions**
    - **EKG read within 10 minutes**
  - **Diagnostics:**
    - **EKG**
    - **Myoglobin**
    - **Troponin I & T**
    - **CK - MB**
  - **Pharmacologic treatment:**

        - **M: morphine**
        - **O: O2**
        - **N: Nitro**
        - **A: ASA**
        - **A: anti-thrombotic, anti-platelets, anti-angina**
        - **B: Beta-blocker**
        - **C: Cholesterol (statin)**
        - **ASA admined upon arrival and D/C**
        - **ACE inhib or ARB prescribed for patients with concomitant L. ventricular systolic dysfunction**
        - **No smoking**
        - **Beta-blockers at D/C**
        - **Thrombolytic therapy**
        - **PCI received within 90 minutes of arrival**
        - **Statin at D/C**
    - **Patient education:**
        - **Beta-blockers**
        - **ASA**
        - **Decrease fatty foods**
        - **Exercise**
        - **Quit smoking**
- **Cardiac Catheterization**
    - **Access sites:**
        - **Femoral artery**
        - **Brachial artery**
        - **Radial artery**
    - **Nursing interventions:**
        - **Stay in bed for 6 hours**
        - **Watch for bleeding or hematoma**
        - **Watch for bruising**
    - **Possible complications:**
        - **Hematoma**
        - **Arrhythmia**
        - **Thrombus**
        - **Retroperineal bleeding**
- **ECG: Keep arms and legs straight and don’t move while trying to get a picture**
- **Aortic Stenosis: valve does not open completely and blood flow through valve is reduced**
    - **Manifestation: murmur, enlarged heart, fatigued, lightheadedness, SOB, chest pressure, inability to exercise**
- **Coronary Artery Disease (CAD)**
    - **Risk factors:**
        - **Non-modifiable:**
            - **Increased age**

        - Men until women hit 75
        - A.A
        - Genetics
    - Modifiable:
        - Lipids: TC >200
        - Triglycerides >150
        - LDL >160
        - HDL <40
        - BP 140/90
        - DM
        - Tobacco use
        - Inactivity
        - Obesity
        - Fasting glucose >100
        - Depression, hostility and anger
- Heart disease
    - Risk factors:
        - Smoking
        - High LDL
        - Male sex
        - Older age
        - African Americans
        - Uncontrolled blood pressure
        - Physical inactivity
        - Obesity
        - Uncontrolled diabetes
        - Uncontrolled stress
        - Poor diet
        - Alcohol use
- Myocarditis: inflammation of the myocardium
    - Can be viral, fungal or bacterial
    - Can be from a systemic inflammatory disease (Chron's)
    - Manifestations: tachycardia, murmur, friction rub auscultated in lungs, cardiomegaly, chest pain and dysrhythmias, flu-like symptoms
- Nitroglycerin
    - Methods for administration:
        - Sublingual
        - Patch
        - Drip
        - Paste
    - Pulmonary Embolism
        - Manifestations:
            - Sharp, substernal or epigastric pain arising from inferior portion of pleura, patient may be able to

        - **localize pain, dyspnea, tachypnea, cough or sudden onset of chest pain, tachycardia, anxiety, fear, diaphoresis, syncope or hemoptysis**
    - **Pharmacologic treatment:**
        - **Anticoags: heparin, lovenox, warfarin**
        - **Direct factor Xa inhibitor: rivaroxaban**
        - **Thrombolytic: alteplase, reteplase and tenecteplase**
        - **Embelectomy**
        - **Vena cava filter**
    - **Nursing Interventions:**
        - **Chest X-ray, EKG, ABGs, pulse Ox, V/Q scan, administer O2, Iv access, assess respiratory status and cardiac status, assess LOC, provide emotional support**
- **Acute Respiratory Failure**
    - **Manifestations:**
        - **Dyspnea, orthopnea, cyanosis, pallor, hypoxemia, tachycardia, confusion, irritability, agitation, restlessness or hypercarbia**
- **Acute Respiratory Distress Syndrome (ARDS)**
    - **Interventions:**
        - **Frequent assessment of patients respiratory status, position of patient up right, decrease patient anxiety**
    - **Pharmacologic treatment:**
        - **Oxygen**
        - **Analgesics**
        - **Blood thinners**
        - **Antibiotics**
- **Oxygen Therapy**
    - **Nasal cannula: 1-2 L = 23-30%, 3-5 L = 30-40 %, 6 L = 42%**
        - **Check frequent that both prongs**
        - **Limit rate to the minimum needed to raise arterial oxygen**
        - **Set to a level that provides adequate oxygen delivery to tissues**
        - **2-3 L is usually max**
    - **Simple face mask: Low flow 6-8 L = 40-60%**
        - **Monitor the patient frequently to check placement of the mask**
        - **Support patient if they are claustrotrophic**
        - **Secure medical order to place mask with nasal cannula during mealtime**
    - **Nonrebreather: Low flow 15L = 80-100%**

        - Maintain flow rate so that the reservoir bag collapses only slightly during inspiration
        - Check that the valves and rubber flaps are functioning properly
    - Venturi mask: High flow 4-10 = 24-40%
        - Requires careful monitoring to verify Fi02 at flow rate ordered
        - Check that air intake valves aren't blocked
- Pneumothorax
    - Manifestations:
        - Sudden and pleuritic pain, decreased sounds or absent breath sounds, percussion may be normal or hyperresent, trachea will be deviated
- Pneumonia
    - Diagnostics:
        - Chest x-ray: look for lung inflammation and show consolidation of lung tissue
        - CBC
        - ABGs
        - Blood cultures
        - Sputum cultures
- Ventilator alarms
    - Types:
        - Volume (Low pressure):
            - Indicate a low exhaled volume due to a disconnection, cuff leak or tube displacement.
        - Pressure (high pressure):
            - Indicate excess secretions, client biting the tubing, kinks in the tubing, client coughing, pulmonary edema, bronchospasm or pneumothorax
        - Apnea:
            - Indicate the ventilator does not detect spontaneous respiration in a present time period.
    - Interventions:
        - Maintain adequate volume on the cuff:
            - Assess cuff pressure at least every 8 hours
            - Asses for air leaks
        - Admin meds as needed:
            - Analgesics:
                - Morphine/fentanyl
            - Sedative:
                - Propofol, diazepam, lorazepam or midazolam
            - Neuro-blocking agents:

            - Pancuronium, atracurium and vecronomium
        - Ulcer preventing:
            - Famotidine
        - Antibiotics
    - Reposition tube every 24 hours
    - Provide adequate nutrition
    - Continuously monitor during weaning process
- ETT
    - Interventions upon extubation:
        - Deflate the cuff and remove during peak inspiration
        - Following extubation, monitor for s/sx of respiratory distress or airway obstruction
        - Assess SpO2 and VS every 5 minutes
        - Encourage coughing, deep breathing and IS use
        - Reposition to promote secretion motility
- Positive pressure mechanical ventilation
    - Nursing interventions:
        - Deliver air to lung to keep alveoli open during inspiration and to prevent collapse during expiration
        - Benefits include:
            - Forced/enhanced lung expansion
            - Oxygenation
            - Decreased work of breathing
        - PEEP:
            - Present pressure delivered during expiration
            - Added to prescribed ventilator settings to treat persistent hypoxemia
            - Increased oxygenation
            - 5-15 cm H2)
        - Maintain a patent airway:
            - Assess placement and position
            - Document tube placement at clients mouth
            - 2 staff members to turn
            - Suction secretions to maintain patency
            - Always support ventilator tubing
            - Assess respiratory status every 1-2 hours
            - Suction the tracheal tube to clear secretions
            - Monitor and document ventilator settings:
                - Rate, FiO2, tidal volume
                - Mode of ventilation
                - Use of adjuncts
                - Plateau or PIP
                - Alarm settings
- Postural drainage
    - Use of gravity to drain secretions from the lungs

- Position the patient in a way that promotes drainage of secretions from smaller pulmonary branches into larger ones and can be removed by coughing
- Types:
  - Vibration
  - Percussion
  - Both
- Have tissues and an emesis basin near by

- **Blood product administration**
  - Nursing interventions:
    - Check vitals before, during and after
    - Type and cross to determine the type of blood to give
    - Stay with client because a reaction will occur in the first 15 minutes
    - Large bore IV (18/20)
      - Blood can lyce with smaller ones
    - Ask client if they have had a reaction before
    - 2 RN verification
    - Use Y tubing specific to blood
    - PRBCs over 4 hours
    - Monitor vitals and rate of infusion
    - Don’t mix with other meds because you won’t know where the reaction came from
  - Transfusion reactions:
    - Acute hemolytic: incompatibility
      - Stop treatment
    - Febrile: anti-WBCs
      - Treat with Tylenol
    - Allergic: sensitivity reaction to something in the blood
      - Treat with Benadryl
    - Bacterial: contaminated blood
      - Obtain cultures
    - Circulatory overload: blood given too fast
      - Treat by sitting patient up, slow the rate, administer oxygen and use diuretics
    - Stop the transfusion
    - Administer NS through new IV tubing
- **Chest tubes**
  - Expected findings:
    - Constant, slow bubbling in the suction control
    - Tidaling in the water seal chamber
    - Intermittent bubbling with coughing, sneezing or talking

- **Abnormal/concerning findings:**
  - **Constant bubbling in the water seal chamber = air leak**
  - **Cessation of tidaling in suction = lung re-expansion**

- **ETT suctioning**
  - **Nursing interventions:**
    - **Hyperoxygenate before suctioning**
    - **Suction for intermittently 10 seconds**
  - **Possible complications:**
    - **Hypoxemia**
    - **Atelectasis**
    - **Bradycardia**
    - **Tachycardia**
    - **Increased ETT O2**
    - **Blood pressure fluctuations**
    - **Airway trauma**
    - **Pneumothorax**
    - **Pneumomediastinum**
    - **Bacteremia**
    - **Pneumonia**
    - **hypoxia**

- **Dysrhythmias**
  - **Atrial rhythms: originate in the atrium**
    - **If no on tele check patient's pulse**
    - **Occurs when atrial rate becomes faster than sinus rate**
    - **A. Flutter: 'sawtooth'**
      - **Atrial rhythm is regular**
      - **Rate 250-350 bpm**
      - **Series of well defined p waves when seen together they look as if they flutter**
      - **QRS <0.12 seconds**
    - **A. Fib: 'quivering'**
      - **Atrial rate is unable to be measured**
      - **Ventricular rate is 100 bpm or less**
      - **Atria is not depolarizing – no P waves**
  - **Junctional rhythms:**
    - **Originate in the AV nodes**
    - **When electrical impulses originate in the AV junction, the heart is depolarized in an unusual fashion, this spreads into two different directions.**
    - **Junctional P-wave:**
      - **P wave doesn't have to precede QRS**
      - **P wave can be before, after or during QRS**
    - **Junctional rhythm:**
      - **R-R intervals are constant**

        - 40-60 bpm
        - P wave can come before or after the QRS
        - PRI <0.12 seconds
        - QRS <0.12 seconds
    - Accelerated junctional rhythm:
        - R-R is constant
        - Regular rhythm
        - 60-100 bpm
        - Can be before, after or during the QRS or lost entirely
    - Junctional tachycardia: 100-180 bpm
- Supraventricular tachycardia:
    - If the rate exceeds 150/160 bpm the P wave could very well be approaching on the preceding T wave.
    - To be SVT:
        - Regular rhythm
        - No visible P wave
        - Have a rat similar rate range common to other arrythmias, making further and more accurate identification impossible
- Heart blocks:
    - First degree block:
        - Causes: may be normal, inferior wall MI, digoxin or verapamil
        - TX: monitor
    - Second degree:
        - Causes: organic heart disease, MI, digoxin toxicity, beta blockers and CCBs.
        - TX: monitor, atropine and pacemaker
    - Third degree:
        - Causes: organic heart disease, MI, drugs, electrolyte imbalances, excess vagal stimulation
        - S/Sx: extreme dizziness, syncope, hypotension, decreased cardiac output and AMS.
- Ventricular rhythms;
    - Serious because the heart is intended to depolarize from the top down not the bottom up.
    - Ventricular tachycardia:
        - If the myocardium is extremely irritable, the ventricular focus can speed up and override higher pacemaker sites, this creates a run of PVCs
        - 150-250 bpm
        - Sawtooth look

        - **TX: with a pule you would cardiovert, monito closely, administer oxygen, lidocaine or treat the cause**
        - **Without a pulse you defibrillate**
    - **Torsade de pointes:**
        - **Polymorphic VT**
        - **Usually caused by a potassium or sodium imbalance**
        - **Treatment is IV mag**
    - **Ventricular fibrillation:**
        - **No discernable complex or interval**
        - **Same etiology as VT, PVCs, surgical manipulation of the heart, failed cardioversion**
        - **Treatment: defib, CPR**
        - **Survival is <10% for every minute the patient remains in v-fib**
- **EKG strip**
    - **P-wave: atrial electrical activity, atrial diastole. 0.12-0.20**
    - **QRS: ventricular electrical activity, atrial systole. <0.12**
    - **T-wave: resting phase of ventricle, atrial diastole. 0.33-0.42**
    - **Normal Sinus: R-R interval are constant, rate 60-100, P waves are uniform, PR 0.12-0.20**