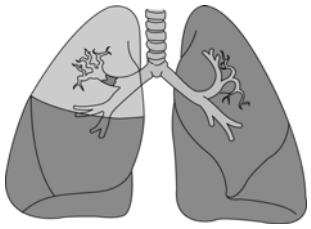
Respiratory Care



Factors that affect the ability to breathe

- Age
- Positioning
- Elevated temperature
- Exercise
- Drugs/medications
- Obesity
- Emotions/pain
- Immobility
- Smoking
- Heart disease

Abnormal signs and symptoms

- Labored respirations
- Shortness of breath (SOB)
- Noisy respirations (Stertorous)
- Too fast or too slow
- Activity intolerance
- Shallow respirations
- Dyspnea
- Sputum- change in color/amt.
- Cyanosis
- Hemoptysis
- Wheezing

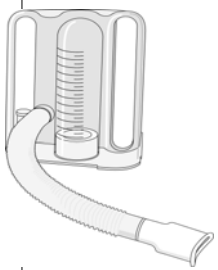
If SOB is a chronic problem

- Group care activities
- Allow rest between activities
- Position patient erect
- Possibly orthopneic
- Use calm slow movements
- Notify nurse of increased anxiety.

Common Respiratory Disorders

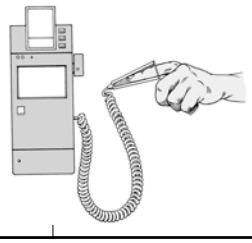
- COPD
- Bronchitis
- Asthma
- Emphysema
- Pneumonia
- Tuberculosis
- Pulmonary Embolism
- URI
- Sleep Apnea

How to prevent **atelectasis**
a collapsed airless condition of alveoli



- Incentive spirometer
- TCDB, splinting
- Positioning
- activity; OOB
- Report c/o pain

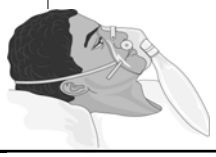
Pulse Oximeter- two light sources and a photo detector sense color changes in hemoglobin when placed across from each other.



- Probe usually on finger
- ear lobe, toe, bridge of nose, foot or palm of baby.
- Dark polish or artificial nail?
- Change sites qd
- Report all results to RN
- Usually < 92% abnormal
- Trouble Shooting- poor circulation, anemia, dark pigmentation, vigorous movement.

Types of Oxygen Masks

- Simple- used for low to moderate oxygen.35-50% @ 6-12L/min
- Non-rebreathing 60-90%, accurate Valve prevents expired air from flowing back into bag. Bag remains inflated during inspiration/expiration. Can't use high humidity. Fits snugly.
- Venturi-**precise** high O2 flow, 24-50%, or low O2 for COPD.Air entrainment ports must not be occluded.



Partial Rebreathing Mask

- Lightweight, easy to use.
- Reservoir bag conserves O2.
- Concentrations of 40-60%.
- Flow rates of 6-10L/min.
- Can't use with high humidity.
- Mask should fit snugly.
- Bag shouldn't collapse during inspiration.

How to use an Incentive Spirometer

(keep in plastic bag when not in use)

- Bed in upright position/chair
- If preoperative measurement not done, use guide in spirometer pkg.
- Set marker at goal.
- Client exhales completely.
- Then places mouth tightly around mouthpiece.
- Client inhales slowly to raise and maintain flow rate indicator.
- Client then removes mouthpiece and holds breath for 3-5 sec.
- Now client exhales through pursed lips. Repeat X3 then cough.
- Should be done q1h

Humidifier- container of **sterile** water (usually prefilled, attached to oxygen delivery system)

- Liquefies lung secretions
- Oxygen flows through water, becomes moisturized
- Changed when water becomes low, or q24hrs.
- Some facilities are only using humidifiers for oxygen over 2 l.
- Follow facility policy

Sleep Apnea

repetitive cessation of airflow during sleep

- 7-10 x more common in men, small pharyngeal airway, altered neural control of respiratory muscles, hormonal imbalance.
- Tongue/soft palate fall back, causing partial/complete obstruction
- Obstruction may last for 15-90 seconds.
- During apneic period, severe hypoxemia, and hypercapnia.
- These ventilatory stimulants waken pt. 200-400 cycles in 6-8hrs.
- Tx. Avoid sedatives/alcohol 3-4 hrs. before bed, wt. Loss, oral appliance advances mandible, nCPAP/BiPap mask therapy, surgery.
- nCPAP nasal continuous positive airway pressure blower continuous
- BiPAP bilevel positive airway pressure - high pressure during inspiration, and lower pressure during expiration. Compliance is poor.
- Surgically removing tonsillar pillars, uvula, posterior soft palate, or advancing the muscular part of tongue to the mandible.