

Central Nervous System

brain and spinal cord

Skeletal Muscle

a muscle that is attached to the bones of the skeleton and provides the force that moves the bones

Flexors

muscles that bend a joint, bringing them closer together

Extensors

straighten at the joint, increasing angle between the bones

Muscle Fibers

long, slender cells that make up muscles

Alpha Motor Neurons

directly trigger the generation of force by muscles

Motor Unit

alpha motor neuron and all the muscle fibers it innervates

Reflexes

simple, automatic responses to sensory stimuli, such as the knee-jerk response

Knee-Jerk Response

a reflex that occurs when the tendon below the knee receives a tap stimulus and the leg autonomically kicks out

Reciprical Inhibition

against contract stretching

Neuromuscular Junction

point of contact between a motor neuron and a skeletal muscle cell

Golgi Tendon Organs

receptors that sense movement of the tendons, which connect muscle to bone

Paralysis

temporary or permanent loss of motor control

Spinal Circuits

mediate sensory-motor reflexes

Motor Cortex

an area at the rear of the frontal lobes that controls voluntary movements

Parkinson's Disease

a disorder of the central nervous system that affects movement, often including tremors

Substantia Nigra

midbrain structure where dopamine is produced; involved in control of movement

Huntington's Disease

genetic disorder that causes progressive deterioration of brain cells

Cerebellar Function

balance and coordination

Involuntary Movement

reflex

Peripheral Nervous System

the sensory and motor neurons that connect the central nervous system to the rest of the body

Neurons' Role

neurons in the motor cortex send signals that directly control the activation of alpha motor neurons in the spine