Cardiovascular and Respiratory Disorders
Blood Pressure

- Normal blood pressure is 120/80 mmHG (millimeters of mercury)
- Hypertension is when the resting blood pressure is too high
- Systolic BP is 140 mmHG or higher
- Diastolic BP is 90 mmHG or higher
Causes of Hypertension (HTN)

- Narrowed blood vessels
  - the heart pumps with more force to move blood through narrowed vessels
- kidney disorders
- head injuries
- pregnancy problems
- adrenal gland tumors
S/S of HTN

- Headache
- blurred vision
- dizziness
- nose bleeds
Complications of HTN

- HTN can lead to:
  - stroke
  - hardening of arteries
  - heart attack
  - heart failure
  - kidney failure
  - blindness
Managing HTN

- Lifestyle changes can lower blood pressure
- low fat, low salt diet
- healthy weight
- regular exercise
- no smoking
- limited intake of caffeine and alcohol
- managing stress
- certain medications

https://www.youtube.com/watch?v=qWti317qb_w
Coronary Artery disease (CAD)

- Coronary arteries are in the heart
- Job is to supply blood to the heart
- Coronary arteries become hardened and narrow
  - causes heart to get less blood and oxygen
- Most common cause is atherosclerosis
  - plaque builds up on artery walls
Complications of CAD

- angina
- myocardial infarction (heart attack or MI)
- Irregular heartbeats
- sudden death
CAD Risk Factors

- Gender (men more than women)
- Age
- Family Hx
- Race
- Being overweight
- High cholesterol
- HTN
- Smoking
- Diabetes
Treatment goals for CAD

- Relieve symptoms
- Slow or stop atherosclerosis
- Lower the risk of blood clots
- Widen or bypass clogged arteries
- Reduce cardiac events

https://www.youtube.com/watch?v=NZ14XjOQoFY
Angina

- Chest pain from reduced blood flow to heart muscle
- Chest pain is described as:
  - tightness
  - Pressure
  - Squeezing or burning in chest
- Pain can occur in the shoulders, arms, neck, jaw, or back
- Person may appear pale, feel faint, or perspire
- Dyspnea is common
- Nausea, fatigue, and weakness are common
- Can complain of “gas” or indigestion
- Rest relieves symptoms in 3-15 min
Myocardial Infarction

- Infarction means tissue death
- In an MI, blood flow to the heart muscle is blocked
- A thrombus (blood clot) blocks blood flow in an artery with atherosclerosis
Heart Failure aka Congestive Heart Failure

- Occurs when the weakened heart muscles cannot pump normally causing blood to back up
- When left side of heart backs up, it effects the respiratory system
- S/S:
  - dyspnea
  - Increased sputum
  - coughing
  - gurgling sounds in the lungs
  - poor blood flow to the brain causes confusion, dizziness, and fainting
  - kidneys produce less urine
  - blood pressure falls
  - skin is pale
  - 
Right sided Heart Failure

- when the right side of the heart cannot pump correctly, blood backs up into the venous system
- S/S:
  - ankles swell
  - neck veins bulge
  - liver function is effected
  - abdomen is congested
Pulmonary Edema

- very severe form of heart failure
- this is a medical emergency
Care

- assist with:
  - promoting rest and activity as ordered
  - measuring intake and output
  - measuring weight daily
  - assisting with pulse oximetry
  - restricting fluids as ordered
  - promoting a diet low in sodium, fat, and cholesterol
  - preventing skin breakdown and ulcers
  - assist with ROM
  - Assist with transfer and ambulation
  - assist with self-care activity
  - applying compression stockings

**Many older persons have CHF. Tissue swelling, poor circulation, and fragile skin increase risk of pressure ulcers so good skin care and regular position changes are needed.***
Chronic Obstructive Pulmonary Disease (COPD)

- involves chronic bronchitis and emphysema
- Obstruct airflow
- lung function gradually lost
- COPD has NO CURE
Cause of COPD

- Cigarette smoking is the most important risk.
- Pipe, cigar, and other smoking are also risk factors.
- Second hand smoke.
- NOT SMOKING IS THE BEST WAY TO PREVENT COPD.
COPD

- less air gets into the lungs
- less air leaves the lungs
Chronic Bronchitis

- occurs after repeated episodes of bronchitis
- smoking is the major cause
- infection, air pollution, and industrial dusts are also risk factors
S/S of Chronic Bronchitis

- *Smoker’s cough* in the morning is the 1st symptom
- first dry cough, then wet with mucus and pus
- cough becomes more frequent
- person has difficulty breathing and tires easily
- the person MUST STOP SMOKING
- oxygen therapy and breathing exercises are often ordered
Emphysema

- The alveoli enlarge and become less elastic
- do not expand and shrink normally when breathing in and out
- Air gets “trapped” in the lungs and creates a “barrel chest”

Risks/causes

- smoking
- industrial dusts
S/S of Emphysema

- Shortness of breath
- cough
- sputum, may contain pus
- fatigue

Treatment

- stop smoking
- respiratory therapy
- breathing exercises
- oxygen
- medications as ordered
Asthma

- airway becomes inflamed and narrow causing extra mucous to be produced causing dyspnea and wheezing and coughing
- may cause pain and tightening in the chest
- usually triggered by allergies
  - pollutants and irritants
  - smoking and secondhand smoke
  - respiratory infections
  - exertion
  - cold air
- sudden attacks can occur (aka asthma attack)
S/S of Asthma Attack

- shortness of breath
- wheezing
- coughing
- rapid pulse
- sweating
- cyanosis (turning blue)

Try to calm the person as panicking makes the attack worse
Influenza

- Respiratory infection caused by viruses, usually November-March
- Older persons may have these S/S:
  - changes in mental status
  - worsening of other health problems
  - below normal body temperature
  - fatigue
  - decreased appetite and fluid intake
Influenza Treatment

- fluids and rest
- medications are ordered for symptoms relief and to shorten flu episode
- coughing and sneezing spread the flu viruses
- thorough and frequent hand hygiene are stressed
- flu vaccine is the best way to prevent the illness
Pneumonia

- It is an inflammation and infection of lung tissue
- Affected tissue fill with fluid
- Causes are bacteria, viruses, and other microbes
- Factors that increase risk of developing:
  - Over age 65
  - Smoking
  - Aging
  - Stroke
  - Bedrest
  - Immobility
  - Chronic disease
  - Tube feedings
Risk Factors for Developing Pneumonia

- surgery
- dysphagia
- decreased cough
- decreased gag reflexes
- nervous system disorders
S/S of Pneumonia

- Onset may be sudden
- Older persons are at greater risk of death from disease
- Older persons may have different s/s than younger people:
  - confusion
  - dehydration
  - rapid respirations

Treatment

- medications for infection and pain
- decreased fluid intake
- oxygen
- rest
- semi-fowler’s position
Care for Person with Pneumonia

- hand hygiene
- oral care is very important
- frequent linen changes are needed from fever
Tuberculosis (TB)

- Bacterial Infection in the lungs
- if not treated, the person can die
- spread by airborne droplets with coughing, sneezing, speaking, singing, or laughing
- only people with an active infection can spread the disease
S/S of TB

- fatigue
- loss of appetite
- weight loss
- fever
- night sweats
- cough and sputum
- sputum is rust colored due to blood
- chest pain occurs
Care of person with TB

- Tissues are flushed down the toilet, placed in a biohazard bag, or placed in a paper bag and burned
- HAND WASHING IS ESSENTIAL