**Occupational Therapy**

**The Human Musculoskeletal System**

**Did you know?**

1. The smallest bone in the human body is located in the ear and is called the **stapes**.
2. The **tongue** is the only muscle in the body that is connected at just one end.

**New Vocabulary:**

**muscles – ligaments – joints – tendons – tissues – intestines**

**involuntary**

**stability - mobility – flexibility - movement – posture**

**cardiac - skeletal**

**digestion**

The human musculoskeletal system is a complex structure that provides the body with support, movement, and protection. It consists of bones, muscles, joints, tendons, and ligaments, all of which work together to allow mobility and stability.

Bones are the framework of the body. They not only provide support but also protect vital organs like the brain, heart, and lungs. There are 206 bones in the adult human body, each playing a crucial role in movement and posture.

Muscles are tissues that contract to enable movement. There are three types of muscles: skeletal, smooth, and cardiac. Skeletal muscles are attached to bones by tendons and are responsible for voluntary movements like walking, running, or lifting. Smooth muscles, found in organs such as the stomach and intestines, control involuntary actions like digestion. Cardiac muscles, located in the heart, ensure that blood is pumped throughout the body.

Joints are where two or more bones meet, allowing for flexibility and movement. Ligaments are strong bands of tissue that connect bones to other bones, providing stability to the joints. Tendons, on the other hand, connect muscles to bones.

The musculoskeletal system plays an essential role in every physical action a person takes. Without it, basic movements such as standing, walking, and even breathing would be impossible. Understanding the structure and function of this system is crucial for professionals in healthcare, especially occupational therapists.

**Vocabulary Exercises:**

**Exercise 1: True or False – Comprehension Questions**

Read the statements below and decide if they are **True** or **False**.

1. The musculoskeletal system is responsible for movement and support.
2. Bones are not involved in protecting internal organs.
3. Skeletal muscles control involuntary movements.
4. Tendons connect bones to other bones.
5. There are 206 muscles in the adult human body.
6. Ligaments connect muscles to bones.
7. Joints are where bones meet to allow movement.
8. Cardiac muscles are found in the heart.
9. Smooth muscles control voluntary actions like walking.
10. Without the musculoskeletal system, breathing would still be possible.

**Exercise 2: Fill in the Gaps – Vocabulary from the Text**

Complete the sentences using the words from the box.

(bones, muscles, joints, tendons, ligaments, cardiac, skeletal, smooth, mobility, stability)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are responsible for voluntary movements like walking or running.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connect bones to each other, providing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the joints.
3. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system allows for movement and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the body.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ muscles ensure that blood is pumped throughout the body.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the tissues that connect muscles to bones.
6. The human body has 206 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that provide structure and protection.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ muscles control involuntary actions in organs like the stomach.
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the places where two or more bones meet.
9. Without \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, basic movements would be impossible.
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ protect vital organs like the brain and heart.

**Exercise 3: Multiple Choice – Understanding Key Concepts**

Choose the correct answer.

1. What is the primary function of the musculoskeletal system?
	* a) Digestion
	* b) Providing movement and support
	* c) Controlling blood circulation
2. Which type of muscle is responsible for voluntary movements?
	* a) Skeletal muscles
	* b) Cardiac muscles
	* c) Smooth muscles
3. What connects muscles to bones?
	* a) Ligaments
	* b) Joints
	* c) Tendons
4. What is the main function of ligaments?
	* a) Connecting bones to other bones
	* b) Connecting muscles to bones
	* c) Controlling involuntary movements
5. What do smooth muscles control?
	* a) Voluntary movements
	* b) Breathing
	* c) Involuntary actions in organs
6. Which of the following are part of the musculoskeletal system?
	* a) Bones and muscles
	* b) Tendons and ligaments
	* c) All of the above
7. Joints are places where:
	* a) Two muscles meet
	* b) Two or more bones meet
	* c) Bones and tendons meet
8. Which muscle type is found in the organs like the intestines?
	* a) Skeletal
	* b) Smooth
	* c) Cardiac