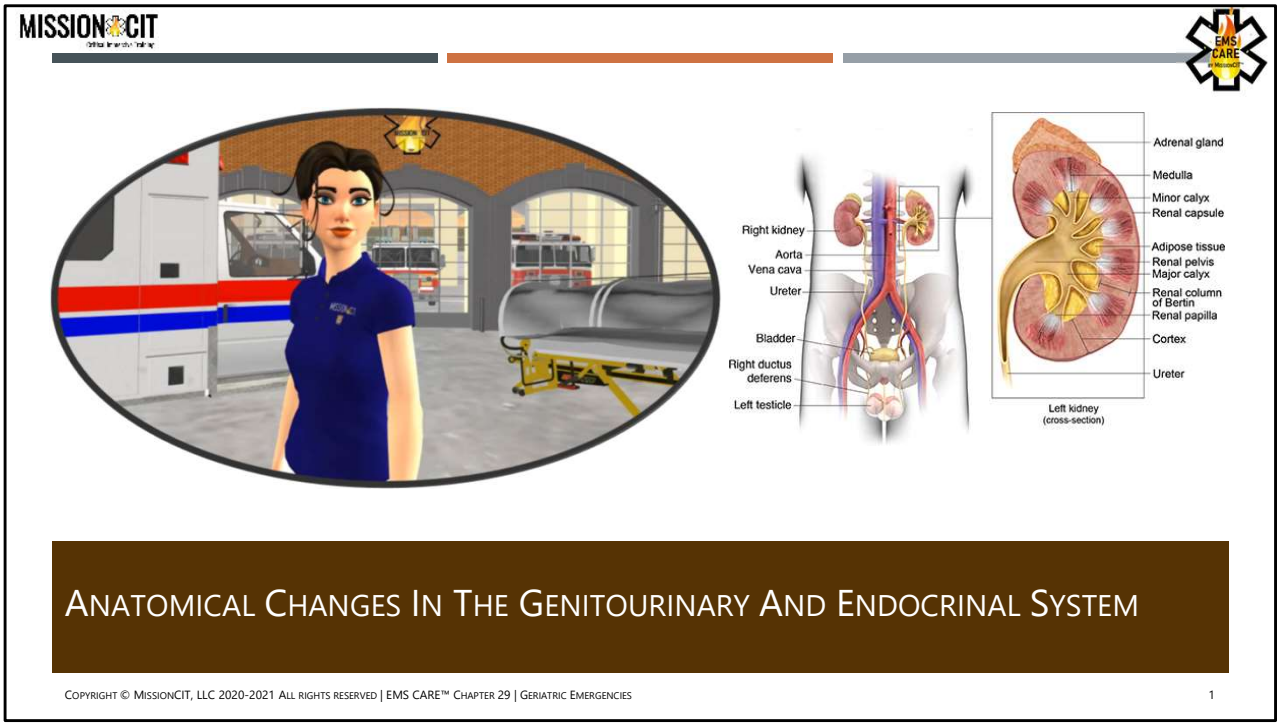
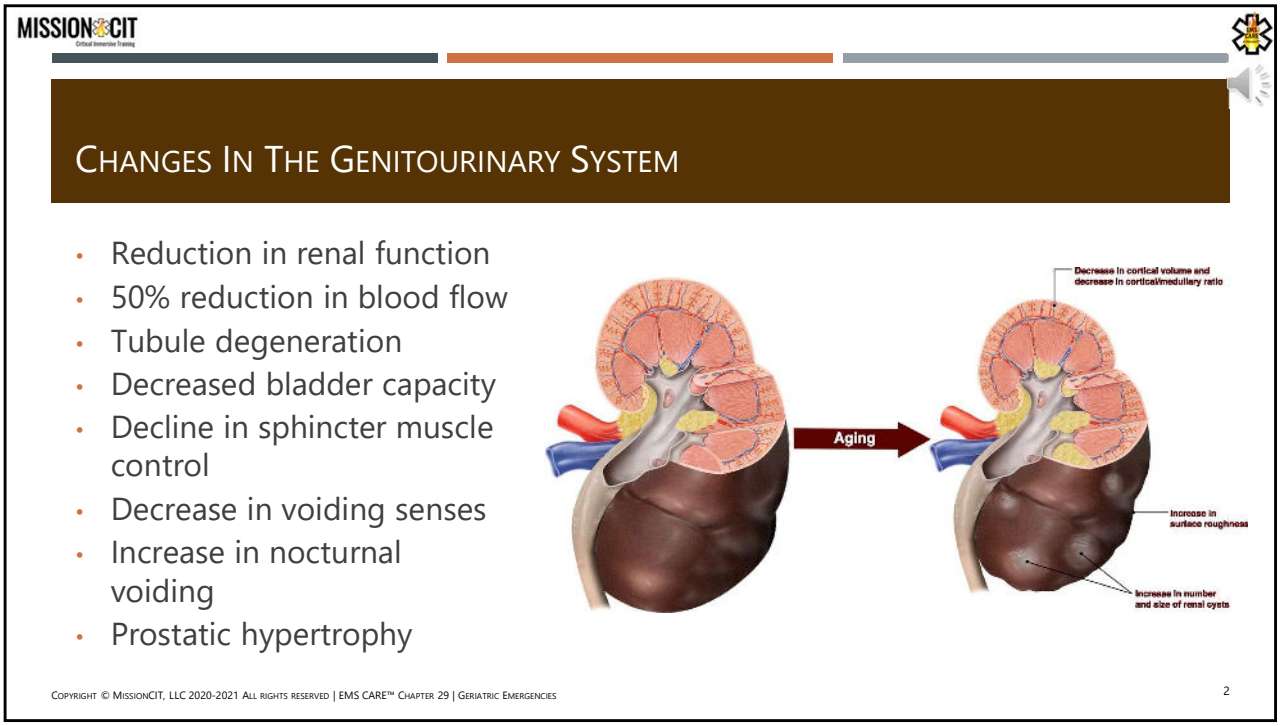


Thank you Justin!

Welcome to this lesson, where we will explore changes due to aging, occurring in the genitourinary and endocrinal systems. We then provide a detailed discussion of a condition called Hyperosmolar Hyperglycemic State.

Good Studying



Just like any other system, the genitourinary system also goes through many changes as we age. Some of the prominent changes are:

- Reduction in the renal function
- A 50 percent reduction in the renal blood flow
- Tubule degeneration
- Decreased bladder capacity
- A decline in sphincter muscle control
- A decline in voiding senses
- Increase in nocturnal voiding
- Prostatic hypertrophy in males

As a result of these changes, urinary tract infections are common, and can lead to fatigue and decreased mobility. Dehydration and hypovolemic shock are also possible as seniors tend to drink a lot less water for fear of wetting.

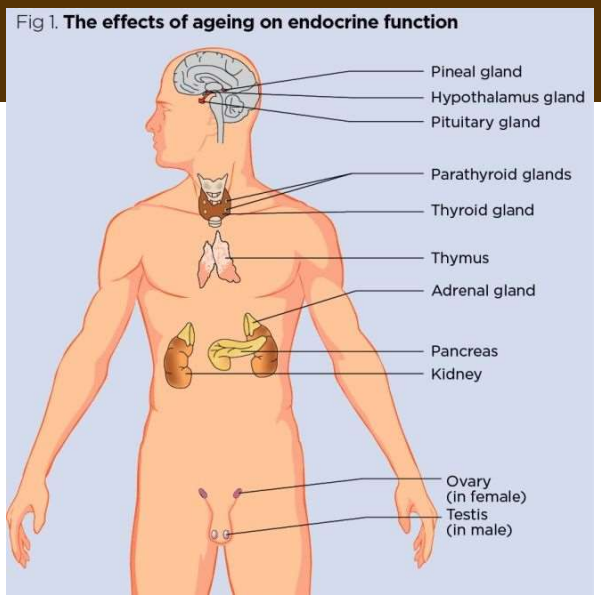
A condition called prostatic carcinoma is likely in males, and this is characterized by sudden moderate to high fever, chills, changes in bowel or bladder function, and melena.

If a patient is suffering from any of these symptoms, stabilize, and arrange for transportation.

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CHANGES IN ENDOCRINAL SYSTEM

- Marked decrease in metabolism of thyroxine
- Reduced pancreatic beta-cell secretion
- Reduced secretion by the hypothalamus and pituitary gland
- Increase in the secretion of antidiuretic hormone
- Epinephrine levels go up



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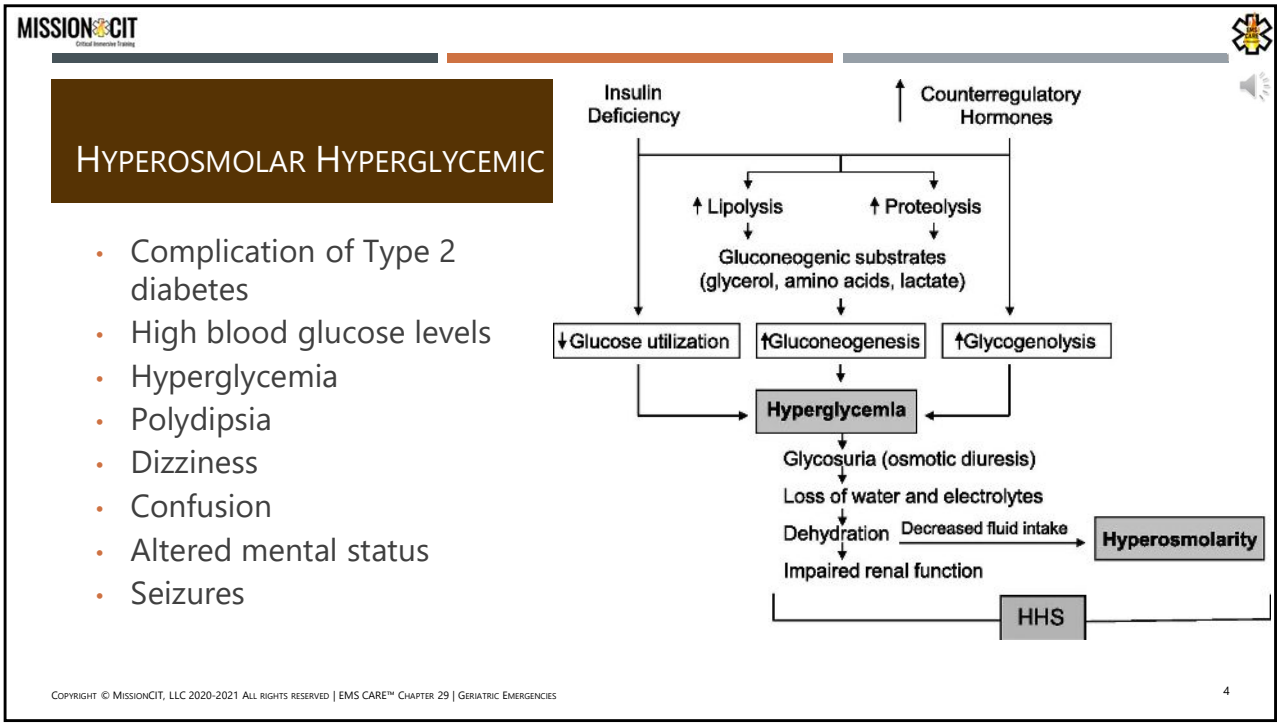
Moving on, we will see the changes in the endocrinal system that is responsible for producing and managing different hormones needed for a variety of functions in the body.

As people age, the following changes happen.

- There is a marked decrease in the metabolism of thyroxine
- The pancreatic beta-cell secretion also reduces, causing hyperglycemia.
- The level of hormones secreted by the hypothalamus and pituitary gland reduces as well

- There is an increase in the secretion of antidiuretic hormone and atrial natriuretic hormones that causes a fluid imbalance in the body.
- Finally, the epinephrine levels go up.

A possible emergency condition that these changes can lead to is hyperosmolar hyperglycemic.

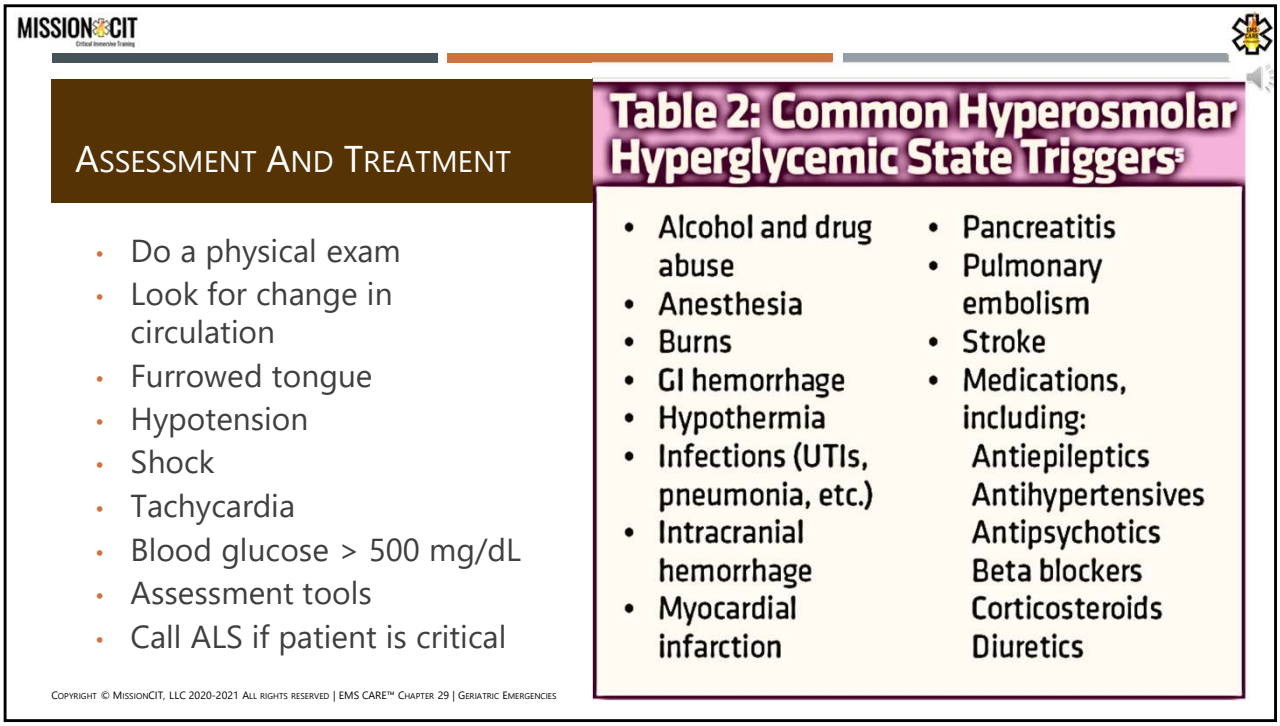


Hyperosmolar hyperglycemic is a complication of type 2 diabetes. A key characteristic of this condition is that the high blood glucose levels don't cause ketosis but lead to osmotic diuresis and a shift of fluids to the intravascular space, which can lead to intense dehydration.

Some of the possible signs and symptoms of this condition are:

- Hyperglycemia
- Polydipsia
- Dizziness
- Confusion

- Altered mental status
- Seizures



If you notice any of these signs, do a physical exam. Specifically, look for changes in circulation, a furrowed tongue, hypotension, shock, tachycardia, blood glucose levels that are greater than 500 mg per dL.

Use assessment tools to monitor blood pressure, distal pulse, breath sounds, and temperature to get an accurate idea of what the patient is suffering from. Note the readings in your document, and also, gather medical history from the patient if possible, and from caregivers.

Provide airway, ventilation, and circulatory support to the patient, and arrange for transportation. If the patient

is critical, call for A L S right away.

With this, we come to the end of this lesson, and Justin will next talk about changes in the musculoskeletal system.