RESPIRATORY EMERGENCIES

OBJECTIVES

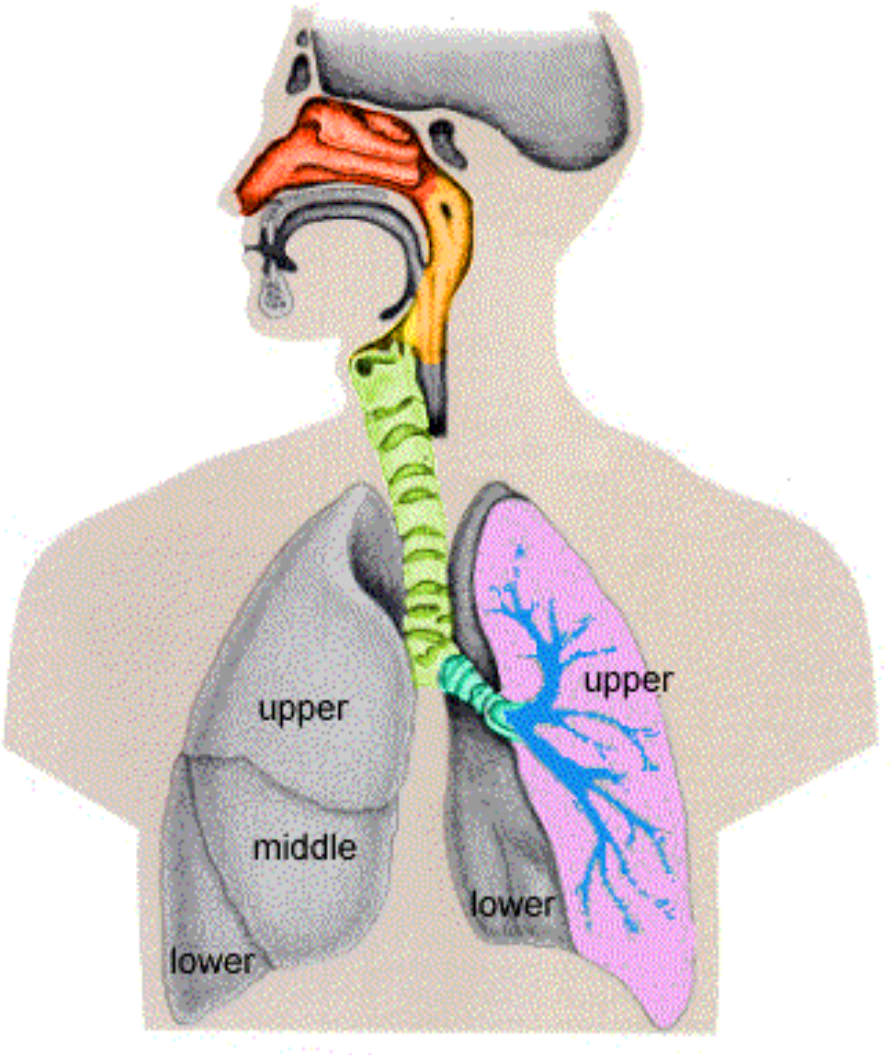
5-1.1 Identify step-by-step procedures regarding respiratory emergencies with at least an 80% accuracy.

OBJECTIVES

- Anatomy Review
- Breathing Difficulty
- Emergency Medical Care – Focused History and Physical Exam
- Metered Dose Inhaler

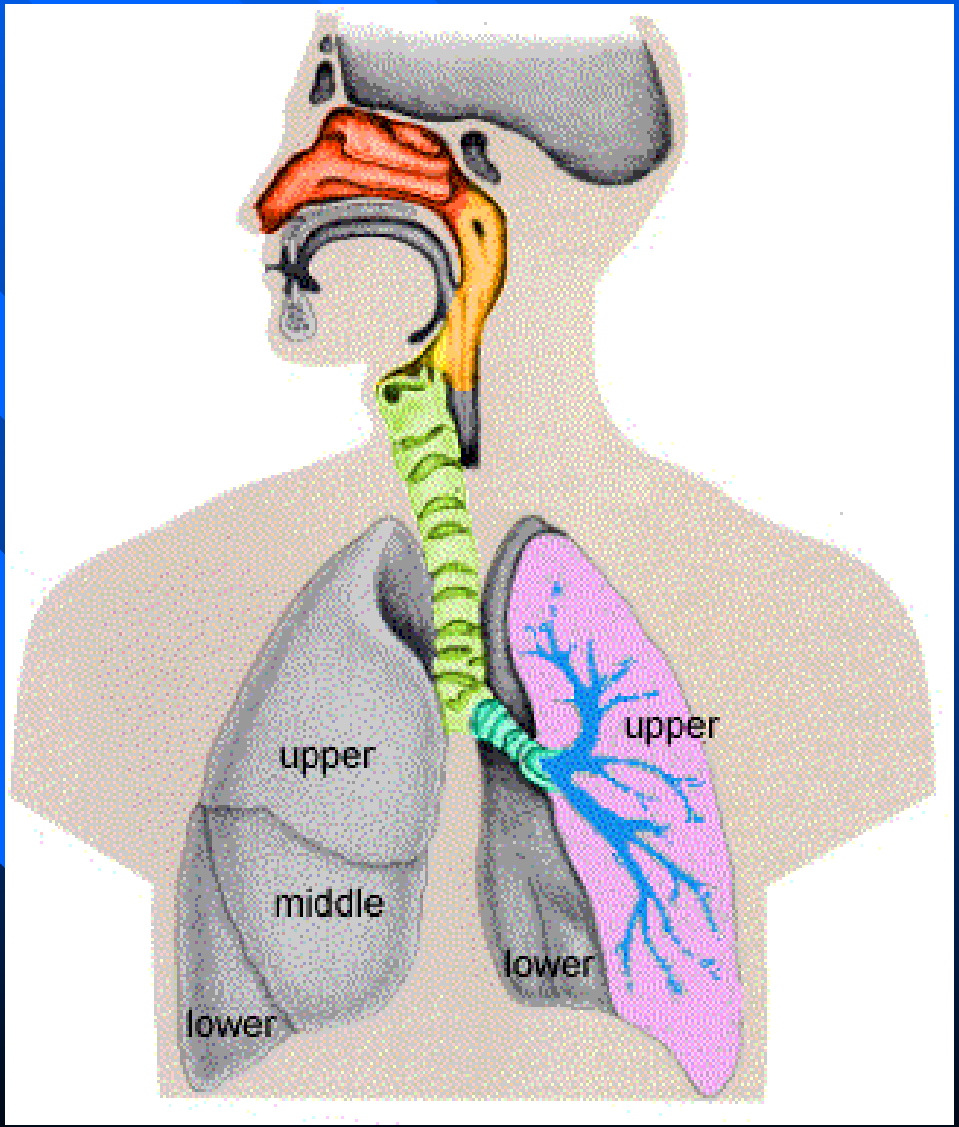
Anatomy Review

- Nose and mouth
- Pharynx
  - –Oropharynx
  - –Nasopharynx



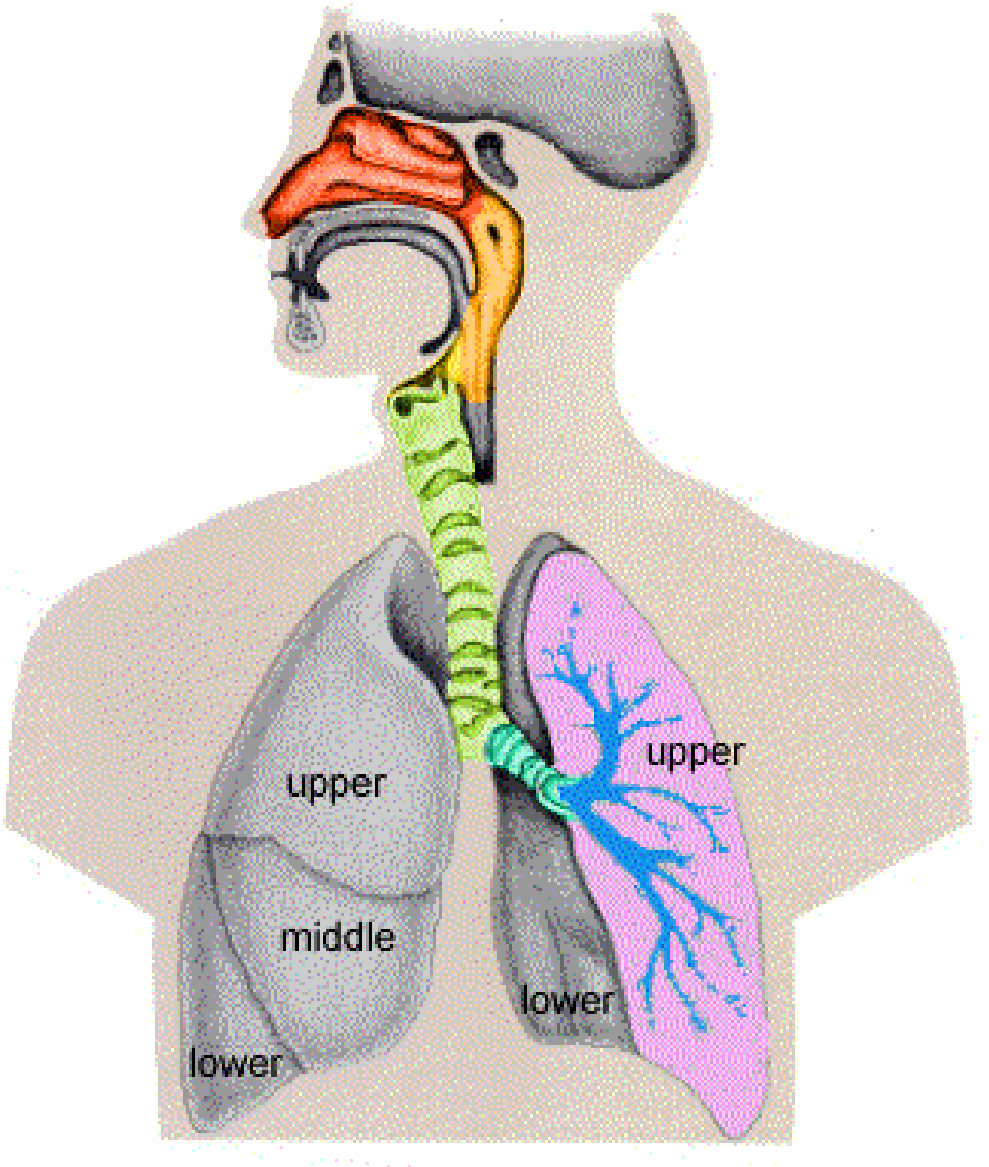
Anatomy Review

- Epiglottis
- Trachea
- Cricoid cartilage
- Larnyx



Anatomy Review

- Bronchi
- Lungs
- Diaphragm



The Process

- Inhalation (active)
  - Diaphragm contracts
    - »Increases the size of the thoracic cavity

The Process

- Exhalation (passive)
  - Diaphragm relaxes
    - »Decreasing the size of the thoracic cavity

Alveolar/Capillary Exchange

- Oxygen rich air enters the alveoli on inspiration
- Oxygen poor blood in the capillaries passes to the alveoli
- Oxygen enters the capillaries as carbon dioxide enters the alveoli

Capillary/Cellular Exchange

- Cells give up carbon dioxide to the capillaries
- Capillaries give up oxygen to the cells

Adequate Breathing

- Normal rate
  - Adult 12-20/min
  - Child 15-30/min
  - Infant 25-50/min
- Rhythm
  - Regular

Adequate Breathing

- Quality
  - Breath sounds
    - »Present and equal
  - Chest expansion
    - »Adequate and equal
  - Effort of breathing

Adequate Breathing

- Depth (Tidal Volume)

Inadequate Breathing

- Rate
  - Outside normal ranges
- Rhythm
  - Irregular

Inadequate Breathing

- Quality
  - Breath sounds
    - »Diminished or absent
  - Chest expansion
    - »Unequal or inadequate
  - Increased breathing effort

Inadequate Breathing

- Depth
- Skin
  - Cyanotic
  - cool/clammy
- Muscle retractions
  - Often seen in children

Inadequate Breathing

- Nasal flaring
  - Often seen in children
- See-saw respirations in infants
- Agonal Respiration's
  - Gasping respirations

Infant and Child Considerations

- Mouth/nose
- Pharynx
- Trachea (windpipe)
- Cricoid cartilage
- Diaphragm

Breathing Difficulty

- Sign and symptoms
  - Shortness of breath
  - Restlessness
  - Increased pulse rate
  - Increased breathing rate
  - Decreased breathing rate

Breathing Difficulty

- Skin color changes
- Noisy breathing
  - Wheezing
  - Gurgling
  - Snoring
  - Stridor

Breathing Difficulty

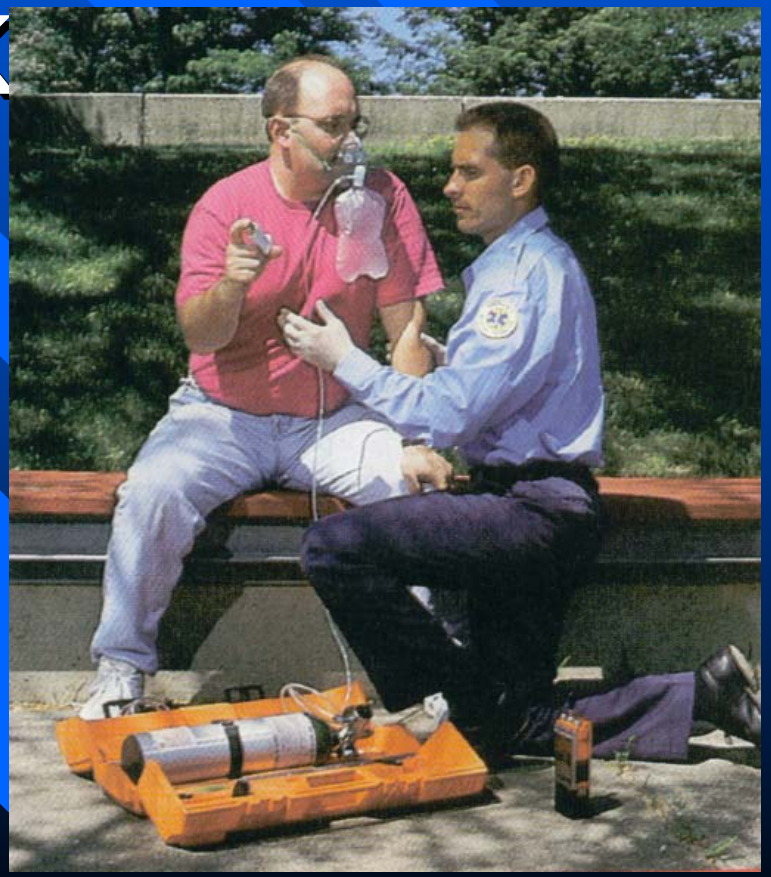
- Inability to speak in complete sentences
- Retractions
- Shallow or slow breathing may lead to altered mental status
- Abdominal breathing

Breathing Difficulty

- Coughing
- Irregular rhythm
- Patient position
- Unusual anatomy

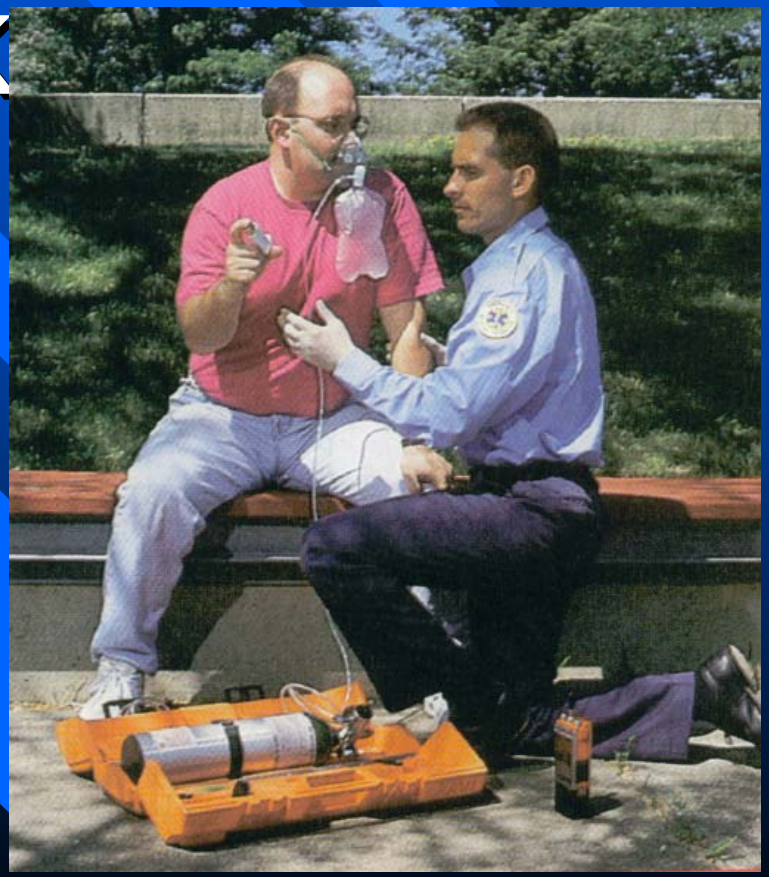
Emergency Care

- Important questions to ask
  - –Onset
  - –Provocation
  - –Quality
  - –Radiation



Emergency Care

- Important questions to ask
  - Severity
  - Time
  - Interventions



Emergency Care

- Complains of trouble breathing
  - Oxygen
  - Baseline vital signs
  - Metered dose inhaler
- Be prepared to ventilate

Metered Dose Inhaler

- Medication name
  - Generic
  - Trade

Metered Dose Inhaler

- Indications
  - Signs and symptoms of respiratory emergency
  - Has prescribed inhaler
  - Authorization from medical direction

Metered Dose Inhaler

- Contraindications
  - Inability to use inhaler
  - Inhaler not prescribed No permission from medical direction
  - Patient taken max dose

Metered Dose Inhaler

- Medication Form
- Dosage
  - Based upon medical direction
    - »Max dose 3

Administration

- Obtain order
- Assure four rights
- Check expiration date
- Check to see if patient had taken any doses
- Assure inhaler at room temperature

Administration

- Shake the inhaler
- Remove NRB
- Have patient exhale
- Put lips on opening of inhaler

Administration

- Depress inhaler while patient inhales as long as they comfortably can
- Have patient hold their breath as long as they comfortably can

Administration

- Replace NRB
- Allow patient to breath a few times
- Repeat per medical direction

Metered Dose Inhaler

- Actions
  - Dilates bronchioles
  - Reduces airway resistance

Metered Dose Inhaler

- Side Effects
  - Increased pulse rate
  - Tremors
  - Nervousness

Metered Dose Inhaler

- Reassessment strategies
  - Vital signs and focused reassessment
  - Patient may need positive pressure ventilation

Infant and Child

- Hand-held inhalers is very common in children
- Cyanosis is a late finding in children

Infant and Child

- Retractions are more common
- Very frequent coughing
- Inhalers

Review

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Review

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- Breathing Difficulty
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- Metered Dose Inhaler