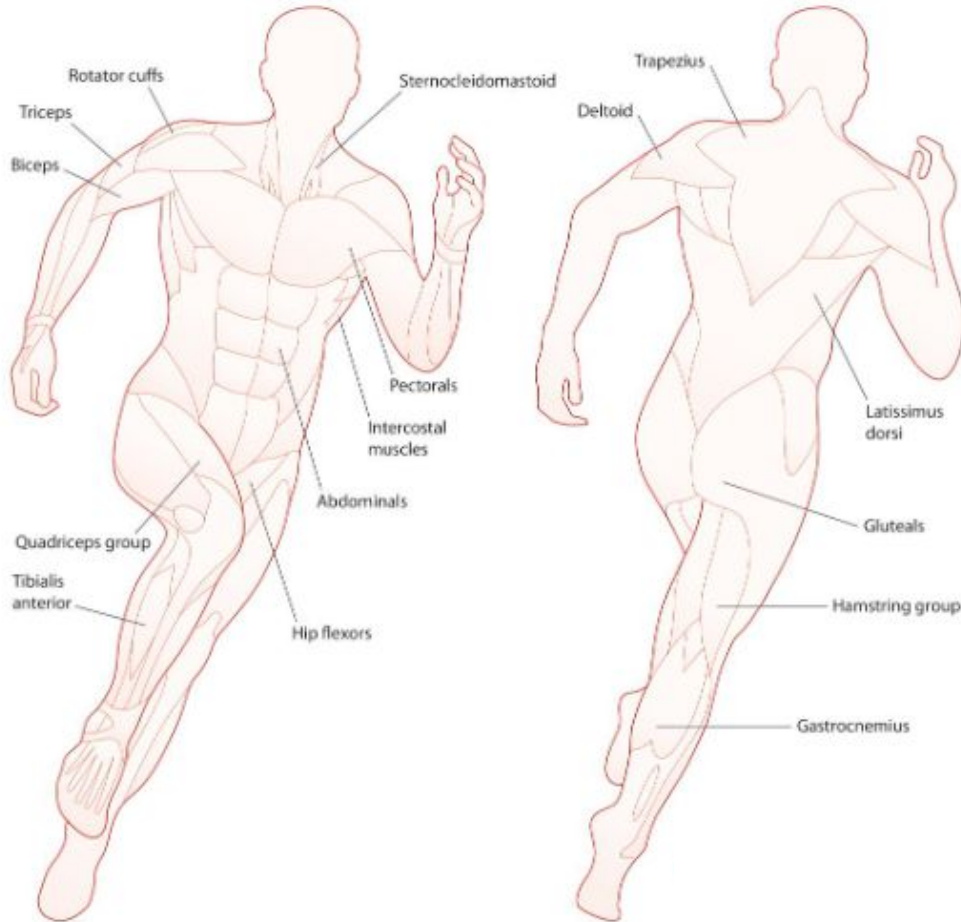


The Muscular System



Muscles and Movement

Prime Mover (Agonist)

Muscles can only pull, not push. Arranged in pairs on either side of the joints. One muscle contracts whilst the other relaxes. The muscle that contracts is the agonist, the one that relaxes is the antagonist.

This is called an **antagonistic muscle pair**

Antagonist

Obvious pairs include:

Biceps and triceps
 Hip flexors and gluteals
 Hamstring group and quadricep group
 Tibialis anterior and gastrocnemius

Muscles contract in two different ways: isotonically and isometrically

Isotonic: When the muscle changes length when it contracts, resulting in limb movement. Concentric (muscle shortens) or eccentric (muscle lengthens)

Isometric: When the muscles stay the same length. No actual movement of either the limb or the joint because the muscles are working to keep the joint stationary