

Course name: Anatomy-1

Course code :746273

Unit : I

Title :Muscles anatomy

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INTRODUCTION TO ANATOMY

Muscles

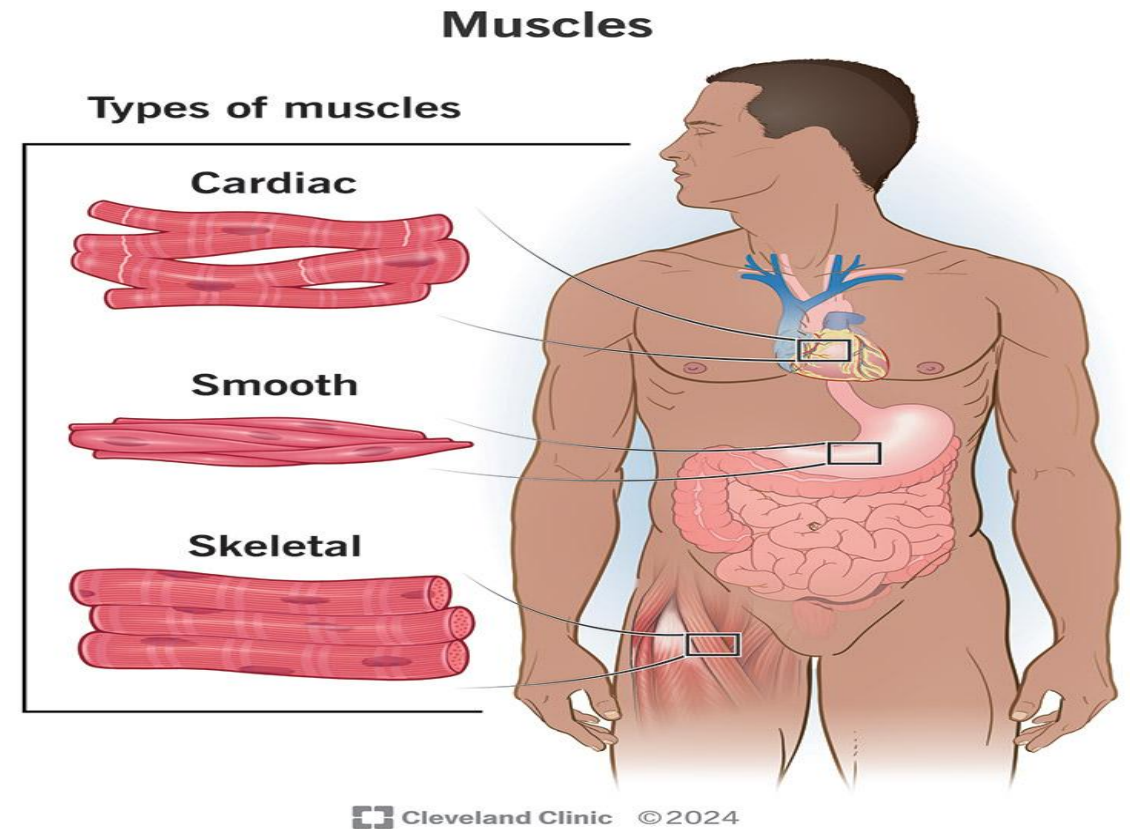
Muscles

- You have more than 600 muscles in your body that you use almost constantly. Some move your body — others help your internal organs keep you alive.
- It's OK to feel the occasional ache or muscle pain, but don't ignore chronic (long-term) soreness or weakness.

What are muscles?

WHAT ARE MUSCLES

- Muscles are pieces of soft tissue throughout your body. They help you do everything from holding your body still to running a marathon.
- Muscles also move and support your organs. Your heart is a hard-working muscle that beats thousands of times a day to keep you alive.



Function

Muscles move your body. They perform two types of movements:

Voluntary movements: Voluntary movements are actions you control. You choose to perform an action and your muscles move your body to make it happen. You use your nervous system to control these movements..

Involuntary movements: Involuntary movements happen automatically without you thinking about them. The muscles in and around your organs move involuntarily to keep your body working properly. Your heart beating and muscles in your chest and back moving your ribs when you breathe are examples of involuntary movements.

What are the types of muscles?

Healthcare providers organize muscles by tissue type. There are three types of muscle tissue in your body:

Skeletal.

Cardiac.

Smooth.

Skeletal muscles

Skeletal muscles are part of your musculoskeletal system. They work with your bones, tendons and ligaments to support your weight and move you. Tendons attach skeletal muscles to bones all over your body.

Skeletal muscles are voluntary — they move when you think about moving that part of your body. Some muscle fibers contract quickly and use short bursts of energy (fast-twitch muscles). Others move slowly, like your back muscles that help with posture.

Cardiac muscle

Cardiac muscle (myocardium) makes up the middle layers of your heart. It doesn't exist anywhere else in your body. Cardiac muscle squeezes and relaxes to pump blood through your cardiovascular system.

Your heart is an involuntary muscle — it beats on its own without your input.

Smooth muscles

Smooth muscles are involuntary muscles that line the inside of some organs. They do essential jobs like moving waste through your intestines and helping your lungs expand when you breathe.

Smooth muscles play an important role in many body systems, including the:

Female reproductive system and male reproductive system.

Urinary system.

Respiratory system.

Conditions and Disorders

What are common injuries or health conditions that affect muscles?

Muscle strains (pulled muscles) are the most common muscle injury. They happen when you overuse a muscle. The strands of muscle fiber are stretched beyond their limit and tear apart. You've seen this happen if you've ever tried to use an old bungee cord to hold something in place.

Many health conditions can affect your muscles, too, including:

Fibromyalgia.

Myopathies.

Myositis and polymyositis.

Infections, including the flu (influenza) and COVID-19.

Amyotrophic later sclerosis (ALS).

Cardiovascular disease.

Muscle symptoms

The most common symptoms of a muscle injury or health condition include:

Muscle pain.

Muscle weakness.

Stiffness.

Muscle spasms (cramps).

Swelling.

Bruising.

Skin discoloration.

Muscle tests

A healthcare provider may use a few different kinds of tests to diagnose muscle conditions or injuries:

Blood tests.

Electromyography (EMG).

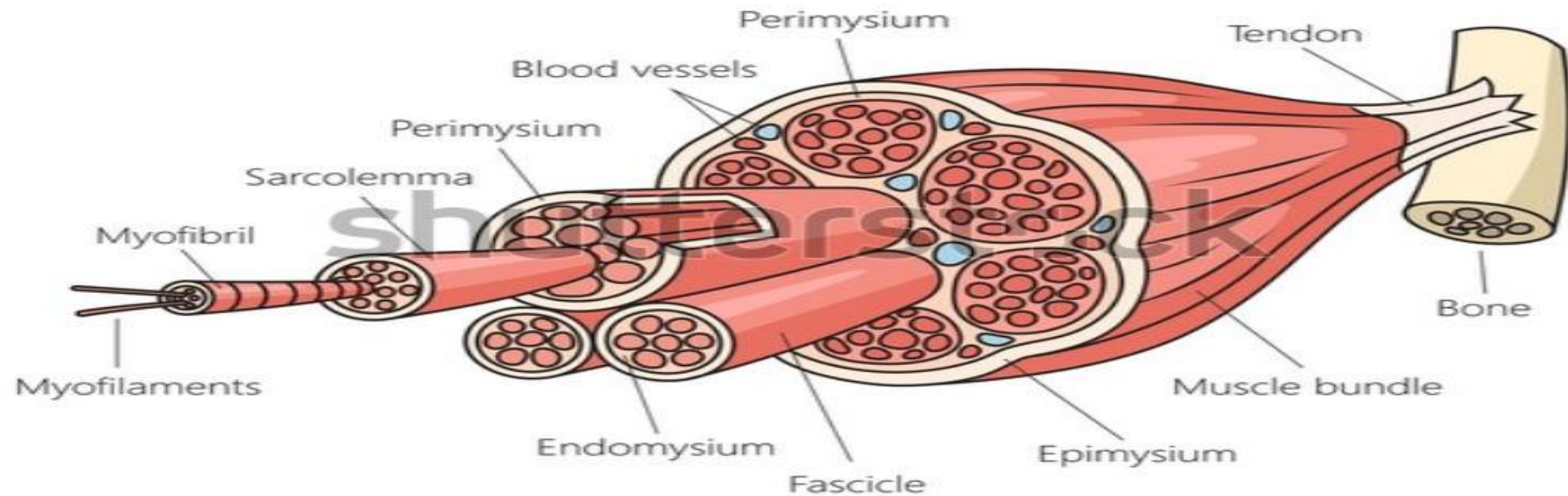
Magnetic resonance imaging (MRI).

Ultrasound.

Muscle biopsy.

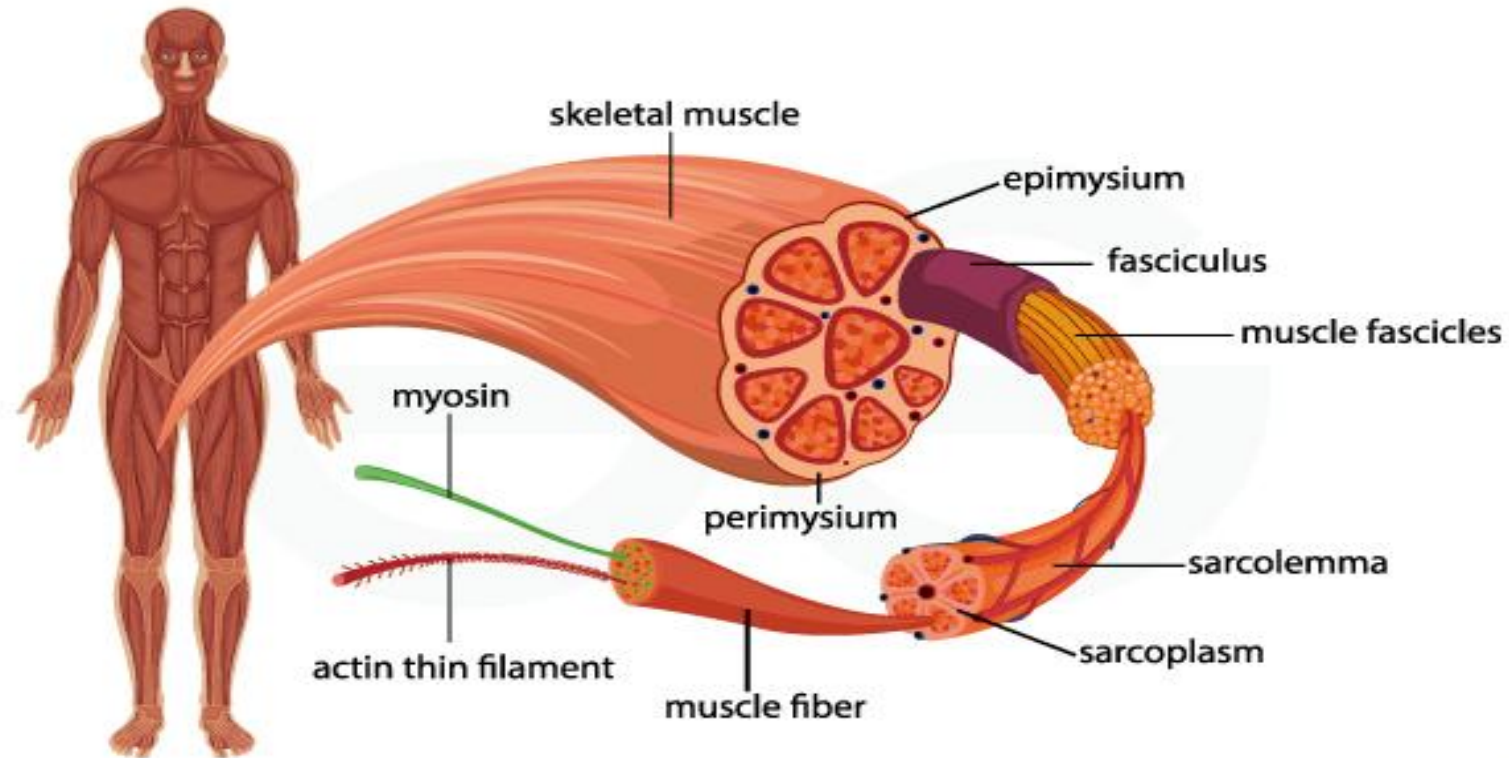
Diagram

Skeletal Muscle Structure



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Diagram



Skeletal Muscle



In class assessment

1. Which muscle type is under voluntary control?

- A. Smooth muscle
- B. Cardiac muscle
- C. Skeletal muscle ✓
- D. None of the above

2. Cardiac muscle is found in:

- A. The brain
- B. The heart ✓
- C. The intestines
- D. The lungs

In class assessment-2

3. Smooth muscles are mainly responsible for:

- A. Body posture
- B. Pumping blood
- C. Movement of internal organs ✓
- D. Flexing the limb

4. Tendons connect:

- A. Muscles to muscles
- B. Bones to bones
- C. Muscles to bones ✓
- D. Muscles to organs

Thank you???

Reference books:

1. B.D.Chaurassia