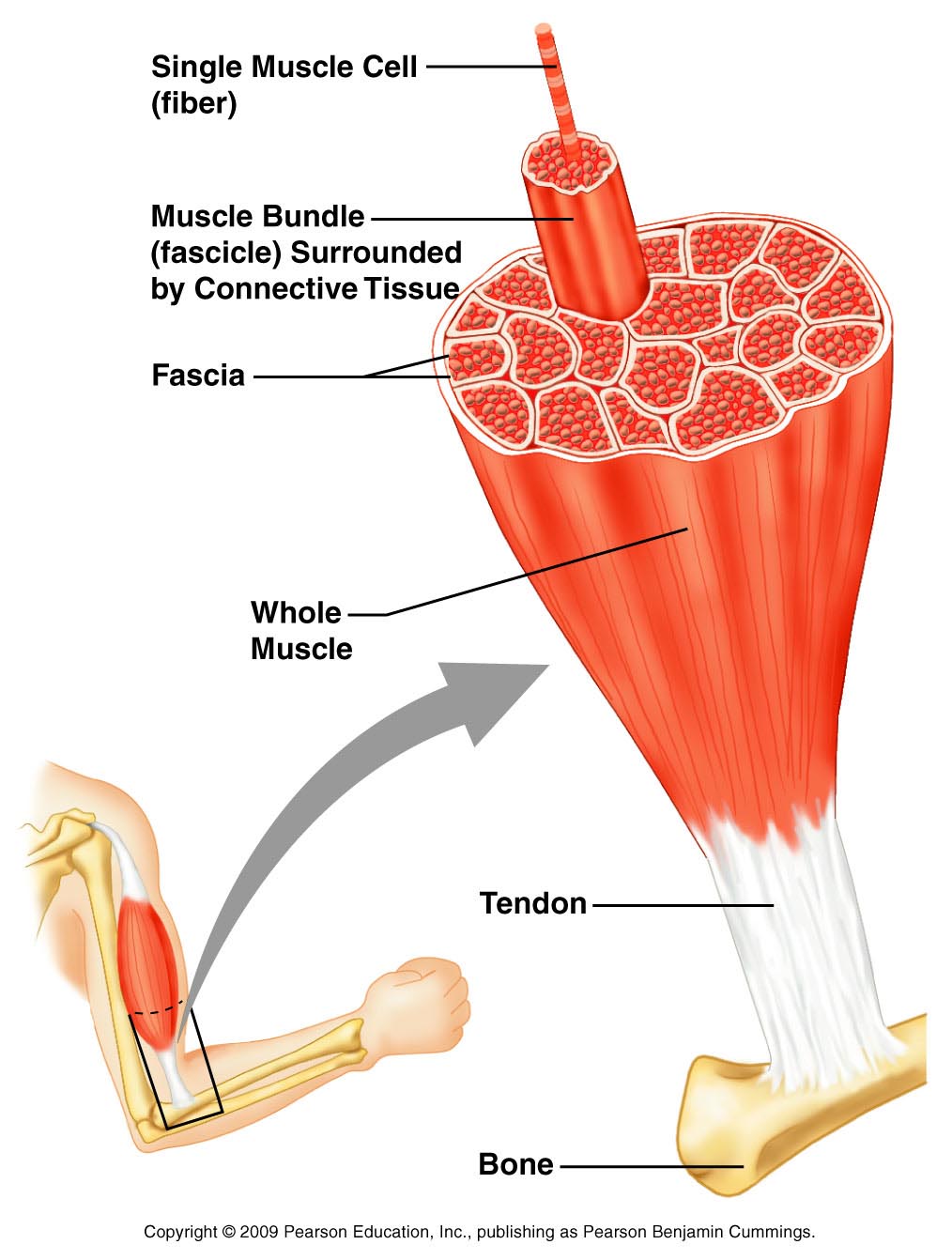
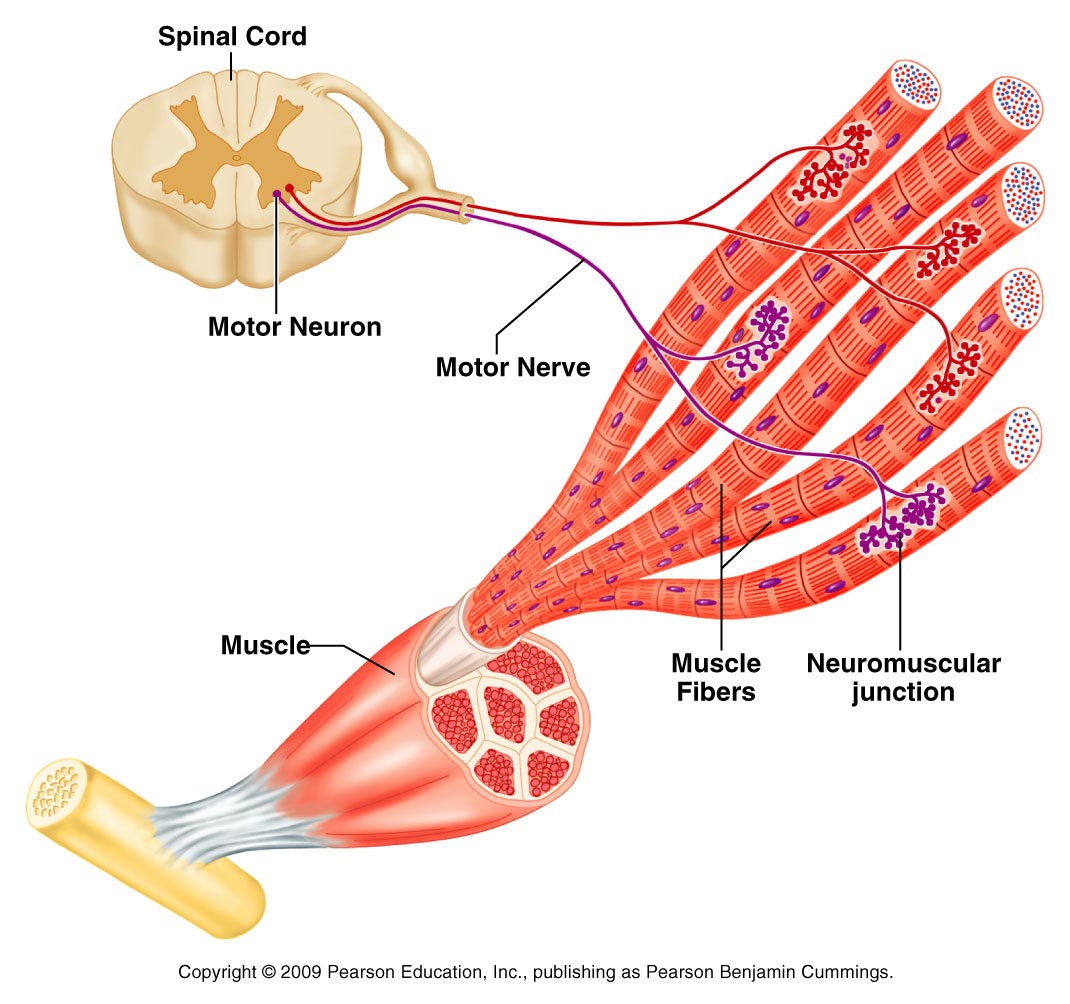
**KIN 119: Muscles**

**Structure of Skeletal Muscle:**

* Single muscle cell (fiber)
* Muscle bundle (fascicle) surrounded by connective tissue
* Fascia
* Whole muscle
* Tendon (connects muscle to bone)

**Motor Unit:**

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* Motor neuron
* Motor nerve
* Muscle fibers it innervates (neuromuscular junction**)**

**Categories of Muscle Contractions**

* **Isometric:** Actions are static and involve no movement. Tension builds.
* **Isotonic:** Dynamic movement of a body part at a joint
  + **Concentric (positive work)**
    - Causes movement of a body part against resistance or gravity; Occurs when muscles shorten
    - Example: upward arm movement during a bicep curl
  + **Eccentric (negative work)**
    - Controls movement of a body part with resistance or gravity; Occurs when muscles lengthen
    - Example: downward arm movement during a bicep curl

**Muscle Fibers Types & Sports:**

* **Slow-twitch fibers:**
  + Contract slowly; Generate little force but are resistant to fatigue
  + Examples: Marathon, Distance Running, Distance Swimming, Rowing
* **Fast-twitch fibers:**
  + Contract quickly; Generate lots of force, but fatigue quickly
  + Examples: Fencing, Field Events, Sprints, Olympic Lifts, Baseball, Softball, Tennis, Volleyball
* **Intermediate fibers:**
  + Combination of other two types: contract rapidly, produce great force and resist fatigue
  + Examples: Basketball, Football, Ice Hockey, Lacrosse, Soccer

**Some Muscles in the body**

