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ISHTA 200H TT Assignment
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Topic 3
Anatomy I: Basics

3.1 Briefly describe each of these tissues and its function: Muscle, Ligament, Tendon and Cartilage

A MUSCLE is tissue consisting of bundles of parallel fibers wrapped in fascia.

Properties	Roles
❖ Excitable – Reacts to stimuli via innervation ❖ Contractible – May contract upon stimulation in 3 different ways ~ Concentrically – Muscle shortens ~ Eccentrically – Muscle lengthens ~ Isometrically – Muscle neither shortens or lengthens during contraction ❖ Extensible - May be stretched ❖ Elastic - Able to recoil	❖ Agonist – Prime mover muscle ❖ Synergist – Supporting muscle to help the agonist in movement ❖ Antagonist – Opposes prime mover to slow and monitor movement ❖ Protects joint ❖ Stabilizer – A muscle that pairs with an opposing muscle to keep a bone in place

A LIGAMENT is a dense piece of connective tissue that connects one bone to another bone. Protects joints Avascular - no blood supply Barely elastic → difficult to heal

A TENDON is a tough, fibrous continuation of muscle fascia that attaches muscle to bone. Stabilizes joint Transmits and supports muscle force Woven into the periosteum/outer shell of the bone

CARTILAGE: Cartilage is supplementary tissue to muscle providing strength, rigidity, and a little elasticity.

Fibrocartilage Hyaline Cartilage Cushioning, pillowy Shock-absorbing Avascular - no blood supply Smooth, glassy Reinforcing coat where bones rub against one another Avascular - no blood supply

3.2 The elbow is a hinge joint and the hip is a ball-and-socket joint. What are the movements of a hinge joint? Name the plane.

The movements of a hinge joint are flexion and extension, and the plane is the Sagittal Plane.

3.3 What are the movements of a ball-and-socket joint? In how many planes does a ball-and-socket joint move and what are the actions in each of the planes?

The movements of a ball-and-socket joint and their corresponding planes are: 1. Rotation (internal and external) in the Transverse Plane 2. Flexion & Extension in the Sagittal Plane 3. Adduction & Abduction in Coronal Plane * Circumduction involves all movements and planes in combination

3.4 What is the job of an agonist? What is the job of a synergist?

An agonist is the prime mover muscle that does the bulk of the work in a movement. The synergist is a supporting muscle that assists the agonist in doing the movement or compensates if the agonist is injured/dysfunctional.