



Muscular System

Part I

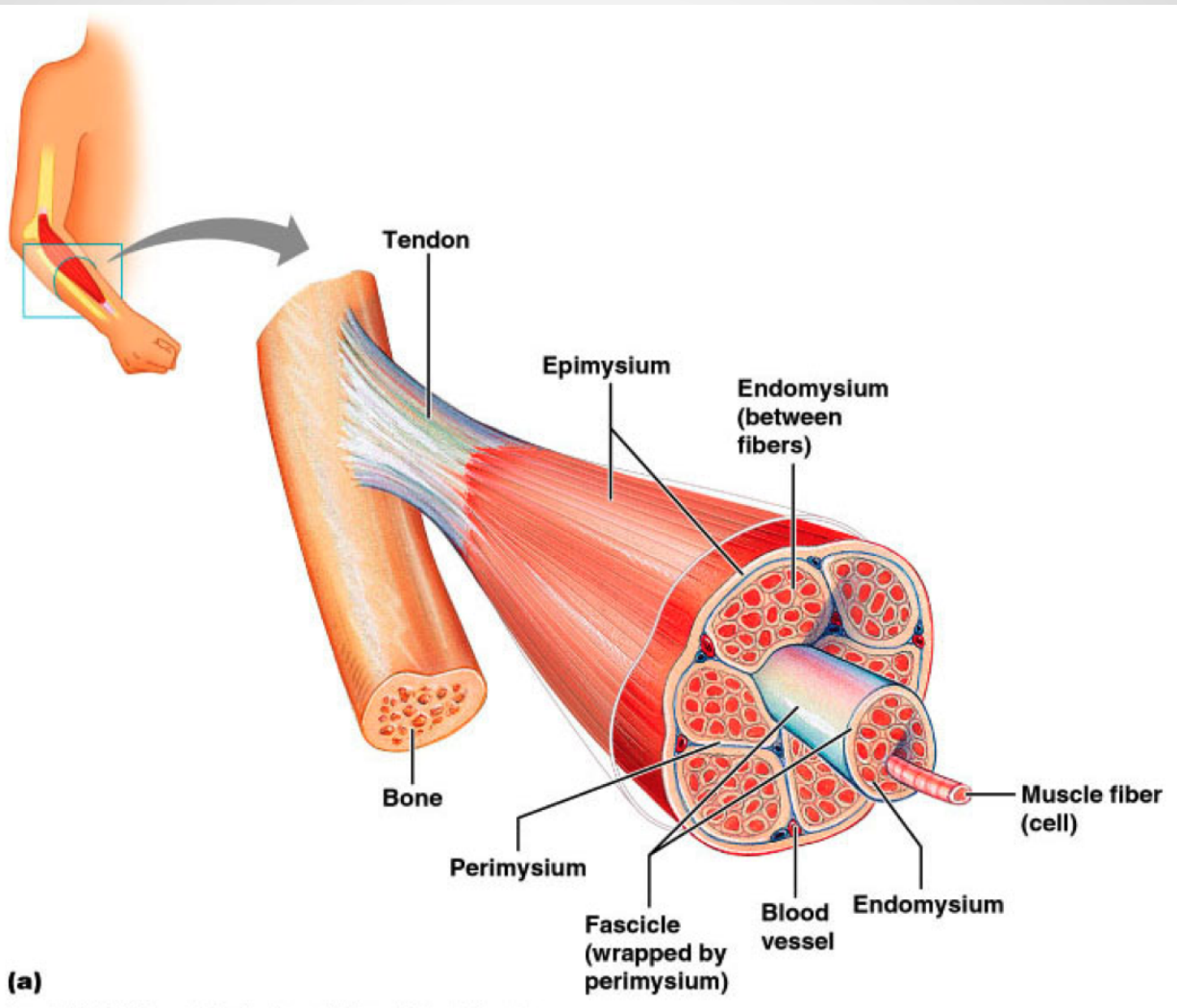
Skeletal Muscle Functions

- Movement
- Posture & Position
- Support
- Guards Entrances & Exits
- Maintains Body Temperature
- Stores Nutrients



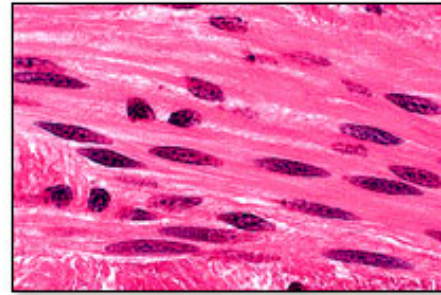
Layers to a Muscle

- Endomysium
 - elastic connective tissue that surrounds each individual fiber
- Perimysium
 - collagen & elastic connective tissue surrounding bundles of fibers
- Epimysium
 - collagen fiber around the entire muscle
- All three bundle and form tendons

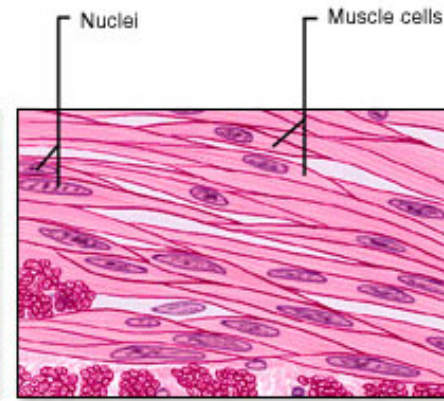


Muscle Cells

- Myoblasts
 - muscle germ cells
 - come together to form fibers
 - not all myoblasts will fuse to form a fiber; those that don't stick around for repair
- Sarcolemma
 - plasma membrane of myoblast
- Sarcoplasm
 - cytoplasm of myoblast

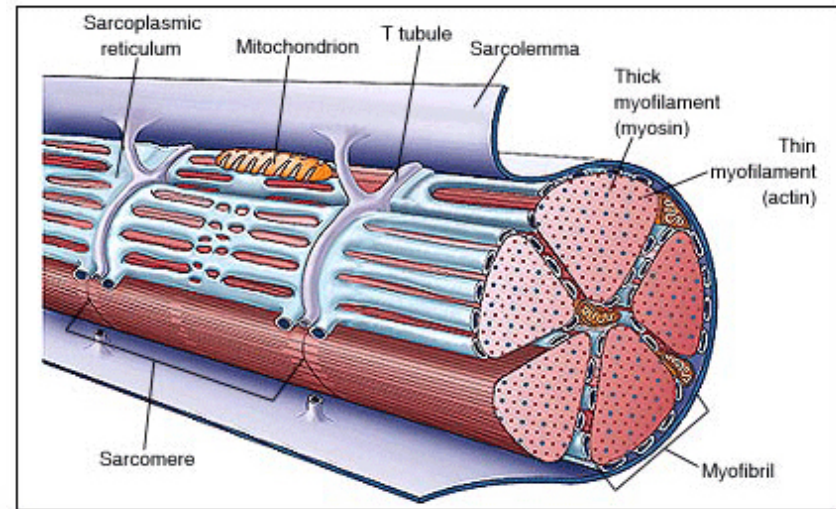


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Muscle Fiber Components

- Myofilaments
 - thick & thin
- Myofibrils
- T-tubules
- Sarcoplasmic Reticulum
- Sarcomeres



Myofilaments

- protein filaments
- thick filaments
 - made of myosin
 - stain darker
- thin filaments
 - made of actin
 - stain lighter

Myofilaments form
myofibrils.

Myofibrils form muscle
fibers.

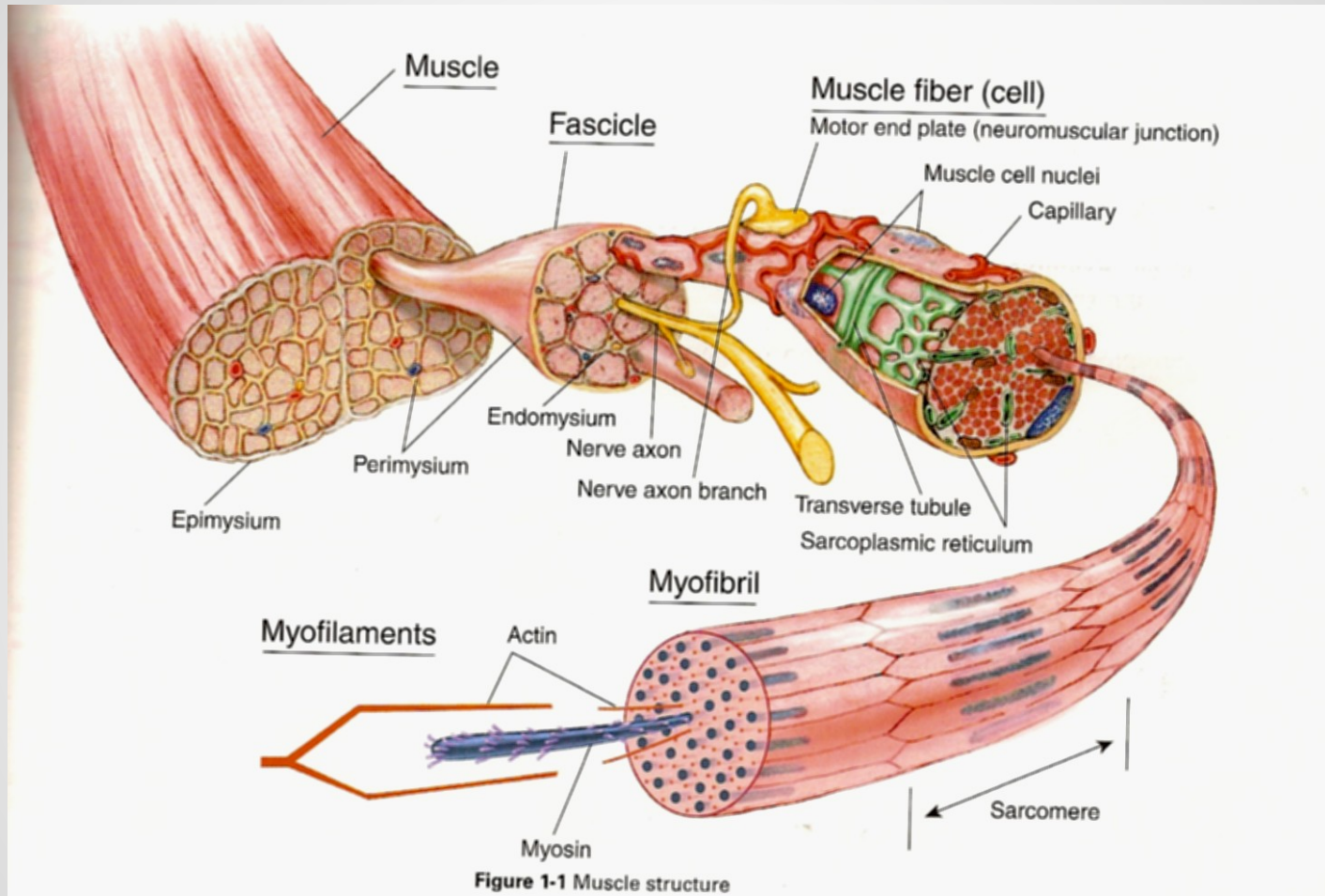


Figure 1-1 Muscle structure

Sarcoplasmic Reticulum

- tubular network surrounding each myofibril
- T-tubules are continuous extensions of the sarcoplasmic reticulum that branch through the muscle fiber
- Both are important for conducting electrical impulses
- Where SR and TT meet is referred to the terminal cisternae

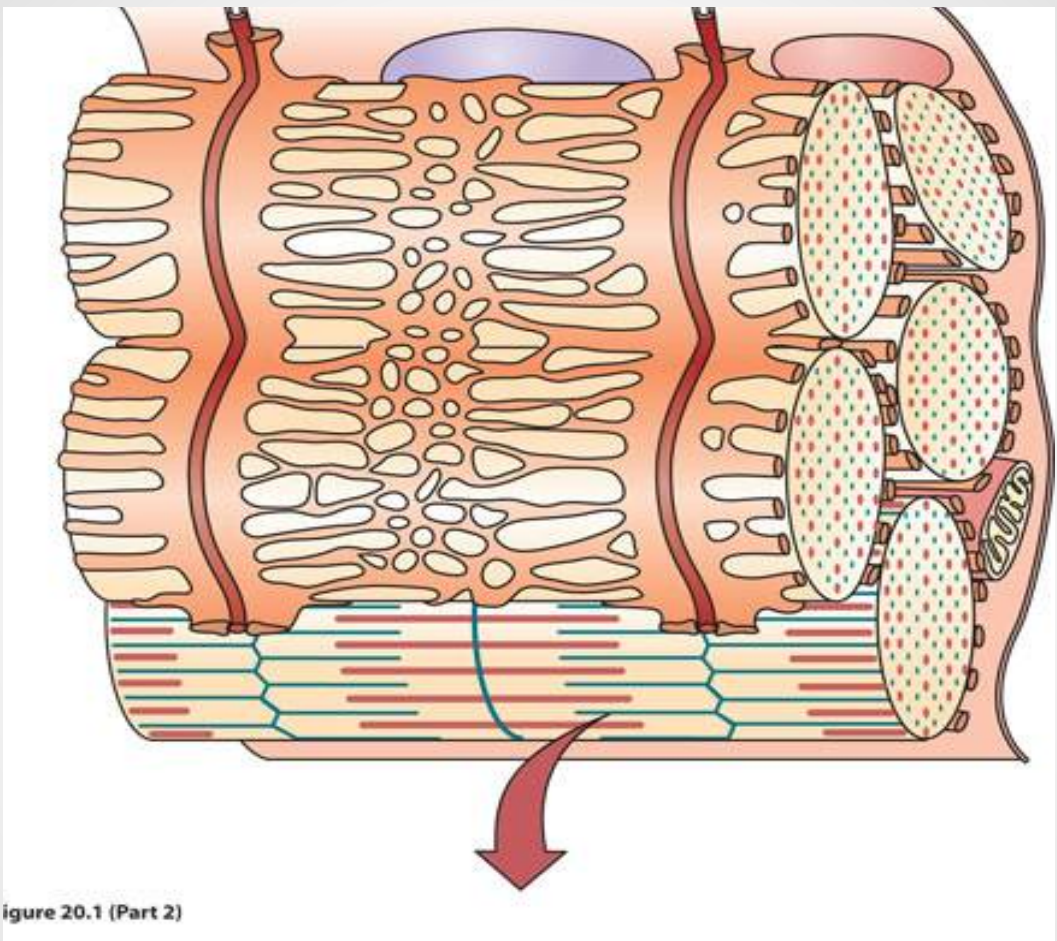
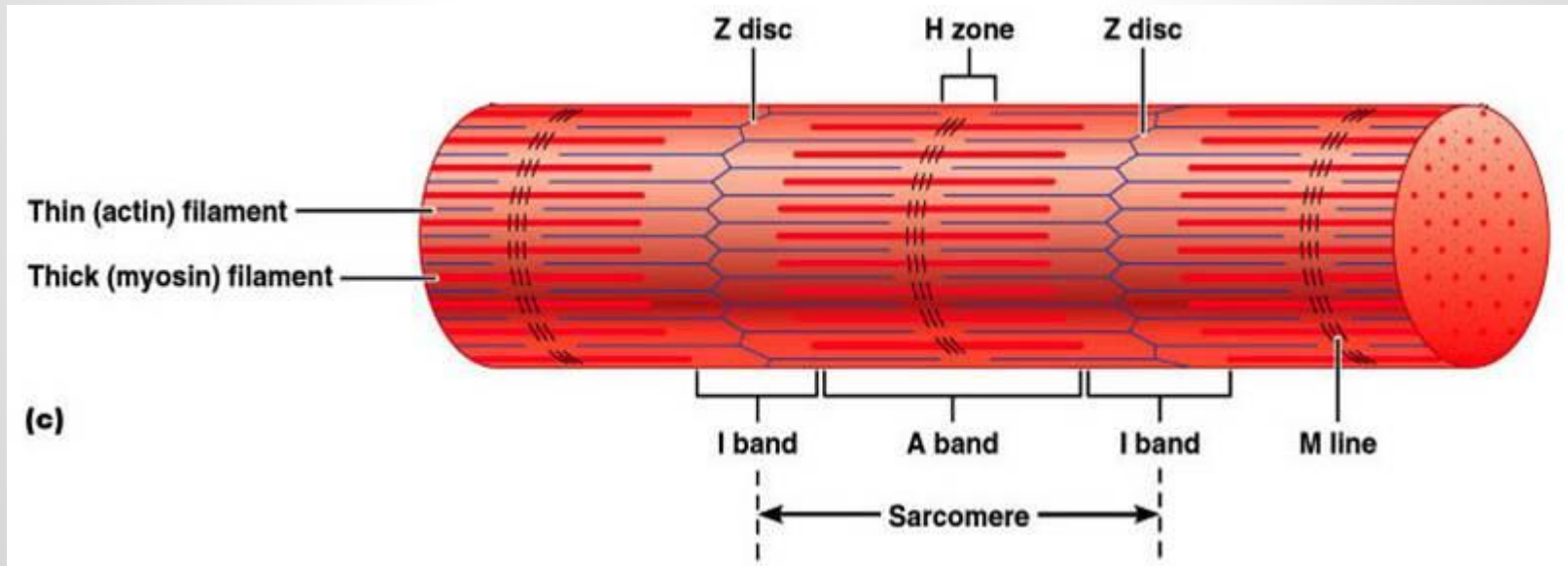


Figure 20.1 (Part 2)

Sarcomere

- repeating functional unit within a myofibril



sarcomere

