

Anatomical Unit Of Muscle

A skeletal muscle contains multiple fascicles – bundles of muscle fibers. Each individual fiber and each muscle is surrounded by a type of connective tissue layer of fascia. Muscle fibers are formed from the fusion of developmental myoblasts in a process known as myogenesis resulting in long multinucleated cells. In these cells, the nuclei, termed myonuclei, are located along the inside of the cell membrane. Muscle fibers also have multiple mitochondria to meet energy needs. e15dc4c28a The term infrahyoid refers to the region below the hyoid bone, while the term strap muscles refers to the long, and flat muscle shapes which resembles a strap. The stylopharyngeus muscle is considered by many to be one of the strap muscles, but is not an infrahyoid muscle. e15dc4c28a When a muscle contracts and shortens, the pennation angle increases. e15dc4c28a

Intrafusal muscle fiber They detect the amount and rate of change in Intrafusal muscle fibers are skeletal muscle fibers that serve as specialized sensory organs (proprioceptors). They detect the amount and rate of change in length of a muscle. They constitute the muscle spindle, and are innervated by both sensory (afferent) and motor (efferent) fibers. Intrafusal muscle fibers are skeletal muscle fibers that serve as specialized sensory organs (proprioceptors) e15dc4c28a

Intrafusal muscle fibers are not to be confused with extrafusal muscle fibers, which contract, generating skeletal movement and are innervated by alpha motor neurons. e15dc4c28a The temporalis muscle is accessible on the temples, and can be seen and felt contracting... e15dc4c28a

Smooth muscle It can also be found in invertebrates and is controlled by the autonomic nervous system. It is non-striated, so-called because it has no sarcomeres and therefore no striations (bands or stripes). It can be divided into two subgroups, single-unit and multi-unit smooth muscle. two subgroups, single-unit and multi-unit smooth muscle. Within single-unit muscle, the whole bundle or sheet of smooth muscle cells contracts as a syncytium Smooth muscle is one of the three major types of vertebrate muscle tissue, the others being skeletal and cardiac muscle. Within single-unit muscle, the whole bundle or sheet of smooth muscle cells contracts as a syncytium e15dc4c28a

In humans, the temporalis muscle arises from the temporal fossa and the deep part of temporal fascia. This is a very broad area of attachment. It passes medial to the zygomatic arch. It forms a tendon which inserts onto the coronoid process of the mandible, with its insertion extending into the retromolar fossa posterior to the most distal mandibular molar. In other mammals, the muscle usually spans the dorsal part of the skull all the way up to the medial line. There, it may be attached to a sagittal crest, as can be seen in early hominins such as *Paranthropus aethiopicus*.

e15dc4c28a The origin, insertion and innervation of the individual muscles: e15dc4c28a

Pennate muscle called anatomical gear ratio, (AGR) is a feature of pennate muscle defined by the ratio between the longitudinal strain of the muscle and muscle fiber A pennate or pinnate muscle (also called a penniform muscle) is a type of skeletal muscle with fascicles that attach obliquely (in a slanting position) to its tendon. This type of muscle generally allows higher force production but a smaller range of motion e15dc4c28a

Muscle Muscle tissue gives skeletal muscles the ability to contract and relax. Muscle tissue contains special contractile proteins called actin and myosin which interact to cause movement. Muscle is formed during embryonic development, in a process known as myogenesis. Muscle tissue gives skeletal muscles the ability to contract and relax. Among many other muscle proteins present are two regulatory proteins, troponin and tropomyosin. There are three types of muscle tissues in vertebrates: skeletal muscle tissue, cardiac muscle tissue, and smooth muscle tissue. Muscle tissue Muscle is a specialised soft tissue, one of the four basic types of animal tissues. skeletal muscle tissue, cardiac muscle tissue, and smooth muscle tissue e15dc4c28a

== Individual muscles == e15dc4c28a The muscle is named from Latin: serrare = to saw (referring to the shape); and anterior = on the front side of the body. e15dc4c28a == Architecture types == e15dc4c28a

Serratus anterior muscle It originates at the side of the chest from the upper 9 ribs; it inserts along the entire length of the anterior aspect of the The serratus anterior, also known as serratus magnus, is a muscle of the chest. The serratus anterior acts to pull the scapula forward around the thorax. It is innervated by the long thoracic nerve from the brachial plexus. It originates at the side of the chest from the upper 9 ribs; it inserts along the entire length of the anterior aspect of the medial border of the scapula. a muscle of the chest e15dc4c28a

Temporalis muscle It is a broad, fan-shaped convergent muscle on each side of the head that fills the temporal fossa, superior to the zygomatic arch so it covers much of the temporal bone. It is a broad, fan-shaped convergent muscle on each In anatomy, the temporalis muscle, also known as the temporal muscle, is one of the muscles of mastication (chewing). temporalis muscle, also known as the temporal muscle, is one of the muscles of mastication (chewing). Temporal refers to the head's temples e15dc4c28a

== Structure == e15dc4c28a Muscle fibers are in turn composed of myofibrils. The myofibrils are composed of actin and myosin filaments called myofilaments, repeated in units called sarcomeres, which are the basic functional, contractile... e15dc4c28a Excluding the sternothyroid, the infrahyoid muscles either originate from or insert on to the hyoid bone. e15dc4c28a Each arrector pili is composed of a bundle of smooth muscle fibres which attach to several follicles (a follicular unit). Each is innervated by the sympathetic division of the autonomic nervous system. The

muscle attaches to the follicular stem cell niche in the follicular bulge, splitting at their deep end to encircle the follicle. e15dc4c28a The temporalis muscle is covered by the temporal fascia, also known as the temporal aponeurosis. This fascia is commonly used in tympanoplasty, or surgical reconstruction of the eardrum. e15dc4c28a

Muscle architecture There are several different muscle architecture types including: parallel, pennate and hydrostats. Force production and gearing vary depending on the different muscle parameters such as muscle length, fiber length, pennation angle, and the physiological cross-sectional area (PCSA). Parallel muscles can be Muscle architecture is the physical arrangement of muscle fibers at the macroscopic level that determines a muscle's mechanical function. These muscles are often used for fast or extensive movements and can be measured by the anatomical cross-sectional area (ACSA) e15dc4c28a

Skeletal muscle tissue is striated, consisting of elongated, multinucleate muscle cells called muscle fibers, and is responsible for movements of the body. Other tissues in skeletal muscle include tendons and perimysium. Smooth and cardiac muscle contract involuntarily, without conscious intervention. These muscle types may be activated both through the interaction of the central nervous system as well as by innervation from peripheral plexus or endocrine (hormonal) activation. Skeletal muscle only contracts voluntarily, under the influence of the central nervous system. Reflexes are a form of non-conscious activation of... e15dc4c28a

Skeletal muscle The skeletal muscle cells (myocytes) are much longer than in the other types of muscle tissue, and are also known as muscle fibers. The tissue of a skeletal muscle is striated – having a striped appearance due to the arrangement of the sarcomeres. Skeletal muscle (commonly referred to as muscle) is one of the three types of vertebrate muscle tissue, the others being cardiac muscle and smooth muscle. They are part of the musculoskeletal system, and typically are attached by tendons to the bones of a skeleton. They Skeletal muscle (commonly referred to as muscle) is one of the three types of vertebrate muscle tissue, the others being cardiac muscle and smooth muscle e15dc4c28a

Infrahyoid muscles The four infrahyoid muscles are the The infrahyoid muscles, or strap muscles, are a group of four pairs of muscles in the anterior (frontal) part of the neck. infrahyoid muscles, or strap muscles, are a group of four pairs of muscles in the anterior (frontal) part of the neck. The four infrahyoid muscles are the sternohyoid, sternothyroid, thyrohyoid and omohyoid muscles e15dc4c28a

== Structure == e15dc4c28a == Structure == e15dc4c28a The term "pennate" comes from the Latin pinnātus ("feathered, winged"), from pinna ("feather, wing"). e15dc4c28a Smooth muscle is found in the walls of hollow organs, including the stomach, intestines, bladder and uterus. In the walls of blood vessels, and lymph vessels, (excluding blood and lymph capillaries) it is known as vascular smooth muscle. There is smooth muscle in the tracts of the respiratory, urinary, and reproductive systems. In the eyes, the ciliary muscles, iris dilator muscle, and iris sphincter muscle are types of smooth muscles. The iris dilator and sphincter muscles are contained in the iris and contract in order to dilate or constrict the

pupils. The ciliary muscles change the shape of the lens to focus on objects in accommodation. In the skin, smooth muscle cells such as those of the... e15dc4c28a == Etymology == e15dc4c28a

Arrector pili muscle Each is innervated by the sympathetic division of the autonomic The arrector pili muscles, also known as hair erector muscles, are small muscles attached to hair follicles in mammals. composed of a bundle of smooth muscle fibres which attach to several follicles (a follicular unit). Contraction of these muscles causes the hairs to stand on end, known colloquially as goose bumps (piloerection) e15dc4c28a

== Structure == e15dc4c28a

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