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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

Latissimus dorsi

Action: extends, adducts, and medially rotates arms at shoulder joint; draws arms inferiorly and posteriorly.

RMA: elevates vertebral column and torso

Innervation: Thoracodorsal nerve

Deltoid

Action: lateral fibers abduct arms at shoulder joint; anterior fibers flex and medially rotate arm at shoulder joint; posterior fibers extend and laterally rotate arm at shoulder joint

Innervation: Axillary nerve

Pectoralis major

Action: As a whole, adducts and medially rotates arms at shoulder joint; clavicular head flexes arm, and sternocostal head extends flexed arm to side of trunk

Innervation: Medial and lateral pectoral nerves

2. Kicking a ball

Biceps femoris

Action: Flexes leg at knee joint and extends thigh at hip joint

Innervation: Tibial and Fibular nerves from sciatic nerve

Rectus femoris

Action: All four heads extend leg at knee joint; rectus femoris muscle acting alone also flexes thigh at hip joint

Innervation: Femoral Nerve

3. Doing sit-ups

Rectus abdominis

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

Innervation: Thoracic spinal nerves T7-T12

Transversus abdominis

Action: Compresses abdomen

Innervation: Thoracic spinal nerves T8-T12, iliohypogastric nerve, ilioinguinal nerve.

4. Breathing

Diaphragm

Action: Contraction of diaphragm causes it to flatten and increases vertical dimension of thoracic cavity, resulting in inhalation; relaxation of the diaphragm causes it to move superiorly and decreases vertical dimension of thoracic cavity, resulting in exhalation

Innervation: Phrenic Nerve, which contains axons from cervical spinal nerves (C3-C5)

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External intercostals

Action: Contraction elevates ribs and increases anteroposterior and lateral dimensions of thoracic cavity, resulting in inhalation, relaxation depresses ribs and decreases anteroposterior and lateral dimensions of thoracic cavity, resulting in exhalation

Innervation: Thoracic spinal nerves T2-T12