

The Human Muscular System

Types of Muscle

- **Cardiac Muscle**

- Striated muscle found only in the heart
- Under involuntary control
- Only rests between contractions

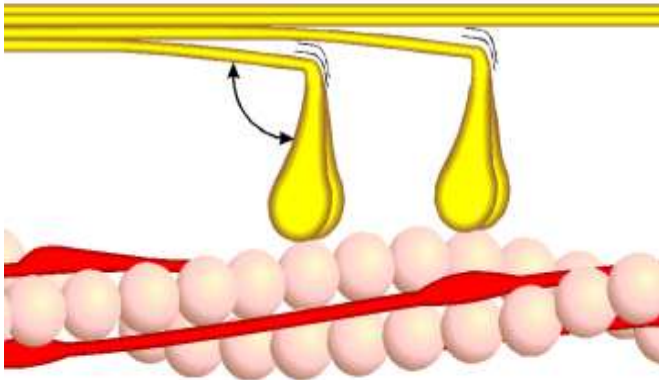
- **Smooth Muscle**

- Lack striations
- Usually under involuntary control
- Contraction is slow and rhythmic
- Muscles of internal organs

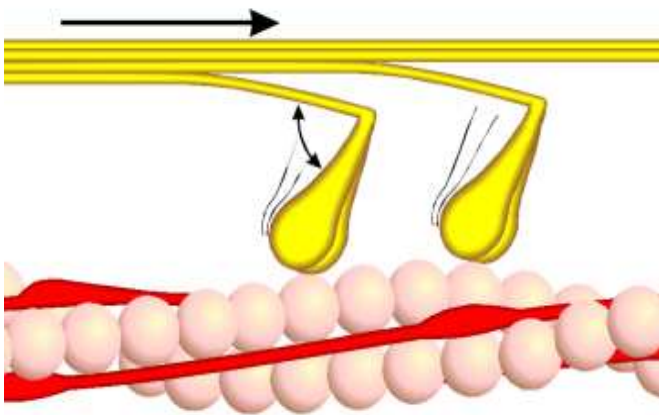
- **Skeletal Muscle**

- Striated muscle fibers with no clear separation between cells
- Under voluntary control

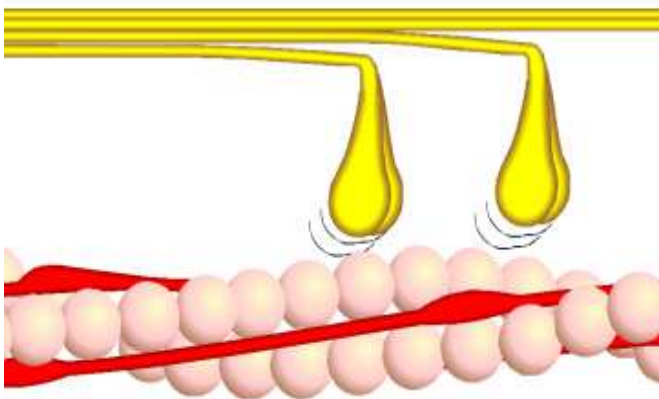
Mechanism of Contraction



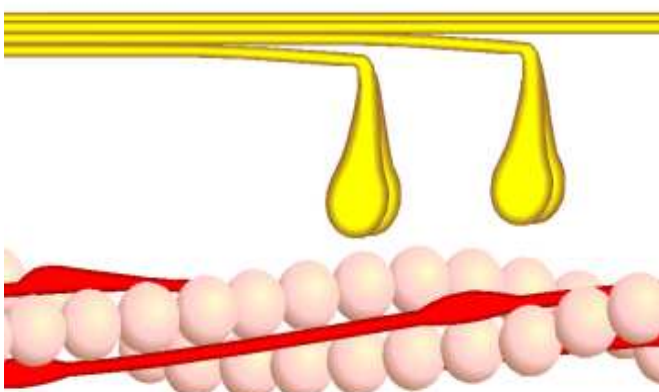
Heads on myosin filaments attach to actin filaments



Filaments slide by one another then detach

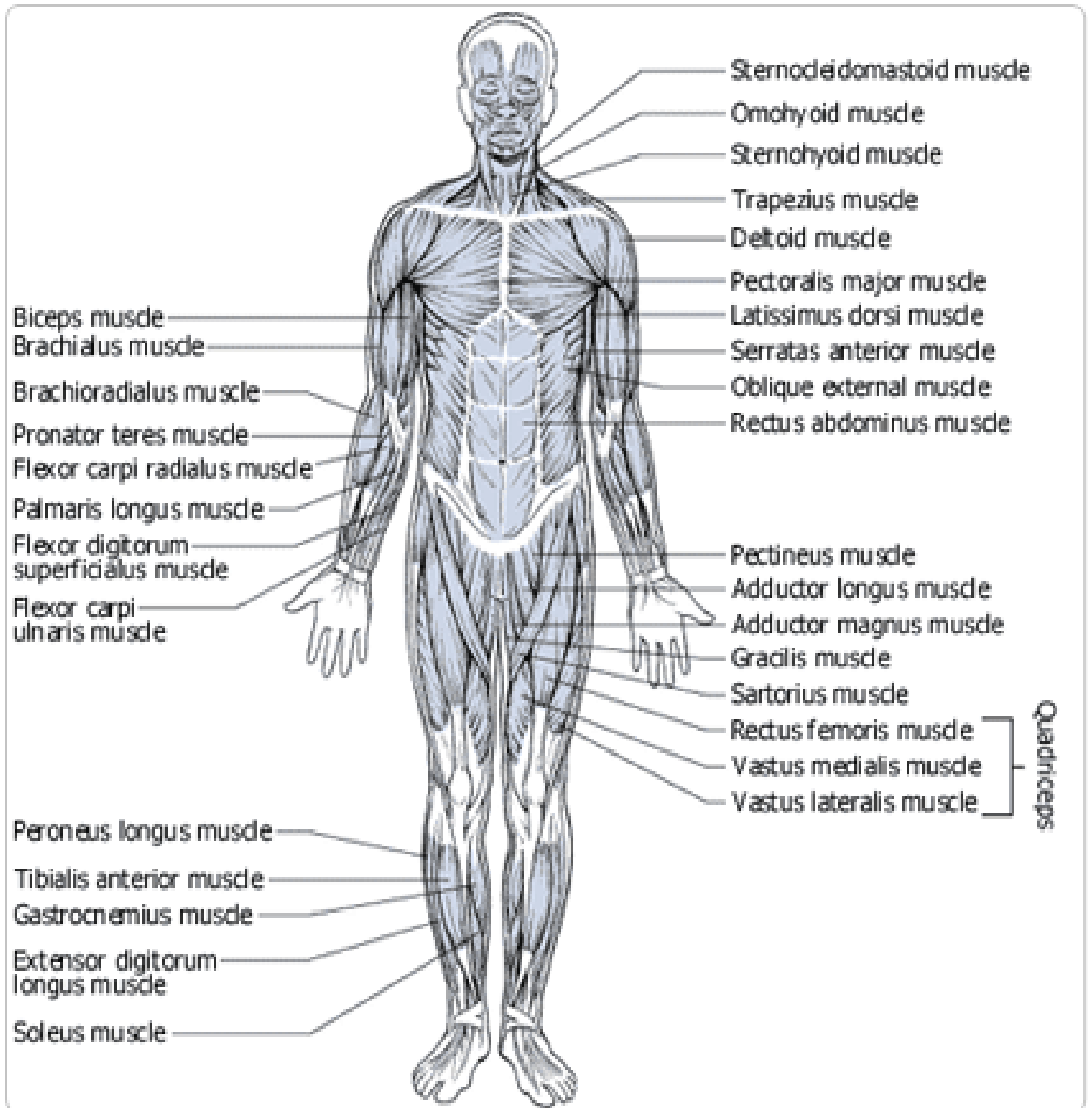


Process repeats itself many times in a single contraction

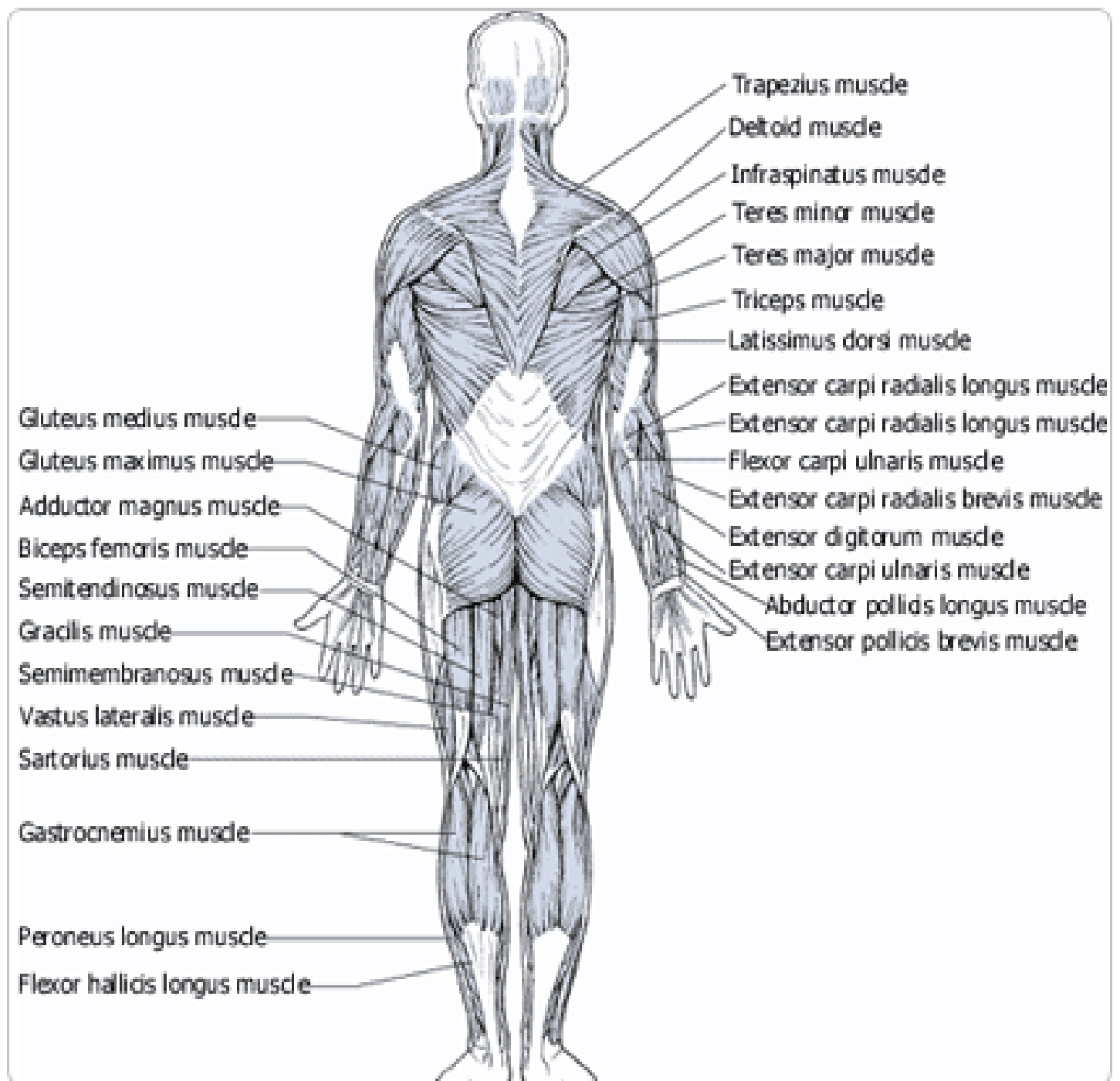


Energy for contraction comes from ATP

Muscles - Anterior



Muscles - Posterior



Skeletal Muscle Attachment

- **Tendon Attachments**

- *Origin*

- Attachment to the bone that doesn't move

- *Insertion*

- Attachment to the bone that does move

- **Antagonistic Pairs**

- *Flexor*

- Flexes the joint (moves toward the body)

- *Extensor*

- Extends the joint (away from the body)