



COURSE OBJECTIVES

- 1. Refresher on basic anatomy of respiratory system.
- 2. Common disorders of the respiratory system.
- 3. Respiratory system assessment.
- 4. Lungs sounds auscultation.
- 5. Pulse oximetry.
- 6. Oxygen delivery systems.
- 7. Suctioning.
- 8. Nebulizer treatment.
- 9. Tracheostomy care.
- 10. Refresher on commonly used respiratory medications.

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ANATOMY OF THE RESPIRATORY SYSTEM

1. Respiratory tract: upper and lower

- A. Organs in the upper respiratory tract include: nares (nostrils), nasal cavity, pharynx, larynx and trachea.
- B. Structures of the lower respiratory tract include: the lower trachea, bronchi, bronchioles, alveoli, lungs, pleural membranes and intercostal muscles.

2. Pleural membranes

- A. Parietal pleura
- B. Visceral pleura



















AGING PROCESS

As a person ages, changes occur to the respiratory system include:

- Decreased exchange of oxygen and carbon dioxide, caused by decreased circulation.
- Increased anterior/posterior diameter of the chest due to skeletal changes associated with aging (kyphosis).
- Chest wall becomes stiffer and more difficult to move.
- Respiratory muscles may weaken.
- Increased airway resistance.
- Impaired cough mechanism.
- Lungs lose some of their elastic recoil (like a rubber band in the sun).
- Muscles of the larynx and pharynx atrophy.
- Decreased vital capacity, residual volume and functional capacity.

- Acute bronchitis
 - Etiology/Pathophysiology
 - Inflammation of the trachea and bronchial tree
 - Usually secondary to upper respiratory infection
 - Exposure to inhaled irritants
 - Clinical manifestations/assessment
 - Productive cough; wheezes
 - Dyspnea; chest pain
 - Low-grade fever
 - Malaise; headache



COMMON RESPIRATORY DISORDERS

- Acute bronchitis (continued)
 - Medical management/nursing interventions
 - Cough suppressants
 - Antitussives
 - Antipyretics
 - Bronchodilators
 - Antibiotics
 - Vaporizer
 - Encourage fluids

COMMON RESPIRATORY DISORDERS

• Adult respiratory distress syndrome

- Etiology/pathophysiology
 - Complication of other disease processes
 - · Direct or indirect pulmonary injury
- Clinical manifestations/assessment
- Respiratory distress
- Tachycardia
- Hypotension
- Decreased urinary output



• Asthma

- Etiology/pathophysiology
- Narrowing of the airways due to various stimuli
- Extrinsic or intrinsic factors
- Influenced by secondary factors
- Antigen-antibody reaction



COMMON RESPIRATORY DISORDERS

• Asthma (continued)

- Clinical manifestations/assessment
- Mild asthma
 - Dyspnea on exertion
 - Wheezing
- Acute asthma attack
 - Tachypnea
 - Expiratory wheezing; productive cough
 - Use of accessory muscles; nasal flaring
 - Cyanosis

- Asthma (continued)
 - Medical management/nursing interventions
 - Maintenance therapy
 - Serevent inhalant, prophylactic
 - Corticosteroid inhalant
 - Avoid allergens
 - Acute or rescue therapy
 - Proventil inhalant
 - Aminophylline IV (Acute Care, LTAC) Corticosteroid and epinephrine (PO or SubQ)
 - Oxygen

COMMON RESPIRATORY DISORDERS

Did you know?

That residents with acute severe asthma should have their nebulizers administered via oxygen or they will become hypoxic. If necessary, low-flow oxygen may be administered via nasal cannula to residents while a drug is nebulized with air. This is because it requires highflow oxygen to nebulize a drug (6-8 liters/minute) and if the resident has chronic respiratory disease he will only require a low-flow of oxygen to stimulate his respiration.

COMMON RESPIRATORY DISORDERS

Atelectasis

- Etiology/pathophysiology
 - Collapse of lung tissue due to occlusion of air to a portion of the lung
- Clinical manifestations/assessment
- Dyspnea; tachypnea
- Pleural friction rub; crackles
- Restlessness
- Elevated temperature
- Decreased breath sounds



• Atelectasis (continued)

• Medical management/nursing interventions

- · Cough and deep-breathe
- Analgesia
- Early ambulation
- · Incentive spirometry
- intermittent positive-pressure breathing (IPPB)
- Oxygen
- · Chest percussion and postural drainage
- Bronchodilators; antibiotics; mucolytic agents
- Chest tube

COMMON RESPIRATORY DISORDERS

- Chronic Obstructive Pulmonary Disease (COPD)
 - Chronic bronchitis
 - Etiology/pathophysiology
 - Hypertrophy of mucous glands causes hypersecretion and alters cilia function
 - Increased airway resistance causes bronchospasm
 - Clinical manifestations/assessment
 - Productive cough
 - Dyspnea
 - Use of accessory muscles to breatheWheezing

COMMON RESPIRATORY DISORDERS Chronic bronchitis (continued) Medical management/nursing interventions Bronchodilators Mucolytics Antibiotics Oxygen (low-flow) Pursed-lip breathing

- Chronic Obstructive Pulmonary Disease (COPD)
 - Emphysema
 - Etiology/pathophysiology · The bronchi, bronchioles, and alveoli become
 - inflamed as a result of chronic irritation
 - Air becomes trapped in the alveoli during expiration, causing alveolar distention, rupture, and scar tissue
 - Complication
 - Cor pulmonale
 - Right-sided congestive heart failure due to pulmonary hypertension

COMMON RESPIRATORY DISORDERS

- Emphysema (continued)
 - · Clinical manifestations/assessment
 - Dyspnea on exertion
 - Sputum
 - Barrel chest
 - Chronic weight loss
 - Emaciation
 - Clubbing of fingers



COMMON RESPIRATORY DISORDERS

- Emphysema (continued)
 - Medical management/nursing interventions
 - Oxygen (low-flow)
 - Chest physiotherapy
 - Bronchodilators; corticosteroids; antibiotics; diuretics
 - Humidifier
 - Pursed-lip breathing
 - High-protein, high-calorie diet

Did you know?

The administration of oxygen, except in a very low concentration (24-28%) could be fatal to residents with chronic pulmonary disease. This is because carbon dioxide is retained in the blood and the chemoreceptors in the brain become less sensitive to high blood levels of carbon dioxide. The resident can then become done and any on low owygen (bwgen) bo then become dependent on low oxygen (hypoxia) to stimulate respiration. Therefore, if oxygen is given to correct the hypoxia, the resident's respiratory drive may be removed.

COMMON RESPIRATORY DISORDERS

Influenza

- Etiology and Pathophysiology
- Influenza, commonly referred to as the 'flu' is caused by the influenza virus, which can be spread by coughing, sneezing or nasal secretions.
- Can occur at any time, but most occur from October through May.
 Signs and Symptoms
- Fever
- Chills .
- Cough Sore Throat ٠
 - Headache
- Muscle Aches Fatigue
- Runny or stuffy nose





- Preventive:
 - Influenza vaccination annually
- Fluids
- Bedrest
- Analgesics



- Legionnaires' disease
 Etiology/Pathophysiology
- Z
- Thrives in water reservoirsCauses life-threatening pneumonia

• Legionella pneumophila

- Leads to respiratory failure, renal
- failure, bacteremic shock, and ultimately death

COMMON RESPIRATORY DISORDERS

- Legionnaires' disease (continued)
 - Clinical manifestations/assessment
 - Elevated temperature
 - Headache
 - Nonproductive cough
 - Difficult and rapid respirations
 - Crackles or wheezes
 - Tachycardia
 - Signs of shock
 - Hematuria

COMMON RESPIRATORY DISORDERS

• Legionnaires' disease (continued)

- Medical management/nursing interventions
 - Oxygen
 - Mechanical ventilation, if necessary
 - IV therapy
 - Antibiotics
 - Antipyretics
 - Vasopressors

• Lung cancer

- Etiology/pathophysiology
 - Primary tumor or metastasis
 - Small-cell, non-small-cell, squamous cell and large-cell carcinoma
- Clinical manifestations/assessment
- Hemoptysis
- Dyspnea
- Wheezing
- Fever and chills
- Pleural effusion



COMMON RESPIRATORY DISORDERS

- Lung cancer (continued)
 - Medical management/nursing interventions
 - Surgery
 - Most are not diagnosed early enough for curative surgical
 - intervention
 - Segmental resection
 - Lobectomy
 - Pneumonectomy
 - Radiation
 - Chemotherapy

COMMON RESPIRATORY DISORDERS

- Pleural effusion/empyema
 - Etiology/pathophysiology
 - Pleural effusion
 - Accumulation of fluid in the pleural space
 - Empyema—infection
 - Clinical manifestations/assessment
 - Dyspnea
 - Air hunger
 - Respiratory distress
 - Fever



- Pleural effusion/empyema (continued)
 - Medical management/nursing interventions
 - Thoracentesis
 - Chest tube with closed water-seal drainage system
 - Antibiotics
 - Cough and deep-breathe

COMMON RESPIRATORY DISORDERS

- Pleurisy
 - Etiology/pathophysiology
 - Inflammation of the visceral and parietal pleura
 - Bacterial or viral
 - Clinical manifestations/assessment
 - Sharp inspiratory pain
 - Dyspnea
 - · Cough
 - Elevated temperature
 - Pleural friction rub

COMMON RESPIRATORY DISORDERS

• Pleurisy (continued)

- Medical management/nursing interventions
 - Antibiotics
 - Analgesics
 - Antipyretics
 - Oxygen
 - Anesthetic block for intercostal nerves

- Pneumonia
 - Etiology/pathophysiology
 - Inflammatory process of the bronchioles and the alveolar spaces due to infection
 - Bacteria, viruses, mycoplasma, fungi, and parasites
 - Clinical manifestations/assessment
 - Productive cough
 - Severe chills; elevated temperature
 - Increased heart rate and respiratory rate
 - Dyspnea

COMMON RESPIRATORY DISORDERS

- Pneumonia (continued)
 - Medical management/nursing interventions
 - Oxygen
 - Chest percussion and postural drainage
 - Encourage to cough and deep-breathe
 - Antibiotics
 - Analgesics
 - Expectorants
 - Bronchodilators
 - Humidifier
 - Nebulizer treatments

COMMON RESPIRATORY DISORDERS

• Pulmonary edema

- Etiology/pathophysiology
- Accumulation of serous fluid in interstitial tissue and alveoli
- Clinical manifestations/assessment
- Dyspnea; cyanosis
- Tachypnea; tachycardia
- Pink or blood-tinged, frothy sputum
- Restlessness; agitation
- Wheezing; crackles
- Decreased urinary output; sudden weight gain

- Pulmonary edema (continued)
 - Medical management/nursing interventions
 - Oxygen
 - Mechanical ventilation, if necessary (Acute Care, LTAC settings)
 - Diuretics
 - Narcotic analgesics
 - Nipride (Acute Care Hospital only)
 - Strict I & O; daily weight
 - Low-sodium diet

COMMON RESPIRATORY DISORDERS

- Pulmonary embolus
 - Etiology/pathophysiology
 - Foreign substance in the pulmonary artery • Blood clot, fat, air, or amniotic fluid
 - Clinical manifestations/assessment
 - Sudden, unexplained dyspnea, tachypnea
 - Hemoptysis
 - Chest pain
 - Elevated temperature
 - Increased WBCs

COMMON RESPIRATORY DISORDERS Pulmonary embolus (continued) Medical management/nursing interventions Oxygen HOB up 30 degrees Anticoagulants Fibrinolytic agents

- Tuberculosis
 - Etiology/pathophysiology
 Inhalation of tubercle bacillus (Mycobacterituberculosis)
 - Infection versus active disease
 - Presumptive diagnosis
 - Mantoux tuberculin skin test
 - Chest x-ray
 - Acid-fast bacilli smear x 3
 - Confirmed diagnosis
 - Sputum culture; positive for TB bacilli

COMMON RESPIRATORY DISORDERS

- Tuberculosis (continued)
 - Clinical manifestations/assessment
 Fever
 - Weight loss; weakness
 - Productive cough; hemoptysis
 - Chills; night sweats
 - Medical management/nursing interventions
 - Tuberculosis isolation (acid fast bacilli [AFB])
 - Multiple medications to which the organisms are susceptible

RESPIRATORY SYSTEM ASSESSMENT

An assessment of the respiratory resident include:

- Evaluations and routine monitoring of the respiratory system.
- All residents should have a respiratory assessment upon admission, whenever a change occurs in the resident's respiratory status and as indicated by the resident's diagnosis and/or medical conditions.

RESPIRATORY SYSTEM ASSESSMENT

Knowledge of the resident's current and past respiratory history includes:

- Prior oxygen usage
- Any lab results and/or diagnostics (chest x-ray)
 Steroid use
- Current medication use • Dietary requirements
- Smoking history

- Any history of cancer
 Risk factors for pulmonary emboli
 Sputum production to include color, amount and odor
 Sleeping position, such as number of pillows, fan use, etc.

RESPIRAT	ORY SYSTEM ASSESSMENT
	Normal Adult Respiratory Findings
General Appearance	Appears relaxed.
Breathing Pattern	 Breathing is quiet and easy without apparent effort.
	 Breathing is quiet and passive.
	 May have occasional sighing respirations.
	 Diaphragmatic-thoracic pattern is smooth and regular.
	 Older adulte – calcification at rio articulation points.
Respiratory Rate	 12 – 20 respirations per minute.
Skin	 Appears well oxygenated, no cyanosis or pallor present.
	 Palpation of skin and chest wall reveals smooth skin and a
	stable chest wall; there are no crepitations or bulging.
Nail Bed and	 Minimum angulation between base of nail bed and finger; no
Nail Configuration	thickening of distal finger width.
Chest Wall Configuration	 Symmetric, bilateral muscle development.
	 A:P to transverse ratio is 1:2 to 5:7; larger than these ratios is
	considered barrel chested.
	 Downward and equal slope of ribs; costal angle 90 degrees or
	NSS. • Older edute truthesis is a common finding in the elderh:
	 Order address – Kyphosis is a common finding in the elderly, there is a doreal ecologie with elight trachesi offset
Tracheal Resition	Midline and straight directly above the suprasternal noteb
racional collon	 Older adulte - may be slightly deviated if lymbosic present
Vccal Fremitus	Bilaterally equal mild sensation
	More intense vibratory feeling in unper posterior wall
Respiratory Excursion	Bilateral equal expansion of ribs during deep inspiration
neophatory Encoron	 Older adulte – dept of breath may be less than a younger adult
	but response should be the same.
Percussion	 Resonance heard throughout lung fields.
Auscultation	 Oujet breathing heard throughout all lung fields.
	 Older adults – lung elasticity is diminished resulting in
	decreased culmonary compliance and airway resistance
	increases.



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NOR	MAL, A	BNOR	MAL,	ADVENTIT	IOUS
Type	Characteristic	Intensity	Pitch	Description	Location
	trochesi	1000	nişn	harsh, not roudrely ausculated	ever the traches
	vesicalar	53€	low		most of the langs
	ðronckial	veryloud	high	scandclose to stethoscope; gap between inspik exp sounds	cverthemanshium (nema consolidated areas
Normal	bronshavaticular	melian	nedium		normally in list & 2nd IC americary and between scopulae posteriority; oth locations indicate consolidation
Absorval	atantdereard			heard in ARDS, asthma, ateietasis, emphysems, pleuzal effusion, pneumothoras	
	brenchial			indicates areas of consulidation	
	crackies (ralis)	soft (fine azaddes) or loud (coarse azaddes)	high (fine cucilles) or low (coarse cuckles)	discentizuous, nonsuzieal brief, nor- connoch, hoard on inspiration; assoc. vi ARDS, asthra, branchiectans, branchids, conzolidation, early GIF interstituBhare disease	may sometimes be normal heard at ant. hang basses at natt expiration or offset seelen and a combiner
,	wheere	hah	expirator;	continuous scends normally heard on repiration; note if monophonic (obstruction of I arway) or ooltyphonic (general obstruction), assoc wi- asthma, CHE, chronic bounchies, (OPD, palm, edema	can be anywhere over the kngs; produced when the obstruction
Adventitions	skoucht	lew	erpiratory	centinuous nusical sounds similar to wherees; imply obstruction of larger arways by secretions	
	strider		inspiratory	musical wheese that suggests obstructed traches or larym; nedical energency	heard loudest over traches inspiration
	pletraintò		mip. & esp.	creaking or bruiling sounds; cortinuous or fiscontinuous; as:oc. = pieural iffusion or pneumotherax	usually can be locationd a particular place on chest w
	nedastinai crunck		awisynchroniedw/	under synchronized =/ least trai, are field	Cest least =/patientiale

PULSE OXIMETRY

- Measuring the amount of oxygen absorbed in the arterial blood will provide an indication of the effectiveness of the resident's breathing and/or oxygen therapy.
- This is usually done by using pulse oximetry. A twosided probe is used to transmit an alternating light through a finger (preferred site), toe or earlobe. The wavelength of the light that emerges indicates the percentage of oxyhemoglobin present in the capillaries.

PULSE OXIMETRY

- Normal values of oxygen saturation are 95-99%.
- Readings of 90-95% are usually a cause for concern; however, a resident's medical history must be taken into consideration.
 - For example, a resident with chronic obstructive pulmonary disease (COPD) may have a baseline oxygen saturation of 88% and are comfortable at that level.

Did you know?

You should never attach a sensor by using adhesive tape as this has the potential to cause tissue necrosis.

OXYGEN THERAPY

- Oxygen therapy is the administration of oxygen at a concentration greater than that in normal air, with the intent of treating or preventing the symptoms and manifestations of hypoxia.
- A range of tubing, connectors and masks ensure that the most appropriate product or combination of products are utilized for the resident whether the oxygen is delivered from an oxygen tank, cylinder or an oxygen concentrator.

OXYGEN FACTS

- Oxygen is a colorless, odorless gas.
- Oxygen does not burn, however it makes fires burn faster and hotter as it acts as a catalyst.
- Avoid using any electrical equipment, such as a hair dryer or electric razor near oxygen tanks.
- Keep flammable materials, such as oil and grease away from oxygen equipment.
- Do not use petroleum-based products on your face and hands.

Did you know?

Oxygen should always be prescribed by a physician or physician extender and include the flow rate, delivery system, duration, for what medical condition/disease and how often to monitor saturations.

OXYGEN DELIVERY DEVICES

Oxygen Cylinders

- Oxygen Concentrator • Oxygen concentrators function
- 'E' cylinders are the most commonly used in the long-term setting.
- 'H' cylinders are used frequently for continuous oxygen when a concentrator is not available.
- Portable cylinders, classified as 'M' cylinders are primarily used by private-pay and managed
- care residents when they are
- admitted from home.
- by pulling in room air and removes nitrogen, providing a greater percentage of oxygen concentration to the resident.
- or concentration to the resident. Oxygen concentrators come in a variety of sizes and capacities, from 5 to 10 liters/minute.
- Usage and maintenance should be in accordance with manufacturer's recommendations and guidelines.

OXYGEN SUPPLIES

1. <u>Nasal cannula</u>

- Most common delivery device used.
- Best used for residents with mild hypoxia of oxygen saturations between 90% an 93% and for long-term use in COPD residents to maintain oxygen saturations between 88% to 92%.
- Tubing varies in length to allow for mobility. In some cases, an extension tubing can be connected.
- Monitor for skin breakdown behind the ears.
- Monitor for drying of nares; if flow is 4 liters/minute or greater, a humidifier should be utilized.
- Flow rates greater than 5 liters/minute should be avoided as this will dry out nasal mucosa and cause nasal irritation.
- Never use a petroleum based jelly in nares; water-based gels should be utilized for nasal irritation.

OXYGEN SUPPLIES

- 2. Simple Facemask
 - The simple facemask is made of a clear soft vinyl construction mask to cover the mouth and nose, a metal frame to ensure a tight fit at the nose.

 - The strap on the mask ensures a tight fit around the cheeks and chin, providing maximum resident comfort. Holes in the side of the mask allow for air to be drawn into the mask to supplement the oxygen accumulating in the mask itself.
 - Best used for residents with moderate hypoxia and oxygen saturation between 85% and 93%.
 - Must be used with a concentrator that delivers >5 liters/minute.
 Flow rates less than 5 liters/minute will result in unwanted carbon dioxide (CO2) retention.
 - Usual order is between 6 10 liters/minute for a concentration of 40
 60% of oxygen.
 - Do not place a humidifier on this device.
 - Switch to a nasal cannula for meals.

OXYGEN SUPPLIES

3. Non-rebreather Facemask

- The non-rebreather facemask comes with a clear soft vinyl construction mask to cover the mouth and nose, a metal frame to ensure a tight fit at the nose.
- A strap on the mask to ensure a tight fit around the cheeks and chin and an oxygen reservoir bag to store oxygen to allow for much greater oxygen than the standard mask.
- Best used for residents with severe hypoxia and oxygen saturations below 85%. .
- Often used in emergency situations.
- Do not use a humidifier.
- Do not use a humidher.
 Flow rates less than 8 liters/minute will fail to sufficiently inflate the oxygen reservoir bag resulting in rebreathing unwanted carbon dioxide and a sensation of suffocation.
 It is essential that the oxygen reservoir bag is fully inflated before applying the facemask to the resident. This can be achieved quickly by placing a finger over the outlet plug of the oxygen reservoir bag.
 Oxygen flow should be over 10 liters/minute for maximum effectiveness.
- Liter flow is determined by the resident's current respiratory needs. For example, hyperventilation requires increase in liter flow.

OXYGEN SUPPLIES

- 4. Venturi Mask
- The Venturi mask is often referred to as a variable flow oxygen mask.
 The mask mixes oxygen with room air based on the color port attached.

 - This system provides for the most accurate constant oxygen percentages of all the masks available on the market.
 The larger the ports in the colored connector, the more external air that is drawn in during a breath, reducing the percentage of oxygen.
 Best used when there is concern about carbon dioxide retention.
 - The only mask that will give a precise oxygen concentration based on manufacturer liter flow.
 - Best used when exact oxygen concentration must be utilized when treating certain disease processes.
 - Venturi adapter is color coded to indicate percentage of oxygen and liter flow delivered.
 The adaptors allow for an oxygen range between 24% at 4 liters/minute to 5% at 12 liters/minute.
 Never humidified.

SUCTIONING

- Suctioning is a removal of secretions through the use of negative pressure utilizing a suction catheter device.
- Suctioning is intended to remove accumulated secretions, blood, vomitus and other foreign material from the trachea that cannot be removed by the resident's cough.
- The need to maintain a patent airway and remove secretions from the trachea due to the inability to clear secretions and audible and visual evidence of secretions that persist in spite of the resident's best cough effort.

SUCTIONING		
Contraindications: • Occluded nasal passages • Acute head or neck injury • Irritable airway • Nasal bleeding	 Bleeding disorder Epiglottis Laryngospasm 	
Hazards:		
 Hxypoxia 	Respiratory arrest	
 Hypotension 	 Laryngospasm 	
 Gagging/vomiting 	Atelectasis	
 Nosocomial infection 	 Increased intracranial pressure 	
 Misdirection of catheter 	• Bradycardia	
	 I have a second second back as a second structure. 	
Cardiac arrest	Uncontrolled cougning	

SUCTIONING • The following should be monitored during and following suctioning: • Breath sounds • Skin color • Breathing pattern • Pulse rate and rhythm (regular/irregular) • Sputum/secretions • Color • Consistency • Amount • Presence of blood • Cough • Pulse oximetry

SUCTIONING • Effectiveness of suctioning should be reflected by improved breath sounds and by removal of secretions. Suctioning can be completed through multiple access areas:

• Nasal

- Nasopharyngeal
- Oral catheter or Yankauer

Tracheostomy

TRACHEOSTOMY CARE

• Reasons for a tracheostomy:

- Maintain a patent airway by means of bypassing upper airway (mouth/throat) obstructions.
- Facilitate removal of secretions .
- Decrease work of breathing and increase volume of air entering lungs by reducing anatomical dead space.
- Prevent aspiration of gastric contents

TRACHEOSTOMY CARE

- Tracheostomy care consists of two parts, **suctioning** and **cleaning** of the tracheostomy tube.
 - Suctioning removes secretions and fluids from the trachea, bronchi, and throat while stimulating the cough reflex.
 Tracheal suctioning aids to maintain a patent airway and provide optimal gas exchange of oxygen and carbon dioxide.
 An indication for suctioning may include:
 - increased heart rate
 - increased respiratory rate
 - + decreased oxygen saturation (commonly referred to as $\mathrm{O_2}$ sats)
 - restlessness
 - noisy expirations
 - noted mucous in the tracheostomy tube



- **Cleaning** keeps the cannula path open. Cleaning of the tracheostomy tube includes:
- the removal and cleaning of the inner cannula (in some cases, the inner cannula is disposable and replaced instead of the cleaning process)
- cleaning around the outer cannula
- cleaning of the stoma



NEBULIZER TREATMENTS

- Nebulizers are used to turn prescribed liquid medication into a mist so that it can be inhaled.
- These aerosolized medications are utilized to relieve bronchospasms, mobilize bronchial secretions, administer antibiotics and humidify the respiratory tract.
- Basic guidelines for nebulizer treatments are as follows:
 Require a physician order to include dosage of medication(s),
 - frequency and length of time of treatment.Monitor the resident before, during and after each treatment for heart rate, breath sounds, respiratory rate, pulse oximetry and effectiveness of treatment.
 - Encouraging/assisting the resident to deep breath and cough after each treatment.

NEBULIZER TREATMENTS

- Monitor the resident for side effects. If he/she experience any of the following, stop the treatment, rest for five to ten minutes. If the sensation goes away, continue with your treatment.
- If physical problems persist, stop the treatment and notify the physician:
 Increase in pulse by 20 beats per minute
 Palpitations (noticeable heart beat)

 - Hyperventilation

 - Dizziness • Shakiness
 - Nausea

 - Chest painUncontrollable coughing
 - Facial redness

RESPIRATORY MEDICATIONS

- Bronchodilators
 - Albuterol
 - Levalbuterol
 - Ipratropium Bromide
 - Ipratropium Bromide/Albuterol
 - Tiotropium Bromide
- Reduce Mucus and Secretions • Acelycysteine (Mucomyst)
- Reduce and Control Inflammation
- Fluticasone Proprionate and Salmeterol (Advair)
- Budesonide
- Budesonide/Formoterol Fumarate (Symbicort)



RESOURCES*

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* List is not all inclusive.