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ACTIVITY 2

Name at least two muscles that actively contracts during the following activities and name its action and innervation:

1. Throwing a baseball overhead

a. *Teres Major*

- i. Action - Extends arm at shoulder joint and assists in adduction and medial rotation of arm at shoulder joint.
- ii. Innervation - lower subscapular nerve

b. *Deltoid*

- i. Action - Lateral fibers abduct arm at shoulder joint; anterior fibers flex and medially rotate arm at shoulder joint; posterior fibers extend and laterally rotate arm at shoulder joint.
- ii. Innervation - Axillary nerve.

2. Kicking a ball

a. *Quadriceps femoris*

- i. Action - All four heads extend leg at knee joint; rectus femoris muscle acting alone also flexes thigh at hip joint.
- ii. Innervation - femoral nerve.

b. *Iliopsoas*

- i. Action - psoas major and iliacus muscle acting together flex thigh at hip joint, rotate thigh laterally, and flex trunk on hip as in sitting up from supine position.
- ii. Innervation - lumbar spinal nerves L2–L3.

3. Doing sit-ups

a. *Rectus abdominis*

- i. Action - Flexes vertebral column, especially lumbar portion, and compresses abdomen to aid in defecation, urination, forced exhalation, and childbirth. RMA: Flexes pelvis on the vertebral column.
- ii. Innervation - Thoracic spinal nerves T7–T12.

b. *Transversus/Transverse abdominis*

- i. Action - Compresses abdomen.
- ii. Innervation - thoracic spinal nerves T8–T12, iliohypogastric nerve, and ilioinguinal nerve.

4. Breathing

a. *Diaphragm*

- i. Action - contraction of diaphragm causes it to flatten and increases vertical dimension of thoracic cavity, resulting in inhalation; relaxation of diaphragm causes it to move superiorly and decreases vertical dimension of thoracic cavity, resulting in exhalation.
- ii. Innervation - Phrenic nerve, which contains axons from cervical spinal nerves (C3–C5).

b. *External intercostals*

- i. Action - contraction elevates ribs and increases anteroposterior and lateral dimension of thoracic cavity, resulting in inhalation; relaxation depresses ribs and decreases anteroposterior and lateral dimensions of thoracic cavity, resulting in exhalation.

ii. Innervation - Thoracic spinal nerves T2–T12.

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