

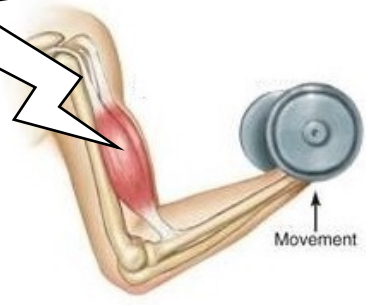
# Muscular System

## TYPES OF MUSCLE CONTRACTION

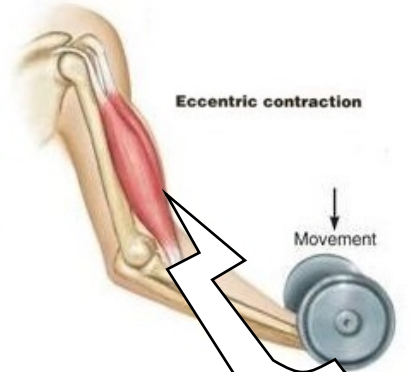
**Muscle Tone**  
 Muscles in a state of slight tension ready to work  
 Regular training tones muscles  
 Hypertrophy - muscles increase in size and endurance



I am shortening



Concentric contraction



Eccentric contraction

I am lengthening

**Posture**  
 Performance enhanced by good posture  
 Mental and physical benefits

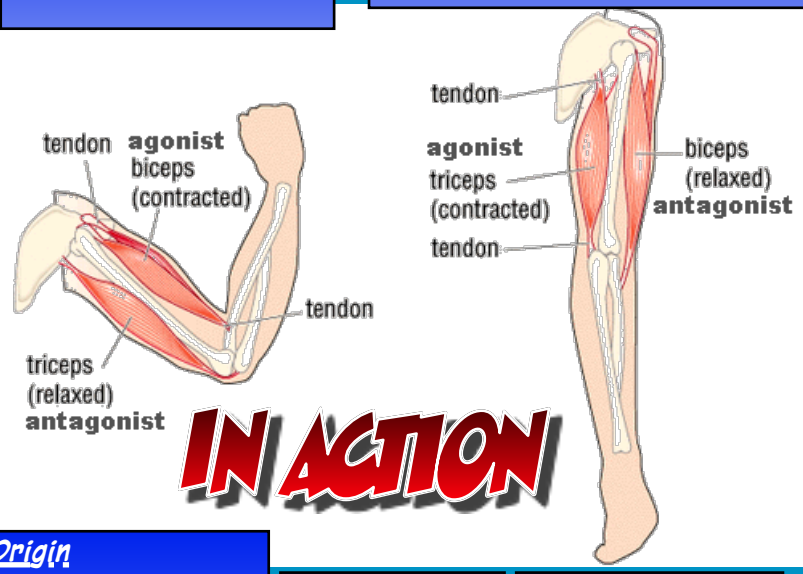


Isometric contraction

I am not changing length

**Antagonist**  
 Muscle that opposes or reverses a prime mover

**Prime mover (agonist)**  
 Muscle with major responsibility for a certain movement



## IN ACTION

**Origin**  
 Where the tendon of the muscle joins the stationary bone(s)

**Insertion**  
 Where the tendon of the muscle joins the moving bone

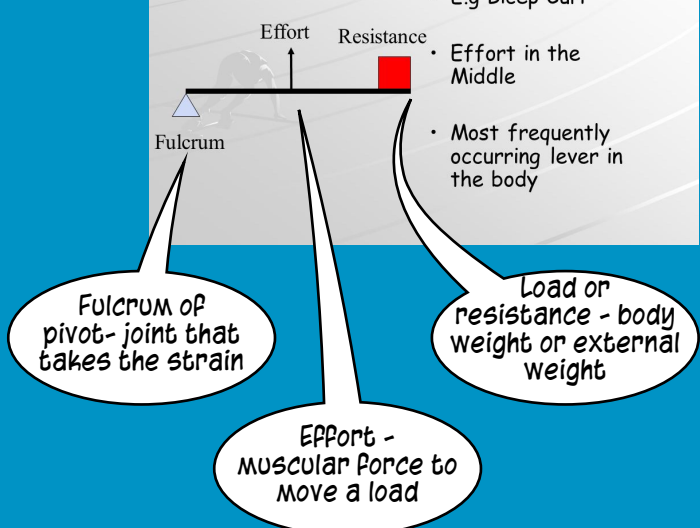
**Antagonistic pairs**  
 Muscles work in antagonistic pairs - as one contracts the other relaxes

## LEVERS



### Third Class Lever

- E.g Bicep Curl
- Effort in the Middle
- Most frequently occurring lever in the body



Fulcrum of pivot-joint that takes the strain

Load or resistance - body weight or external weight

Effort - muscular force to move a load