



MUSCLES



Classification of Muscles

- **Depending upon the presence or absence of striations.**
- **Depending upon the control.**
- **Depending upon the situation.**



Depending upon Striations

The muscles are divided into

- **Striated muscle**
- **Non-striated muscle**



Striated muscle

- **These muscles have a large number of cross-striations (transverse lines).**
- **E.g., skeletal and cardiac muscles.**

Types of Muscle Cells

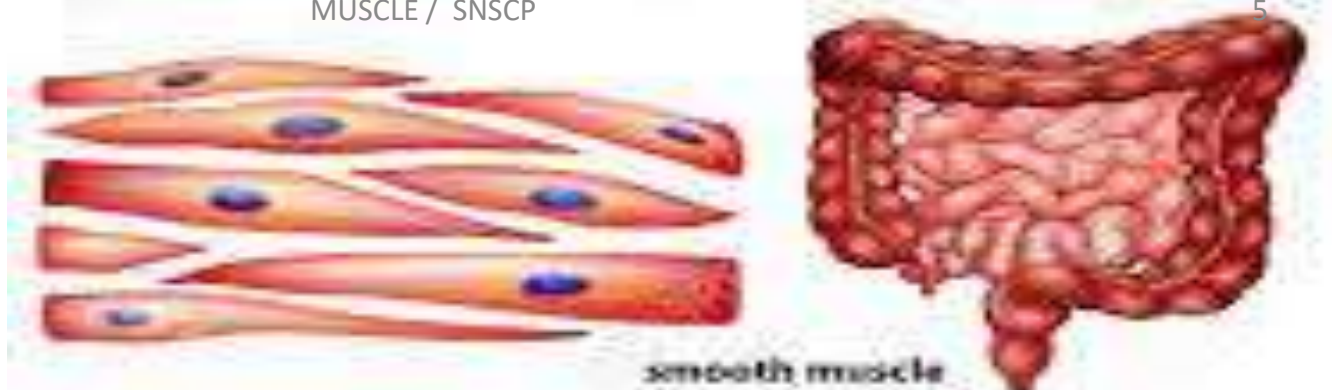


skeletal muscle



cardiac muscle

MUSCLE / SNSCP



smooth muscle



NON-STRIATED MUSCLES

- **Muscles which does not have cross-striations.**
- **Plain or smooth muscle.**
- **Found in the wall of the visceral organs.**



Depending upon control

- **Voluntary muscle**
- **Involuntary muscle**



Voluntary muscle

- **Voluntary muscle is the muscle that is controlled by the will.**
- **E.g., skeletal muscles.**
- **These muscles are innervated by somatic nerves.**



Involuntary muscle

- **Muscles that cannot be controlled by the will.**
- **E.g., cardiac and smooth muscles.**
- **These muscles are innervated by autonomic nerves.**



Depending upon situation

The muscles are classified into

- **Skeletal muscle**
- **Cardiac muscle**
- **Smooth muscle**



Skeletal muscle

- **Skeletal muscle is situated in association with bones forming the skeletal system.**
- **The skeletal muscles form 40 to 50% of body mass.**
- **Voluntary and striated.**
- **The muscles are supplied by somatic nerves**



- **Fibers of the skeletal muscles are arranged in parallel.**
- **In most of the skeletal muscles, muscle fibers are attached to tendons on either end.**
- **Skeletal muscles are anchored to the bones by the tendons.**



Cardiac muscle

- **Cardiac muscle forms the musculature of the heart.**
- **Striated and involuntary.**
- **Cardiac muscles are supplied by autonomic nerve fibers.**



Smooth muscle

- **Smooth muscle is situated in association with viscera. (Visceral muscle)**
- **Differ from skeletal and cardiac muscles because of the absence of cross striations. (Smooth muscle)**



- **Smooth muscle is supplied by autonomic nerve fibers.**
- **Smooth muscle form the main contractile units of wall of the various visceral organs**