







Inadequate Breathing

- Breathing not sufficient to support life.
- Signs
 - Rate out of normal range
 - Irregular rhythm
 - Diminished or absent lung sounds

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Poor tidal volume

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Pediatric Note

- Pediatric structures differ:
 - Smaller airway easily obstructed
 - Proportionately larger tongues
 - Smaller, softer, more flexible tracheaLess developed, less rigid cricoid
 - cartilageHeavy dependence on diaphragm for respiration

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Think About It

- How might you recognize the progression from adequate breathing to inadequate breathing in the assessment of your patient?
- How might your patient change during this transition?

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Breathing Difficulty

- Patient's subjective perception
- Feeling of labored, or difficult, breathing
- Amount of distress felt may or may not reflect actual severity of condition.



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O-P-Q-R-S-T

- O When did it begin?
- P What were you doing when this came on?
- Q Do you have a cough? Are you bringing anything up with it?
- R Do you have pain or discomfort anywhere else in your body? Does it seem to spread to any other part of your body?
- S On a scale of 1 to 10, how would you rate your difficulty breathing? Past experiences?
- T How long have you had this feeling?

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Breathing Difficulty Observing Pedal edema Sacral edema Pale, cyanotic, or flushed skin Oxygen saturation, or Sp0₂, reading less than 95 percent on the pulse oximeter

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Continuous Positive Airway Pressure (CPAP)

- Contraindications
 - Nausea and vomiting
 - Penetrating chest trauma
 - Shock
 - Upper GI bleeding or recent gastric surgery
 - Conditions preventing good mask seal

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Continuous Positive Airway Pressure (CPAP)

- Side effects
 - Hypotension
 - Pneumothorax
 - Increased risk of aspiration
 - Drying of corneas

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Continuous Positive Airway Pressure (CPAP)

- Explain procedure to patient.
- Start with low level CPAP.



Continuous Positive Airway Pressure (CPAP)

- Reassess patient's mental status, vital signs, and dyspnea level frequently.
- Raise CPAP level if no relief within a few minutes.



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Chronic Obstructive Pulmonary Disease (COPD)

- Broad classification of chronic lung diseases
- Includes emphysema, chronic bronchitis, and black lung
- Overwhelming majority of cases are caused by cigarette smoking.

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Chronic Obstructive Pulmonary Disease (COPD)

- Chronic bronchitis
 - Bronchiole lining inflamed
 - Excess mucus produced
 - Cells in bronchioles that normally clear away mucus accumulations are unable to do so

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Asthma

- Airflow mainly restricted in one direction
- Inhalation
 - Expanding lungs exert outward pull, increasing diameter of airway and allowing air flow into lungs.
- Exhalation

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• Opposite occurs and air becomes trapped in lungs.

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Pulmonary Edema

- Pressure builds up in pulmonary capillaries.
- Fluid crosses the thin barrier and accumulates in the alveoli.
- Fluid occupying lower airways makes it difficult for oxygen to reach blood.
- Patient experiences dyspnea.

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Pulmonary Edema

- Common signs and symptoms
 - Dyspnea
 - Anxiety
 - Pale and sweaty skin
 - Tachycardia
 - Hypertension
 - Respirations are rapid and labored.
 - Low oxygen saturation



Think About It

- Might it be possible for a patient to have multiple respiratory disorders?
- Could a person with an underlying diagnosis of COPD also have pulmonary edema?









Spontaneous Pneumothorax

Treatment

- Transport for definitive care, as patients frequently require chest tube.
- Administer oxygen.
- CPAP contraindicated

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Epiglottitis

- Treatment
 - Keep patient calm and comfortable.
 - Do not inspect throat.
 - Administer high-concentration oxygen if possible without alarming patient.
 - Transport.





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Usually minor but can be serious, especially in patients with underlying respiratory diseases like COPD

Viral Respiratory Infections

- Often starts with sore or scratchy throat with sneezing, runny nose, and fatigue
- · Fever and chills
- Infection can spread into lungs, causing shortness of breath.
- Cough can be persistent.
 - May produce yellow or greenish sputum

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The Prescribed Inhaler

- Metered-dose inhaler
- Provides a metered (exactly measured) inhaled dose of medication
- Most commonly prescribed for conditions causing bronchoconstriction



The Prescribed Inhaler

- Before administering inhaler
 - Right patient, right time, right medication, right dose, right route
 - Check expiration date.
 - Shake inhaler vigorously.
- Patient alert enough to use inhaler
 - Use spacer device if patient has one.

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The Prescribed Inhaler

Medication Names	albuterol, metaproterenol Proventil, Ventolin, Alupent, Metaprel
Indications	S&S of respiratory distress Prescribed inhaler
Contraindications	Patient unable to use the device (not alert, max dosage) Not prescribed to the patient No written protocol or medical direction
Dosage	Protocol or medical direction
Actions	Beta-agonist, dilates bronchioles
Side Effects	Increased pulse rate, tremors, nervousness
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The Prescribed Inhaler

- To administer inhaler:
 - Have patient exhale deeply.
 - Have patient put lips around opening.
 - Press inhaler to activate spray as patient inhales deeply.
 - Make sure patient holds breath as long as possible so medication can be absorbed.



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The Small-Volume Nebulizer

- Medications used in metered-dose inhalers can also be administered by a small-volume nebulizer (SVN).
- Nebulizing
 Running oxygen or air through liquid medication
- Patient breathes vapors created.

The Small-Volume Nebulizer

 Produces continuous flow of aerosolized medication that can be taken in during multiple breaths over several minutes

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Gives patient greater exposure to medication

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Chapter Review Patients with respiratory complaints (which are closely related to cardiac complaints) may exhibit inadequate breathing. Rapid respirations indicate serious conditions including hypoxia, cardiac

and respiratory problems, and shock.



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Chapter Review

- A pertinent past history and medication list usually provides significant information about the patient's condition.
- Determine the patient's signs and symptoms with a detailed description including OPQRST and events leading up to the episode.

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Chapter Review

- Important physical examination points:
 - Patient's work of breathing,
 - Inspecting accessory muscle use,
 - Gathering pulse oximetry readings,
 - Assuring adequate and equal lung sounds bilaterally,
 - Examining for excess fluid (lungs, ankles, and abdomen), and
 - Gathering vital signs.

Remember Remember • Determine if the patient's breathing is Consider whether to assist a patient or adequate, inadequate, or absent. administer respiratory medications. Do I have protocols and medications Oxygenation that may help this patient? Ventilation therapy Does the patient have a presentation and condition that may fit these Several medications are available that protocols? may help correct a patient's difficulty in Are there any contraindications or risks breathing. to using medications in my protocols? continued on next s AYS LEARNING PEARSON

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Questions to Consider

- What would you expect a patient's respiratory rate to do when the patient gets hypoxic? Why?
- What would you expect a patient's pulse rate to do when the patient gets hypoxic? Why?
- List the signs of inadequate breathing.

Questions to Consider

- Would you expect to assist a patient with their prescribed inhaler when they are experiencing congestive heart failure? Why or why not?
- List some differences between adult and infant/child respiratory systems.

Critical Thinking

• A 72-year-old female complains of severe shortness of breath. Her husband notes she is confused. You note respiratory rate of 8 breaths/minute and cyanosis. Patient has a history of COPD and CHF. Discuss the treatment steps to assist this patient.

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