Bariatric Patients

- Obesity: Person has excessive body fat
- Obese: 30% over ideal body weight
- Severe obesity: 2-3 times over ideal weight
- Imbalance between calories consumed and calories used
- May be attributed to low metabolic rate or genetic predisposition
- Significant, growing problem in U.S.



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So, lets now start Part B of this lesson which covers Bariatric & Genitourinary Disabilities and Chronic Disease. We begin with a discussion on Bariatric Patients. Obesity is a serious condition, defined by excess body fat that can greatly affect one's health. It is linked to a long list of chronic conditions such as type 2 diabetes, heart disease, high blood pressure, sleep apnea, osteoporosis, and stroke.

A person is classified as having obesity and may be referred to as a bariatric patient when they have a body mass index that is equal to or greater than 30. BMI is

used to measure weight in relation to height.

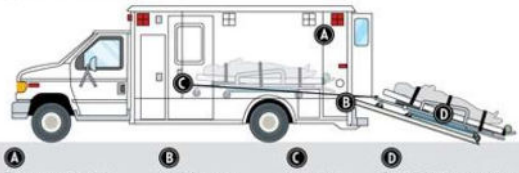
Obesity classes are then determined by what range the BMI falls into. Class 1 obesity encompasses BMIs of 30-34.9, Class 2 as 35-39.9, and Class 3 as 40 and above. The higher the BMI class, the higher the risk for developing chronic diseases.

Obesity | Takeaways for the EMT

- Allow patient to assume comfortable position for breathing
- Large patients may have difficulty breathing if you lay the patient in a supine position
- Prevent EMT back injuries – Have enough assistance when lifting or moving patient
- Special accommodations may be necessary – consider bariatric transport assist devices if available

BARIATRIC AMBULANCE

Southside Fire and EMS has purchased a special-order ambulance that can accommodate patients who weigh as much as 1,600 pounds. Assistant Chief Tim Genest said the need was brought on by increasingly large patients. So far the ambulance has been used about 1.2 times a day and costs about $120,000 – $35,000 more than traditional ambulances.



A. The rear portion of the ambulance is the largest in the Southside fleet. It's 170 inches long, 98 inches wide and is 72 inches tall inside.

B. An 11-foot ramp stored inside the ambulance pulls out and attaches to the rear of the ambulance.

C. A winch that could pull up to 3,000 pounds attaches to the cot.

D. Specially designed cot that can hold up to 1,600 pounds also has handlebars to help EMTs push and pull the patient.

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For bariatric patients, allow the person to assume a comfortable position for breathing, as conditions warrant. Note that large patients may have difficulty breathing if you lay them in a supine position.

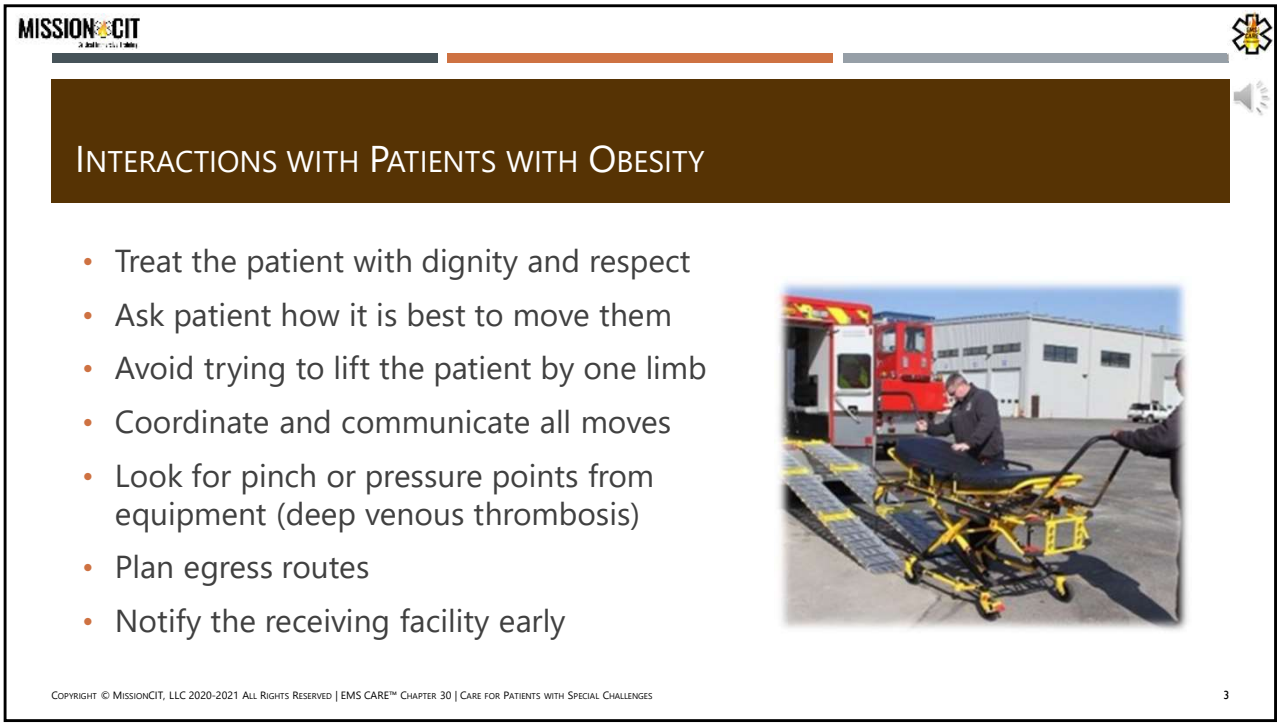
Be sure to do everything possible to prevent EMT back injuries.

Special measures may be necessary to safely assess and treat an extremely obese patient. So, this can be additional ambulance crews, or the fire department to assist with moving the patient. You should know if your truck, ALS, or other vehicles in your agency have

bariatric specific ramps, stretchers, or a winch.

Special carrying devices such as a stokes basket or a mega mover may be required. This is a special unit for transport that can have a larger amount of weight added to the patient compartment.

And in the worst of cases, the physical structure of the building that the patient is in may need to be altered to extricate the patient. The fire department may then wish to contact specific utility services in case power, water, or other service needs to be shut down to alter the structure for patient extrication.



When interacting with patients with obesity, keep in mind,

- Patients may be embarrassed by their condition.
- If transport is necessary, plan early for extra help and specialized equipment.
- Treat the patient with dignity and respect.
- Ask your patient how it is best to move them before attempting to do so.
- Avoid lifting the patient by only one limb, which would risk injury to overtaxed joints.
- Coordinate and communicate all moves prior to

starting to lift.

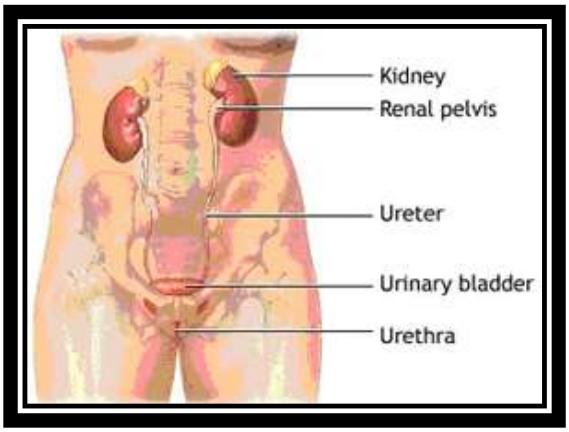
- To prevent significant soft tissue injury or deep venous thrombosis, look for pinch or pressure points from the equipment.

Be sure to effectively plan an egress route to accommodate large patients, equipment, and the lifting crewmembers.

Finally, notify the receiving facility early.

Genitourinary Disabilities

- Refers to the urinary and genital organs
- Chronic kidney or renal failure
- Dialysis



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Genitourinary refers to the urinary and genital organs. Urology is the branch of medicine concerned with the urinary tract. Nephrology is the branch of medicine concerned with the kidney. Disorders of the genitourinary system include a range of disorders from those that are asymptomatic to those that manifest an array of signs and symptoms.

The most common genitourinary disability you will encounter is a patient's chronic kidney or renal failure.

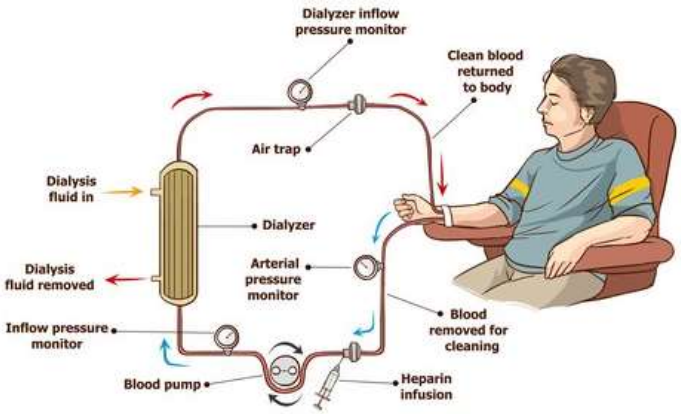
Renal failure patients lose the ability to remove toxins from the blood, maintain fluid and electrolyte balance. It

also limits the ability to control blood pressure and produce red blood cells. As a result, these patients can develop congestive heart failure due to fluid overload. In addition, these patients may also have electrolyte and bleeding disorders, anemia, and symptoms related to toxin accumulation.

Chronic renal failure is a longstanding, smoldering illness that is not reversible. The progressive failure of the kidneys in these patients will result in death if left untreated. Dialysis is used while patients are awaiting transplantation, or if they are not a candidate for this surgery.

Genitourinary Disabilities | Dialysis

- Patient has renal failure
- Dialysis replaces functions of kidney
- Waste removal and fluid removal



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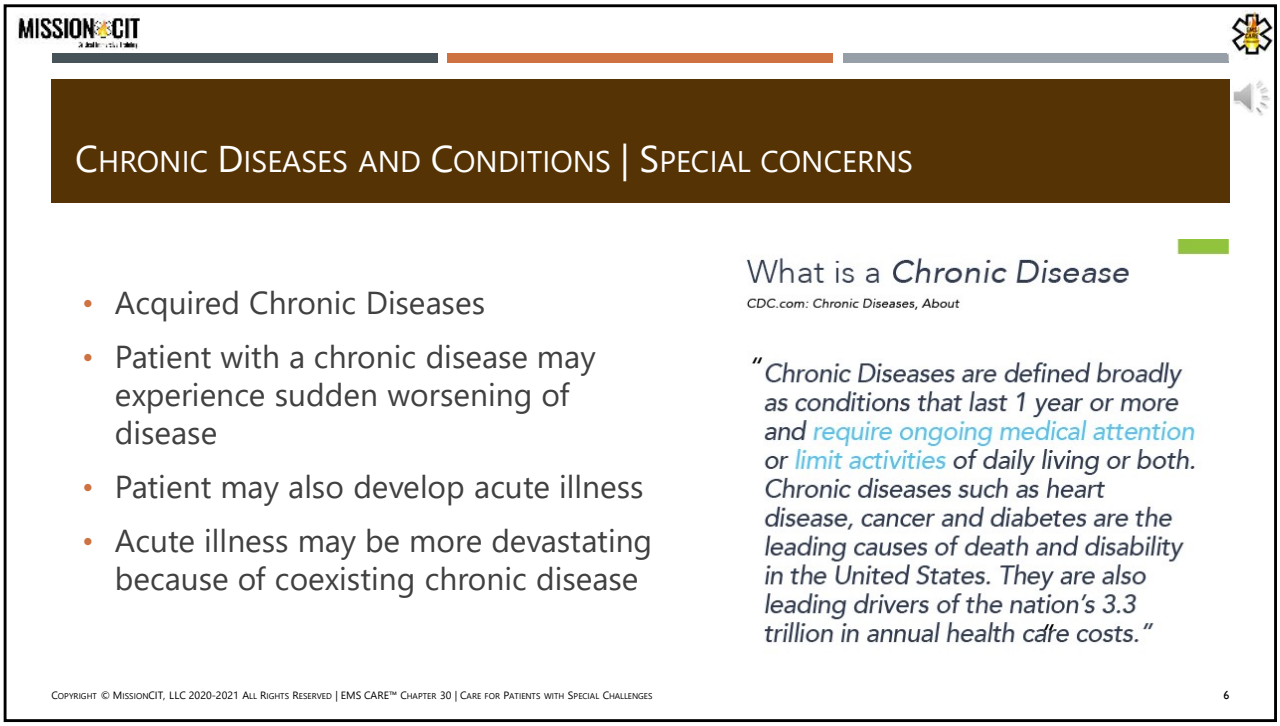
Dialysis is a procedure to remove waste products and excessive fluid from the blood when the kidneys stop working properly. It often involves diverting the blood to be cleaned to an external machine.

Normally, the kidneys filter the blood, removing harmful waste products and excess fluid, and turning these into urine to be passed out of the body

EMS providers may encounter two types of dialysis. The most common is hemodialysis, which is generally conducted in a specialized medical setting. The other type—peritoneal dialysis— involves placing dialysate

directly into the patient’s peritoneal cavity.

We cover dialysis in more depth, during lesson 6b on Gastrourinary advanced medical devices.



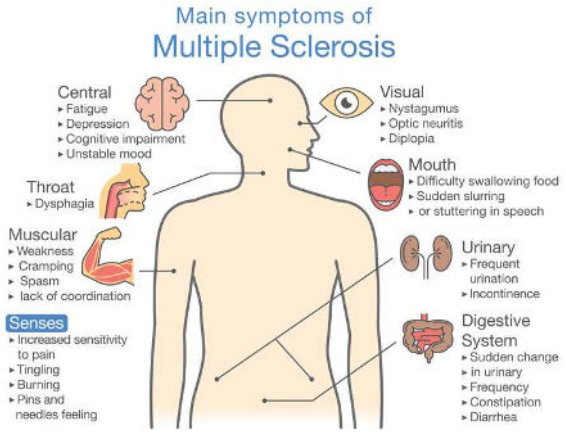
Now we discuss some acquired chronic diseases that the EMT may encounter. An acquired disease or condition is one that occurs after birth; it may be the result of exposure to a virus or bacteria, or it may be the result of another medical condition including Multiple Sclerosis, COPD, and AIDS. In addition to those, other common acquired disorders include Takayasu arteritis, Kawasaki disease, complication of congenital heart disease, and arterial occlusion of transplanted organs, such as hepatic artery and renal artery thrombosis.

With these chronic diseases, the patient may experience

a sudden worsening of the disease. They may also develop an acute illness, which may be more devastating because of the coexisting chronic disease.

Acquired Chronic Diseases | Multiple sclerosis

- Unpredictable disease of the central nervous system that disrupts the flow of information within the brain, and between the brain and body
- Wide range of symptoms
- Care Considerations:
  - ✓ Relapse requires hospital setting
  - ✓ Difficulty speaking, swallowing, breathing
  - ✓ Advanced patients may have DNR



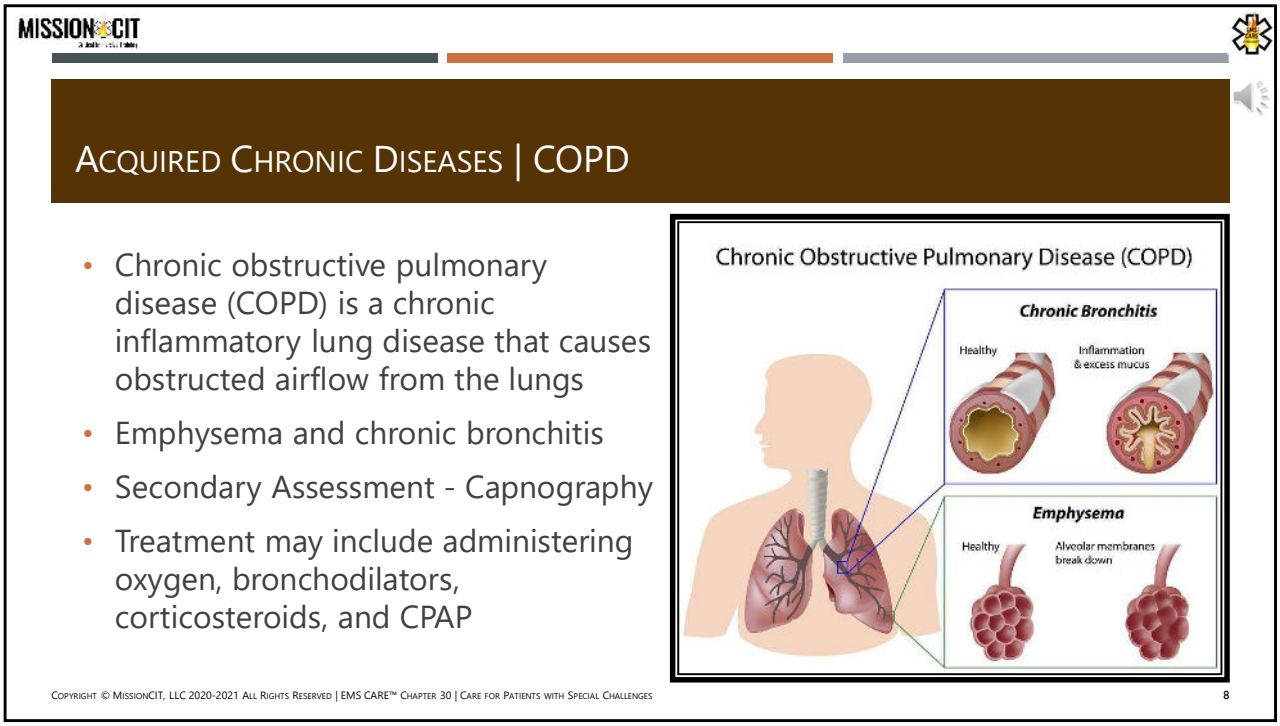
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According to the National Multiple Sclerosis Society, MS is an unpredictable disease of the central nervous system that disrupts the flow of information within the brain, and between the brain and the body.

The progress, severity, and specific symptoms of MS in any one person, cannot yet be predicted. There is a wide range of symptoms. However, for the Diagnosed MS patient, the EMT should be aware of these symptoms: Tremors, Pain in the back of the head, double vision or vision loss, difficulty speaking or slurred speech, fatigue, dizziness, and vertigo.

Care Considerations for dealing with an MS patient vary upon the symptoms which could be a seizure or severe tremors. Although some symptoms may be helped in the prehospital setting, an MS patient having a relapse should get to the hospital.

Advanced MS patients may struggle with walking or any movement, speaking, swallowing, and respiratory issues. As always, be calm and use good communication skills with an MS patient. Keep in mind that depending on how far their disease has progressed, they may have an advance medical directive which could include a DNR order.



According to the Mayo Clinic, Chronic obstructive pulmonary disease is a chronic inflammatory lung disease that causes obstructed airflow from the lungs.

Emphysema and chronic bronchitis are the two most common conditions that contribute to COPD. These two conditions usually occur together and can vary in severity among individuals.

Emphysema is a condition in which the alveoli at the end of the bronchioles of the lungs are destroyed as a result of damaging exposure to cigarette smoke and other

irritating gases and particulate matter.

Symptoms include breathing difficulty, cough, mucus (sputum) production and wheezing. It's typically caused by long-term exposure to irritating gases or particulate matter, most often from cigarette smoke.

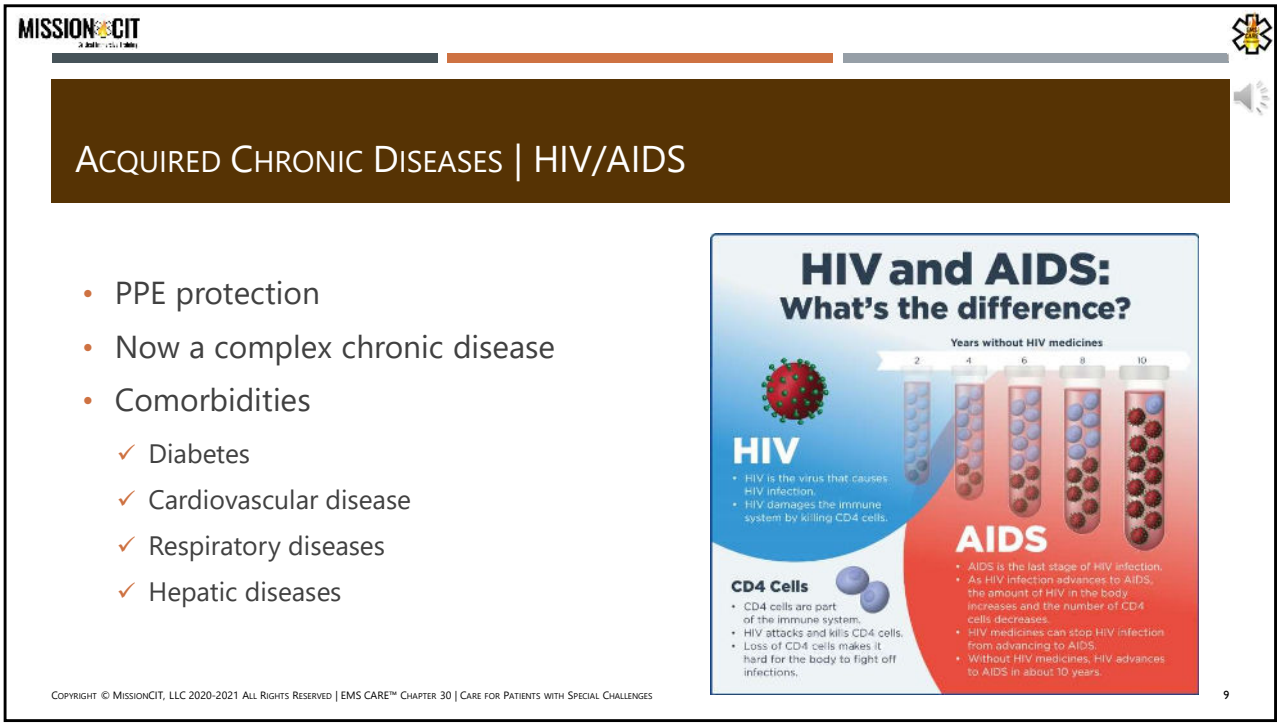
People with COPD are at increased risk of developing heart disease, lung cancer and a variety of other conditions.

Care considerations for the EMS provider are generally to administer oxygen, bronchodilators, corticosteroids, and CPAP.

Consider capnography during secondary assessment to provide the data to ALS or medical control.

The treatment approach for exacerbations of chronic bronchitis and emphysema is the same. Supplemental oxygen administration is vital for hypoxic COPD patients, but too much oxygen may worsen CO2 retention and be harmful.

As there may be contraindications, or regulation concerns on the amount of oxygen to administer, consider contacting ALS or medical control for guidance.



According to HIV.gov, the human immunodeficiency virus attacks cells that help the body fight infection. Hence, making a person more vulnerable to other infections and diseases. It is spread by contact with certain bodily fluids of another person with HIV, or through sharing injection drug equipment.

If left untreated, HIV can lead to the disease AIDS, or acquired immunodeficiency syndrome. The human body can't get rid of HIV, and no effective HIV cure exists.

Care considerations for the EMS provider are to protect themselves with PPE, investigate symptoms and report

findings to the hospital to identify potential infectious disease outbreaks.

According to NIH, HIV has changed from a rapidly deteriorating illness to a complex chronic disease. The effect is increasing incidences of comorbidity, including cancer, as well as liver, lung and cardiovascular diseases.

Note that the most common comorbidities amongst patients with HIV include diabetes mellitus, cardiovascular disease, respiratory diseases, and hepatitis B and C.

This is the end of part B of this lesson. We next move on to Part C, where we will cover EMT care for the Terminally Ill.

Good Studying.