Ch. 10: The Muscular System

Interactions of Skeletal Muscles

-Skeletal muscles work together or in opposition

-Muscles only pull (never push)

-Shortening: insertion generally moves toward origin

-Whatever a muscle (or group of muscles) can do, another muscle (or group of muscles) can undo

Muscle Classification: Functional Groups

Prime movers – provide the major force for producing a specific movement

Antagonists – oppose or reverse a particular movement

Synergists - add force to a movement or reduce undesirable/unnecessary movement

Fixators – synergists that immobilize a bone or muscle's origin

Naming Skeletal Muscles

Location of muscle – bone or body region associated with the muscle

Shape of muscle – ex: the deltoid muscle (deltoid = triangle)

Relative size – ex: *maximus* (largest), *minimus* (smallest), *longus* (long)

Direction of fibers – ex: *rectus* (fibers run straight), *transverses* (fibers run across), and *oblique* (fibers run at an angle)

Number of origins – ex: biceps (two origins) and triceps (three origins)

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Location of attachments – named according to point of origin or insertion

Action – ex: *flexor* (muscles which flex a joint) or *extensor* (muscles which extend a joint)

Arrangement of Fascicles

Parallel – fascicles run parallel to the long axis of the muscle (ex: sartorius)

Fusiform – spindle-shaped muscles (ex: biceps brachii)

Pennate – short fascicles that attach obliquely to a central tendon running the length of the muscle (ex: rectus femoris)

Convergent – fascicles converge from a broad origin to a single tendon insertion (ex: pectoralis major)

Circular – fascicles are arranged in concentric rings (ex: orbicularis oris)