

Joint Actions

Flexion is the **narrowing of the angle** at a joint

Extension is the **widening of the angle** at a joint

Abduction is movement **away** from the **midline** of the body

Adduction is movement **towards** the **midline** of the body

Plantarflexion is the **widening** of the angle at the **ankle joint** (pointing the toes down)

Dorsiflexion is the **narrowing** of the angle at the **ankle joint** (pointing the toes up)

Rotation is the action of **rotating around** an axis or centre

Circumduction is the action of **rotating 360 degrees** around an axis or centre

Voluntary Muscles



A muscle which you can control

Involuntary Muscles



A muscle which you cannot control

Cardiac Muscles



A muscle found in the wall of the heart

Antagonistic Pairs

- Biceps & Triceps
- Quadriceps & Hamstrings
- Gastrocnemius & Tibialis Anterior
- Hip Flexors & Gluteals
- Pectorals & Deltoid
- Abdominals & Latissimus Dorsi



PE COMPONENT 1 - MUSCULAR SYSTEM



ISOMETRIC Muscle Contraction

A muscle contracts but its length does not change (no movement)

ISOTONIC Muscle Contraction

A muscle contracts and movement is present



As one muscle **CONTRACTS**, another muscle will **RELAX**

→ Isotonic Contraction: **Concentric Contraction**

Muscle shortens therefore generating force

→ Isotonic Contraction: **Eccentric Contraction**

Muscle lengthens due to a greater opposing force

