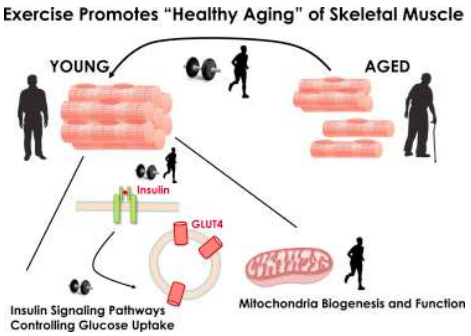




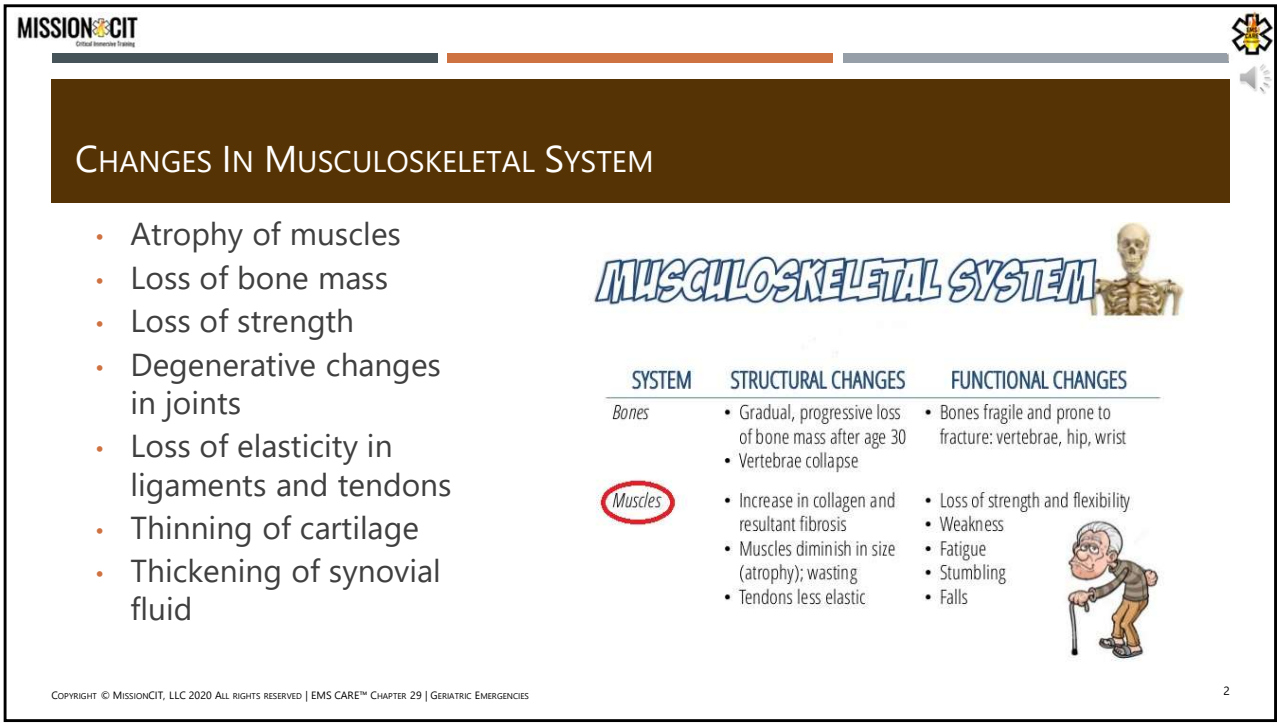
Anatomical Changes In The Musculoskeletal System

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Thank you Missah!

Welcome to this lesson where we talk about the changes that happen in a person's musculoskeletal system as they get older. We'll discuss structural and functional shifts as well as Osteoporosis.

Let's get started.



Some of the prominent changes that happen with age, include:

- Atrophy of muscles where the muscles waste away due to a lack of physical activity,
- Loss of bone mass and degenerative changes,
- Loss of strength,
- Degenerative changes in joints,
- Loss of elasticity in ligaments and tendons,
- Thinning of cartilage, and
- Thickening of synovial fluid. Recall that *synovial fluid* is a thick liquid that lubricates the joints and allows

for ease of movement.

Together, these are significant changes that can impact the mobility of people as they become older. It can also affect their daily activities.

OSTEOPOROSIS

- Brittle bones
- Frequent fractures
- Severe back pain
- Loss of height
- Stooped posture
- Difficulty in movement
- Fragile bones
- Increased Risk factors
  - Gender - women
  - Age - > 65
  - White or Asian descent
  - Family history
  - Small body frame



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According to the Mayo Clinic, Osteoporosis causes bones to become weak and brittle — so brittle that a fall or even mild stresses such as bending over or coughing, can cause a fracture. Osteoporosis-related fractures most commonly occur in the hip, wrist, or spine.

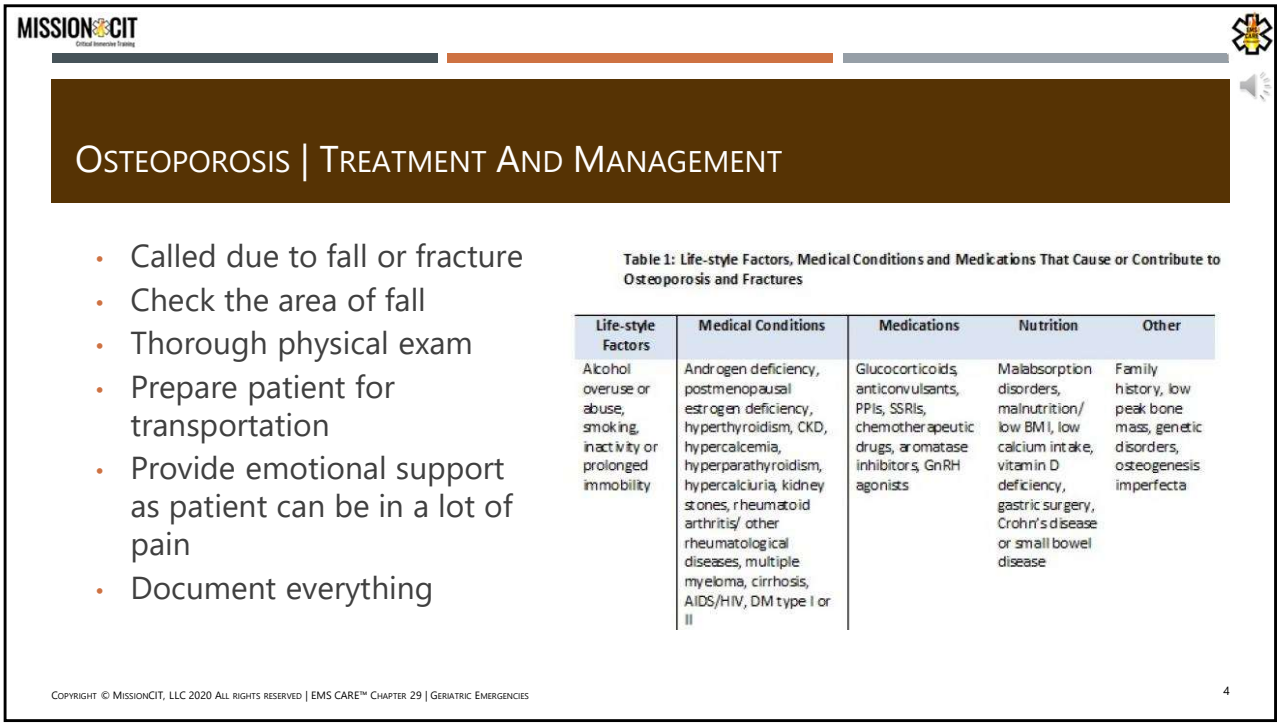
Bone is living tissue that is constantly being broken down and replaced. Osteoporosis occurs when the creation of new bone doesn't keep up with the loss of the old.

Osteoporosis means porous bone. When viewed under a microscope, there are many holes and spaces in

osteoporotic bones when compared to healthy ones.

Some of the signs and symptoms that can point to brittle and weak bones are Frequent fractures, Severe back pain that's caused by fractured or collapsed vertebrae, loss of height, stooped posture, difficulty in movements, and fragile bones.

Increased risk factors of Osteoporosis include Women being more at risk than men, People above the age of 65, family history, People of white or Asian descent, and People with small body frames as they have less bone mass.



Osteoporosis is another condition that is fairly easy to identify. You'll most likely be called because of a fall or fracture. As soon as you enter, check where the patient fell and which bone is likely to be fractured. Do a thorough physical exam to rule out any other complications.

Gently prepare the patient for transportation and communicate softly to not alarm the patient. The patient can be in a lot of pain, so provide emotional support when needed.

As always, document everything.

With this, we have come to the end of this lesson, and Missah will talk about toxicology emergencies in the next chapter.