1. **Chapter 13 Respiratory Emergencies**

2. **Respiratory Distress**
   - Patients often complain about _______________________.
     - Shortness of breath
   - Symptom of many different _______________________
   - Cause can be difficult to determine.
     - Even for physician in hospital
     - Different ______________________ can contribute to dyspnea.

3. **Respiratory System Anatomy**
   - Respiratory system: all the structures that contribute to _______________________.
   - Includes diaphragm, chest wall muscles, accessory muscles of breathing, and nerves to the muscles
   - ______________________ airway consists of all structures above the vocal cords

4. **Anatomy**

5. **Causes of Poor Breathing**
   - Pulmonary vessels become _______________________.
   - ______________________ are damaged.
   - Air passages are obstructed.
   - Blood ______________________ to the lungs is obstructed.
   - Pleural space is filled.

6. **Signs of Abnormal Breathing**
   - Slower than ________ breaths/min or faster than 20 breaths/min
   - Unequal chest expansion
   - Muscle _______________________
   - Pale or cyanotic skin
   - Cool, damp (_______________________) skin
   - Decreased or abnormal lung sounds

7. **Signs of Abnormal Breathing**
   - ______________________ or irregular respirations
   - Pursed lips
   - Nasal flaring
   - ______________________ breathing: pattern with increasing rate and depth followed by periods of non breathing (apnea)

8. **Dyspnea**
   - Shortness of breath or ______________________ breathing
   - Patient may not be _________________________ enough to complain of shortness of breath.

9. **Upper or Lower Airway Infection**
   - Infectious diseases may affect all parts of the airway.
   - The problem is some form of ______________________ to the air flow or the exchange of gases.
Patient normally has _______________________

10 Acute Pulmonary Edema
- ______________________ build-up in the lungs increasing the distance between
  the alveoli and capillaries
- Signs and symptoms
  - Dyspnea
  - ______________________ pink sputum
- History of chronic congestive heart failure
- Recurrence _______________________

11 Chronic Obstructive Pulmonary Disease (COPD)
- COPD is the result of direct lung and airway damage from repeated infections or
  inhalation of ______________________ agents.
- Chronic _______________________: Chronic irritation of the trachea and bronchi
  (“Blue Bloater”)
- _______________________: Dialation and scarring of the alveoli (“Pink Puffer”)

12 COPD
13 Signs/Symptoms of COPD
- Usually in elderly
- ______________________ chest
- Dyspnea
- ______________________
- Sitting Upright (____________________ Position)

14 Asthma or Allergic Reactions
- Asthma is an acute spasm of the ______________________ associated with
  increased mucus production.
- ______________________ may be audible without a stethoscope.
- An ______________________ can trigger an asthma attack.
- Asthma and anaphylactic reactions can be similar.

15 Asthma
16 Spontaneous Pneumothorax
- Accumulation of ______________________ in the pleural space
- Caused by trauma or some medical conditions
- Very common in pts with ______________________
- Dyspnea and sharp chest pain on one side
- ______________________ or decreased breath sounds on one side

17 Spontaneous Pneumothorax
18 Pleural Effusion
- Collection of ______________________ outside lung
- Causes dyspnea
• Caused by _______________________, infection, or cancer
• Decreased breath sounds over region of the chest where fluid has moved the lung away from the chest wall
• Eased if patient is _______________________up

19 Mechanical Obstruction of the Airway
• Be prepared to treat quickly.
• Obstruction may result from the position of head, the _______________________, aspiration of vomitus, or a foreign body.
• _________________________the airway with the head tilt-chin lift maneuver may solve the problem.

20 Pulmonary Embolism
• A blood _________________________that breaks off and circulates through the venous system
• Signs and symptoms:
  • Dyspnea
  • Acute pleuritic pain
  • _________________________: coughing up blood
  • Cyanosis
  • Tachypnea
• Varying degrees of _________________________

21 Pulmonary Embolism

22 Pulmonary Embolism
• Risk Factors:
  • -Recent _______________________
  • -Prolonged bed rest or _______________________
  • -Unusually fast blood clotting
• A PE is a _________________________life threat

23 Hyperventilation
• Overbreathing resulting in a _________________________in the level of carbon dioxide
• Signs and symptoms can mimic an ____________
  • Anxiety/Stressful situation
  • _________________________
  • A sense of dyspnea despite rapid breathing
  • Dizziness
  • _________________________in hands and feet

24 Acute Pulmonary Edema (1 of 2)
• Heart muscle can’t _________________________blood properly.
• Fluid builds up within alveoli and in lung tissue.
  • Referred to as pulmonary edema
  • Usually result of congestive heart failure
• Common cause of _______________________admission

25  □  Acute Pulmonary Edema (2 of 2)

26  □  Dyspnea Signs and Symptoms (1 of 2)
  • Difficulty breathing
  • _______________________or restlessness
  • Decreased respirations
  • _______________________or restlessness
  • Abnormal breath sounds
  • Difficulty speaking
  • ________________________muscles

27  □  Dyspnea Signs and Symptoms (2 of 2)
  • Altered _______________________status
  • Coughing
  • Irregular breathing rhythm
  • Tripod position
  • Barrel chest
  • _______________________conjunctivae
  • Increased _______________________and respirations

28  □  General Emergency Care
  • Give supplemental _______________________at 10 to 15 L/min via nonrebreathing mask.
  • Patients with longstanding COPD may be started on low-flow oxygen (2 L/min) and pulse ox monitored.
  • Assist with _______________________if available.
  • Consult medical control.

29  □  General Emergency Care
  • Transport in position of _______________________
  • Give Bronchodilators if authorized
  • Contact ____________ backup if severe.
  • Severe asthma attacks require injection of _______________________.

30  □  Treatment of Airway Infections
  • Administer warm, _______________________oxygen.
  • Do not attempt to suction the airway or insert an oropharyngeal airway in a patient with suspected _______________________.
  • Transport patient in position of comfort.

31  □  Treatment of Acute Pulmonary Edema
  • Administer 100% oxygen via NRB at 10-15LPM.
  • _______________________secretions.
  • Transport in position of comfort.
  • Pt needs administration of _______________________
32 Treatment of COPD
- Assist with prescribed inhaler if patient has one or give bronchodilators if authorized
  - ______________promptly in position of comfort.
- Give ______________(may begin with low concentration and increase until relieved)
  - Monitor ______________drive

33 Treatment of Spontaneous Pneumothorax
- Administer ______________.
- Transport in position of comfort.
  - ______________closely.

34 Treatment of Asthma or Allergic Reactions
- Obtain ______________.
  - Assess vital signs.
- Assist with ______________if patient has one.
  - Administer ______________oxygen via NRB at 10-15 LPM
- Transport promptly.

35 Status Asthmaticus
- Severe asthma attack that is not relieved by ______________
  - Severe ______________threat
  - ______________backup and rapid transport is vital

36 Treatment of Pleural Effusion
- Definitive treatment is performed in a ______________.
  - Administer oxygen and ______________measures.
- Transport promptly.

37 Treatment of Mechanical Obstruction
- ______________airway.
  - Administer oxygen.
  - ______________promptly.

38 Treatment of Pulmonary Embolism
- Administer oxygen.
  - Place patient in comfortable position, usually ______________.
  - ______________breathing as necessary.
- Keep airway clear.
  - Transport promptly.

39 Treatment of Hyperventilation
- Complete initial assessment and ______________of the event.
  - Assume underlying problems.
  - Having patient breathe into a paper bag is ______________recommended
• Give oxygen.
• __________________________ patient and transport.

40 Geriatric Needs
• Aging __________________________ respiratory system.
• Older patients are at risk for lung diseases.
• They may need __________________________ support.

41 Pediatric Needs
• __________________________ is common in childhood.
• Cyanosis is a __________________________ finding.
• Treatment is the same as for an __________________________.

42 Inhalers/Respiratory Drugs
• __________________________: Relaxes smooth muscles in the tracheobronchial tree
• Results in dilation or opening of the airways
• Helps to loosen __________________________ plugs

43 Common Respiratory Medications
• Trade names:
  • Proventil
  • __________________________
  • Alupent
  • Metaprel
  • __________________________

44 Respiratory Medications
• Route is by __________________________
  • Administration Devices
  • - Multi Dose Inhaler (MDI)
  • __________________________

45 Bronchodilators
• Actions:
  • __________________________ the muscles surrounding the bronchioles
  • Enlarge the airways leading to easier passage of air
• Side effects:
  • Increased pulse rate
  • __________________________
  • Muscle __________________________

46 Prior to Administration
• Read __________________________ carefully.
• Verify it has been prescribed by a physician for this patient.
• Consult medical control as required.
• Make sure the medication is ____________________.
• Check for ____________________.

47  Contraindications for Bronchodilators
• Patient unable to help ____________________ inhalation
• Inhaler not prescribed for patient
• No ____________________ from medical control
• ____________________ dose prescribed has been taken.

48  Administration of MDI (1 of 3)
• Obtain ____________________ from medical control or local protocol.
• Check for right medication, right patient, right route.
• Make sure the patient is ____________________.
• Check the ____________________ date.
• Check how many doses have been taken.

49  Administration of MDI (2 of 3)
• Make sure inhaler is at room ____________________ or warmer.
• Shake inhaler.
• Stop administration of ____________________.
• Ask the patient to exhale deeply and put lips around opening.
• If the inhaler has a ____________________, use it.

50  Administration of MDI (3 of 3)
• Have the patient depress the inhaler and ____________________ deeply.
• Instruct the patient to ____________________ his or her breath.
• Continue administration of ____________________.
• Allow the patient to breathe a few times then repeat dose according to protocol.

51  Albuterol (Ventolin)
• Most commonly used bronchodilator in EMS
• Precautions
  • Patients with ____________________ disease
  • Patients with hypertension
• Dosage
  • ___________ mg in ___________ cc of normal saline
  • Usually premixed in ____________________
  • Pediatric dosage must be determined by medical control

52  Xopenex (Levalbuterol)
• Bronchodilator
• Normally used if ____________________ is ineffective or if patient is already taking Xopenex at home
• Precautions
  • Same as Albuterol (C/V disease and HTN)
• Dosage
• ____________mg in ____________cc of normal saline
  • usually premixed in nebulizers
  • pediatric dosage must be determined by medical control

53 Giving Meds Via Nebulizer (1 of 2)
• Route--______________________through hand held nebulizer (HHN)
• Confirm order--Repeat it back
• Confirm medication and _________________________date
• Check for _________________________
• Assemble nebulizer
• Place solution in nebulizer

54 Giving Meds Via Nebulizer (2 of 2)
• Turn on oxygen (_______________________) at 4 to 8 lpm
• Have patient hold nebulizer in mouth and breath in _________________________
• Give until solution is all gone
• Give _________________________after treatment

55 Key Points in Giving Any Medications
• 1. _________________________(repeat) the order
• 2. Make sure patient is NOT allergic
• 3. Make sure you select the right medication
• 4. Check for cloudiness/discoloration
• 5. Check the expiration date
• 6. Check and recheck the _________________________
• 7. Watch for _________________________as well as side effects and allergic reactions

56 Reassessment
• Carefully watch for shortness of breath.
• ____________ minutes after administration:
  • Obtain vital _________________________again.
  • Perform focused reassessment.
• Transport and continue to _________________________breathing.