



Objectives (cognitive):

- Identify the various causes of dyspnea that may mimic asthma.
- Identify the signs of respiratory distress.
- Differentiate between respiratory distress and respiratory failure.
- Describe the assessment of a patient with respiratory distress.
- Discuss the general pathophysiology of asthma.
- List the signs and symptoms of asthma.
- Describe the B.L.S. treatment for a patient with respiratory distress.
- Describe the B.L.S. treatment for a patient with respiratory failure.
- Identify when A.L.S. should be requested for asthma care.
- List 5 diagnostic signs and symptoms that must be assessed and documented prior to the first Albuterol treatment.
- Recite the indications for the use of Albuterol.
- Identify the "5 Rights" of medication administration.
- Identify the proper dose of Albuterol for patients between the age of 1 and 65.
- Recite the B.L.S. protocol for the administration of Albuterol.
- List 5 diagnostic signs and symptoms that must be assessed and documented following the Albuterol treatment(s).
- Recite the procedure for documenting treatment and for recording changes of the patient's condition.

Objectives (Psychomotor) :

- Demonstrate assessment of respiratory rate and quality.
- Detect accessory muscle use.
- Demonstrate proper assessment of lung sounds.
- Demonstrate the use of the "Borg" scale.
- If available, demonstrate proper use of a peak flow meter and recall when to use it.
- Demonstrate how to assemble a nebulizer and attach it to an oxygen tank.
- Demonstrate how to measure the proper dose of Albuterol.
- Demonstrate how to administer the nebulized Albuterol.
- Perform a thorough post treatment assessment of a patient.



I. Differential Diagnosis of Bronchospasm

1. COPD
2. Pulmonary embolus
3. Anaphylactic reactions
4. Pulmonary edema
5. Asthma

II. Pathophysiology

A. Reversible smooth muscle spasm of the airway associated with hypersensitivity of the airway to different stimuli.

1. Smooth muscle contraction
2. Mucosal edema
3. Mucous plugging

B. Triggers of Asthma Attacks

1. Allergies
2. Infection
3. Stress
4. Temperature change
5. Seasonal changes

C. Signs and Symptoms

1. Dyspnea
2. Wheezing
3. Tachypnea
4. Tachycardia
5. Cyanosis
6. Cough
7. Accessory muscle use
8. Inability to speak in complete sentences
9. Anxiety (hypoxia)
10. Prolonged expiratory phase
11. Tripod positioning



III. Assessment

A. *Solicit patient history*

1. Chief complaint
2. History of present illness
 - a) How long
 - b) Events leading up to
 - c) How severe
 - d) Aggravating / Alleviating factors
 - e) Other complaints
 - f) Steroid use in last 24 hours (PO / inhaled)
 - g) Other medications
3. Past medical history
 - a) Confirm asthma history
 - b) Other medical conditions (cardiac?)
 - c) E.D. visits for asthma in last 12 months
 - d) Hospital admissions for asthma in last 12 months
 - e) Previously intubated due to asthma?
 - f) Allergies to medications etc.

B. *Physical Exam*

1. Position found (tripod position)
2. Pursed lip breathing
3. Vital signs
4. Ability to speak in complete sentences
5. Accessory muscle use
6. Lung sounds
 - a) No Wheezing
 - b) Audible wheezing without a stethoscope
 - c) Audible with a stethoscope
 - d) Poor air movement (decreased breath sounds)
7. Patient self-assessment of severity (Borg scale)
8. Peak flow for age 5 and over (if available) or lethargy/irritability for patients under 5 years of age

IV. Pharmacology: Albuterol

A. *Actions*

1. Bronchodilator



2. Minimal side effects

B. Indications

1. Relief of bronchospasm
2. Use with caution in patients with pertinent cardiac history

C. Contraindications

1. Patients with known hypersensitivity to the drug

V. Albuterol Administration – The 5 “Rights”

A. Time

1. Patient experiencing an exacerbation of their previously diagnosed asthma.

B. Patient

1. Is not in respiratory failure
2. Is between one (1) and sixty-five (65) years of age
3. Is not allergic to Albuterol
4. For patients with a history of angina, myocardial infarction, arrhythmia or congestive heart failure, approval received from medical control

C. Drug

Check Albuterol three (3) times prior to administration for

1. Name/Label/Expiration
2. Discoloration
3. Particulate matter/clarity

D. Dose

1. One unit dose (2.5mg/3cc or 0.083%) via nebulizer @ 6-10 LPM. or at a flow rate that will deliver the drug over 5 to 15 minutes
2. Dose may be repeated once, after 10 minutes, if symptoms persist, for a total of two (2) doses

E. Route

1. Adult – nebulized Albuterol on a standard handheld nebulizer.
2. Pediatric – nebulized Albuterol on a standard handheld nebulizer or via non-rebreather.