1.5 Muscles

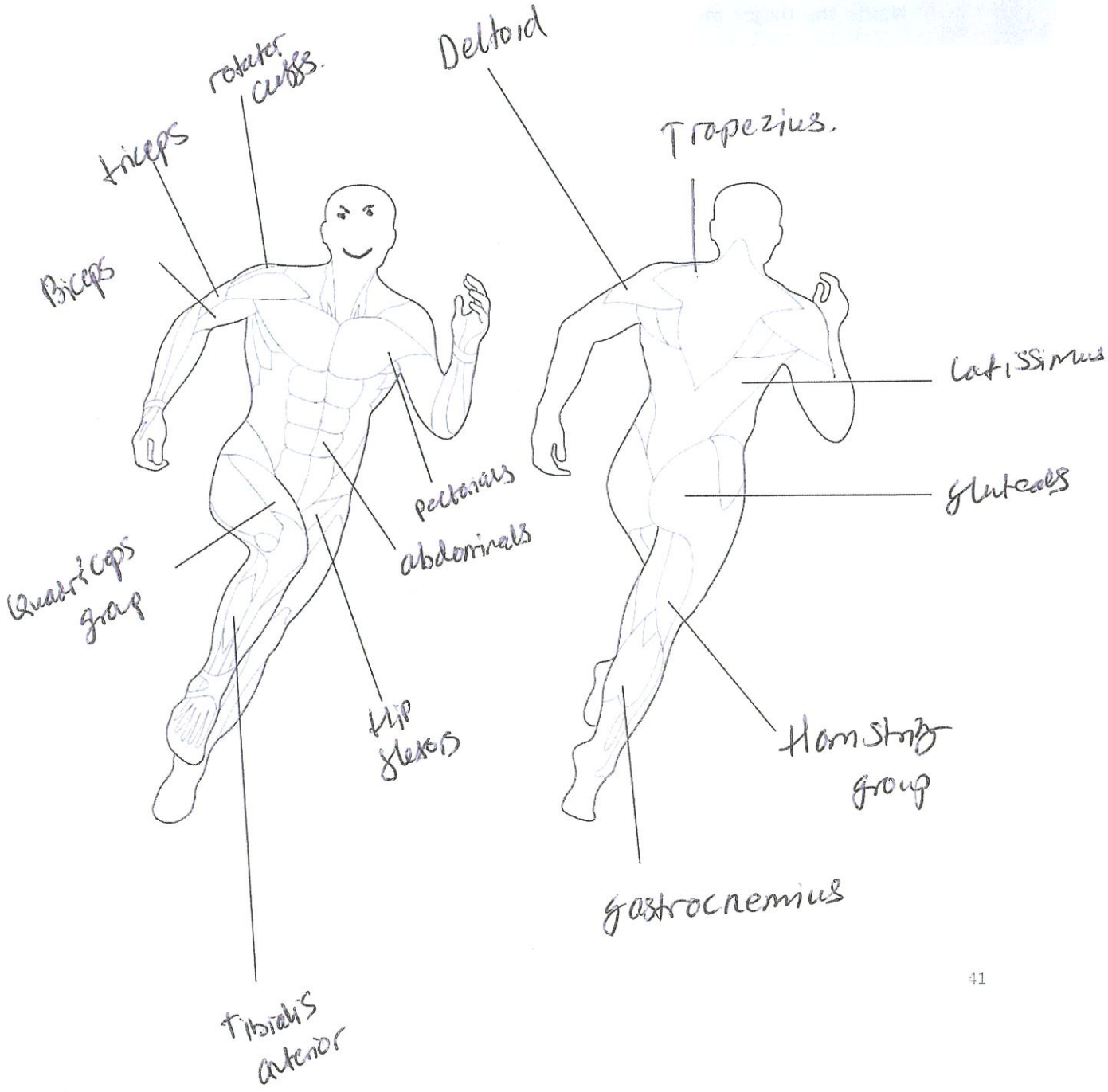
See page 12

Muscles are attached to the skeleton by tendons. Label the names of the major muscles and muscle groups in the human body. Then colour the antagonistic pairs that work at the shoulder, elbow, knee and ankle joints. Use a different colour for each antagonistic pair so you can easily match them.

R

Key term

Tendon:



1.5 Muscles

See page 12

A Name the two muscle groups acting around the knee joint to produce movement at the knee.

1.

2.

V **E** Name the major muscle groups that act around the following joints:

Joint	Major muscle groups
Shoulder	******* Trapezius pectorials, biceps, triceps, rotator cuff, latissimus dorsi and deltoid.
Elbow	** Biceps triceps
Hip	** Hip flexors and Gluteals
Knee	** Quadriceps Grops + Hamstring.
Ankle	** gastrocnemious + tibialis Anterior

Any muscle that contracts is known as the agonist or prim mover.

Any muscle that relaxes is called the antagonist

Tendon - when agonist or prime mover contracts the length of the muscle decreases and the tendon gets pulled by the bicep or tricep.

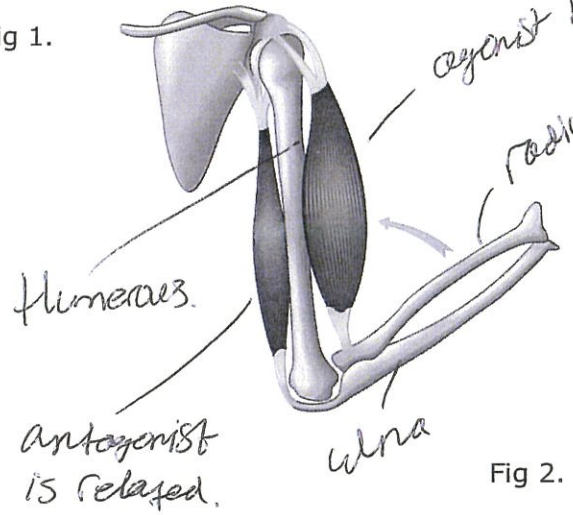
A tendon attatches muscle to bone to create movement. / muscle attatches tatem

1.6 Antagonistic pairs

See page 13

R Add labels and notes to the diagrams below to explain how an antagonistic pair of muscles work together to cause movement at a joint.

Fig 1.

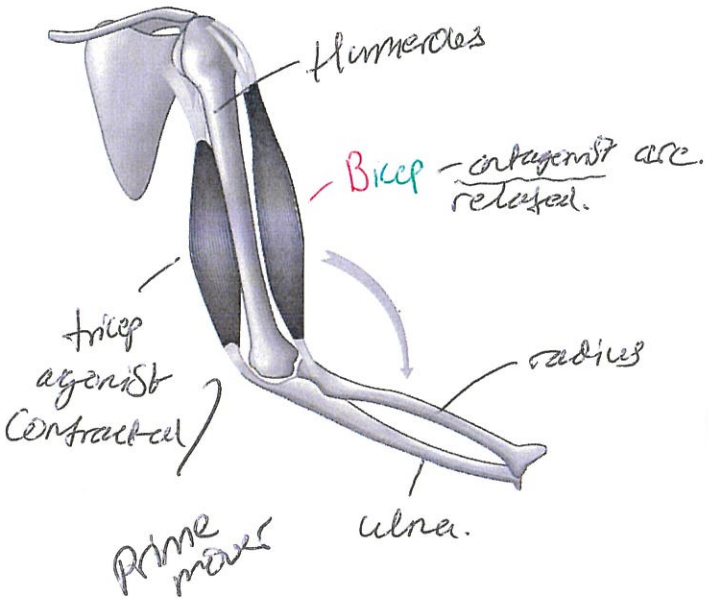


Key terms

Prime mover (or 'agonist'):
- Muscle that is contracted. (Shortened)

Antagonist:
muscle that is relaxed.

Fig 2.



✓ Exam tip

You will need to remember which muscles work in antagonistic pairs to enable certain movements, so when you're learning the major muscles, try remembering them in pairs.

List the four most obvious antagonistic pairs in the human body:

The antagonistic pair acting at the elbow joint: bicep tricep.

The antagonistic pair acting at the hip joint: hip flexors gluteous maximus.

The antagonistic pair acting at the knee joint: Quadricep group & Hamstring group.

The antagonistic pair acting at the ankle joint: tibias gastrocnemius.

1.6 Antagonistic pairs

See page 13

A Using **figure 1** on the previous page:

Name and describe the role of the muscle acting as the prime mover/ agonist:

The ~~muscle~~ muscle contracts - muscle shortens pulls on a tendon which pulls on a bone = movement. Bicep

Name and describe the role of the muscle acting as the antagonist:

The muscle relaxes - it becomes longer assists the movement. tricep

V Using **figure 2** on the previous page: The opposite of A

Name and describe the role of the muscle acting as the prime mover/ agonist:

Name and describe the role of the muscle acting as the antagonist:

E Identify the muscles working as agonist and antagonist to create flexion of the knee and explain how these muscle groups create this movement.

The hamstring contracts - agonist shortens - tibia/fibula
The quadriceps relax - antagonist
flexion at joint.

tendon attaches to knee which pulls the (knee) lower leg in flexion.

Quadriceps assist the bone.

Key term

Ligament: bone to bone/ tough connective tissue that attaches bone to bone.