

MUSCLES

CIRCULATORY SYSTEM



MUSCLES

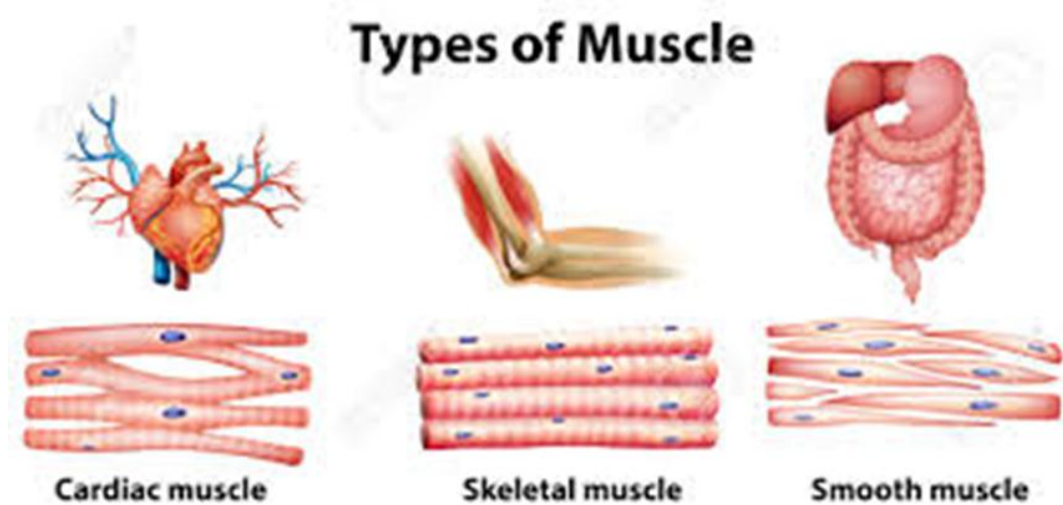
- It is important to remember that any physical movement only occurs through a combined action of the muscles and bones



MUSCLES TYPES

There are three types of muscles:

- **Voluntary (or skeletal)** – sometimes also called striped or striated muscles. They make up the majority of the muscles in the human body. They also give the body its shape. They are called voluntary because they are under your control through the nervous system and only move when you want them to.



MUSCLES TYPES

There are three types of muscles:

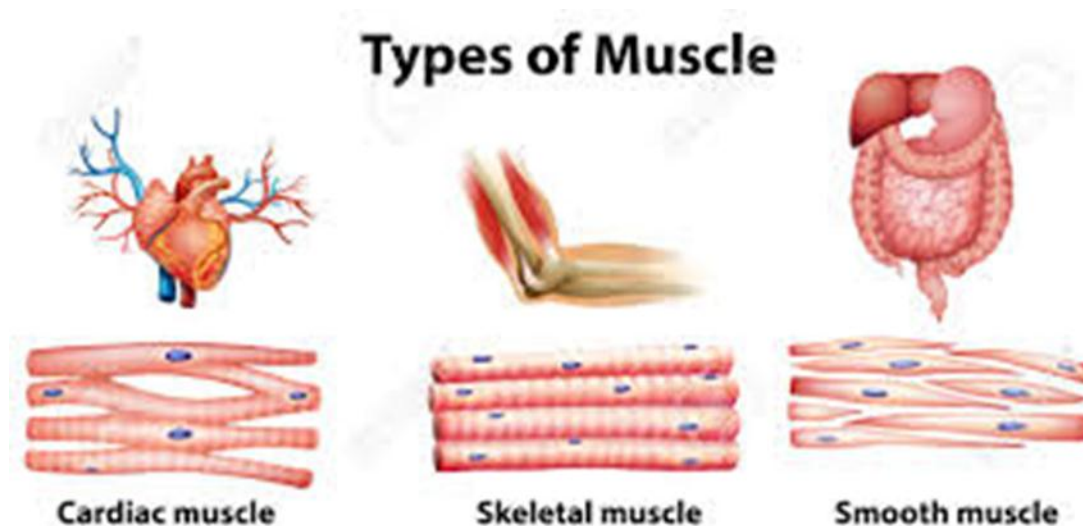
- **Involuntary (or smooth)** - muscles you cannot control, such as those in the intestine and the blood vessels. These work automatically all the time to keep your body functioning properly.



MUSCLES TYPES

There are three types of muscles:

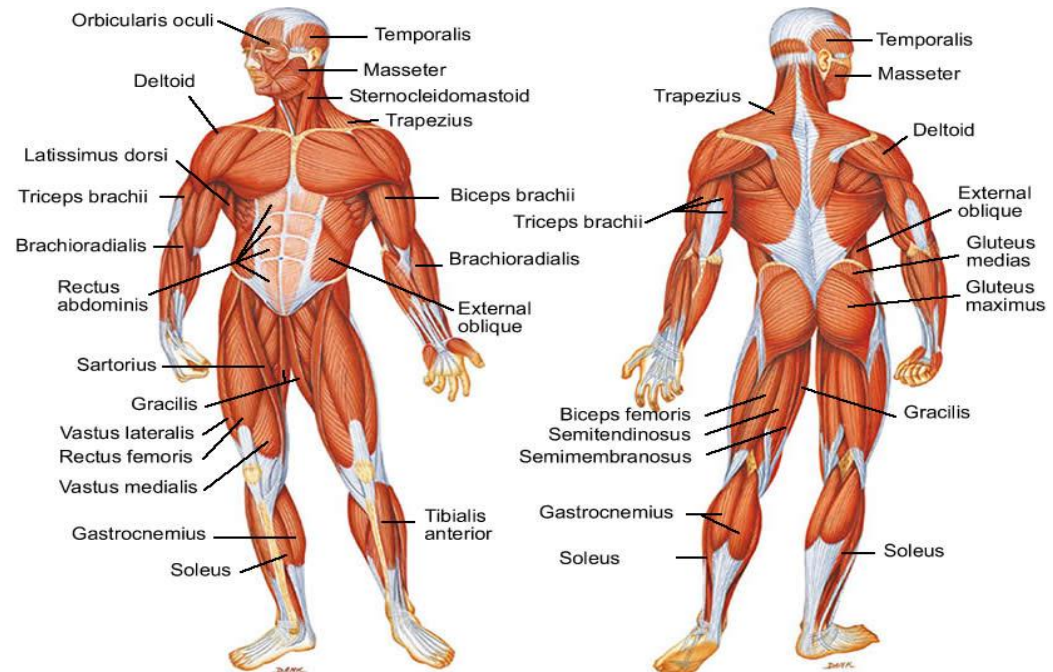
- **Cardiac** – a special type of muscle found only in the wall of the heart. Also a form of involuntary muscle as they work automatically all the time. The beating of the heart is a muscular action which the cardiac muscles perform.



MAJOR MUSCLE ACTIONS

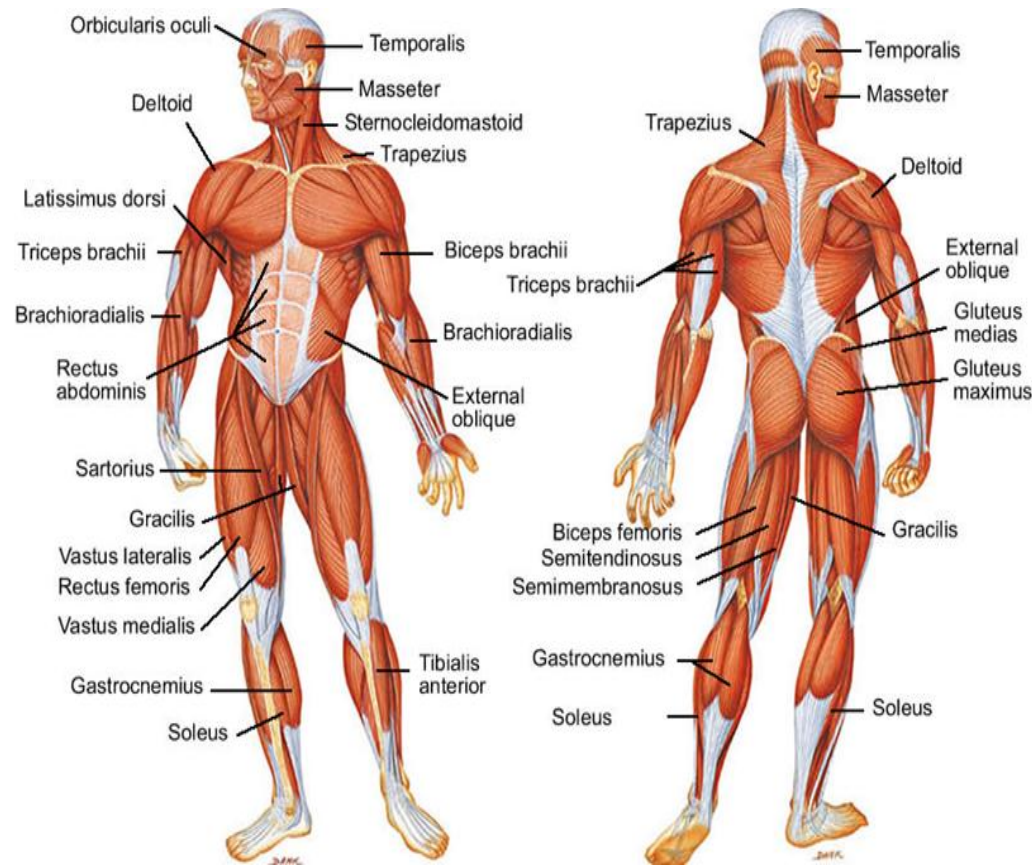
This list covers all the basic skeletal muscles you need to know, what they do and where to find them. Some of their common names are in brackets:

- **Triceps**
- **Biceps**
- **Deltoids**
- **Pectorals**
- **Trapezius**
- **Abdominals**
- **Latissimus dorsi**
- **Gluteals**
- **Quadriceps**
- **Hamstrings**
- **gastrocnemius**



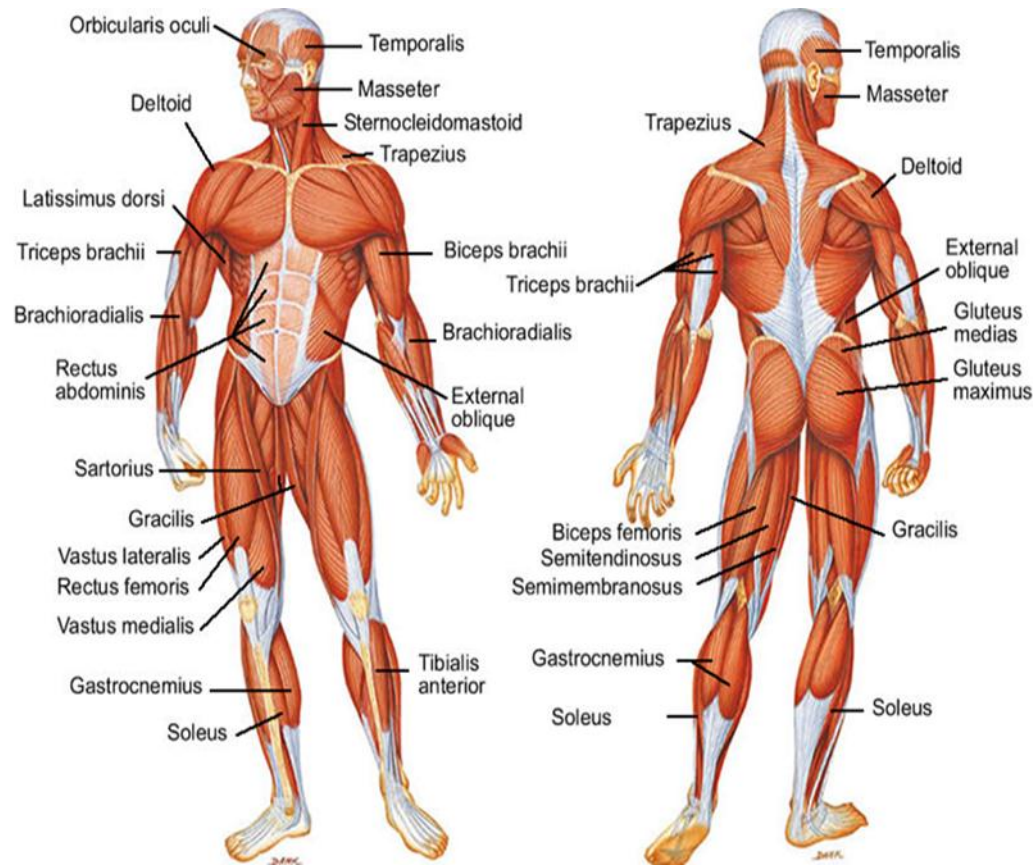
MAJOR MUSCLE ACTIONS

- **Triceps** – at the back of the upper part of the arm, between the elbow and the shoulder. They allow the arm to straighten. Used for throwing actions
- **Biceps** – at the front of the upper arm, between the elbow and the shoulder. They allow the arm to bend and also to rotate slightly. Used for catching actions
- **Deltoids** – on the back of the shoulder joint. They allow the shoulder to move in all directions, up, down, backwards, forwards and to rotate



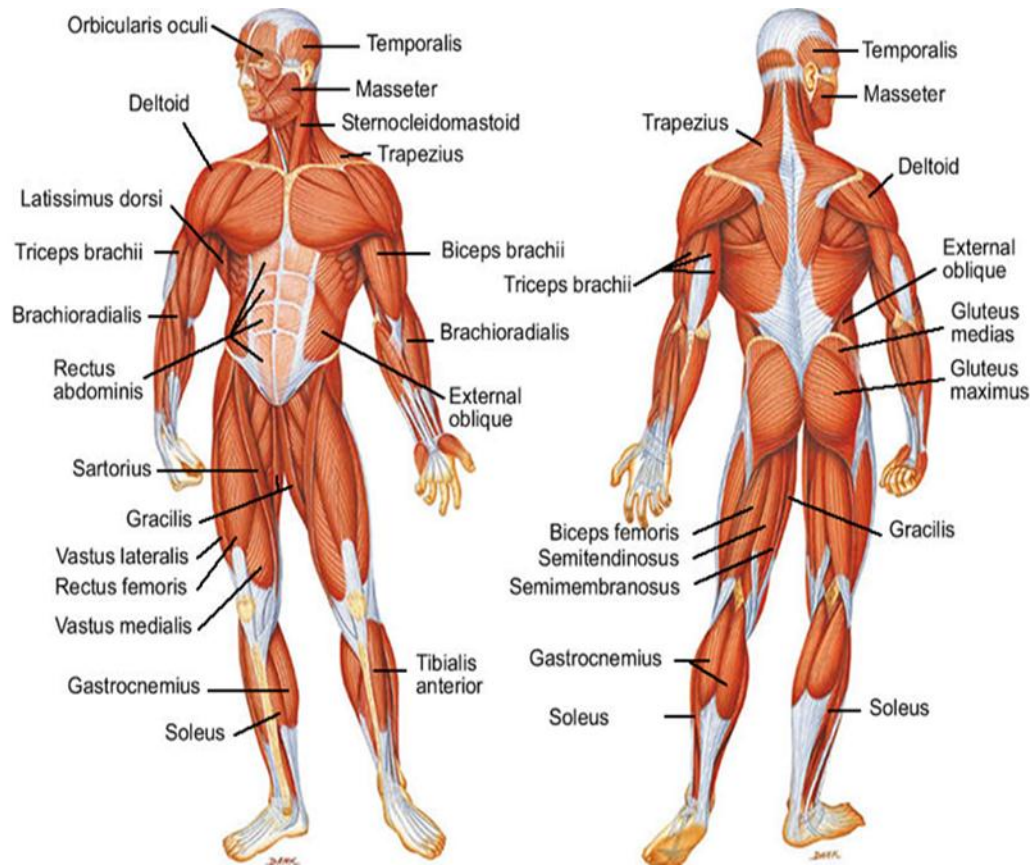
MAJOR MUSCLE ACTIONS

- **Pectorals** – at the front of the upper chest. They help movement of the shoulders. Used in throwing actions, particularly ones like the javelin
- **Trapezius** – by the neck, on the upper back. They help with shoulder movement as well as keeping the shoulder in position. These would be used in a movement such as a soccer throw-in
- **Abdominals** – at the front on the side of the stomach and across the front. They allow bending and turning of the trunk and also assist with breathing. These are important «stabilizing» muscles and help the body keep in the correct position for most types of movement.



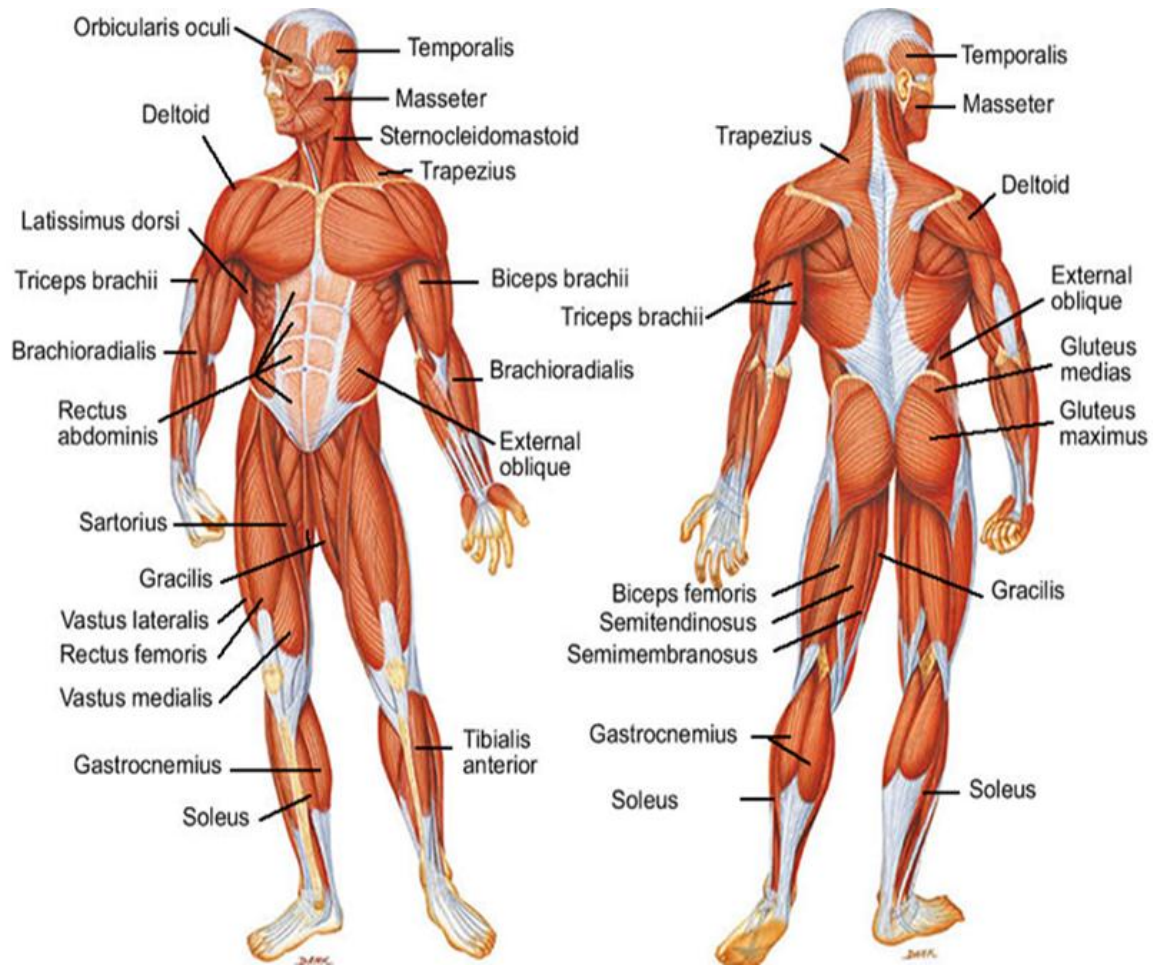
MAJOR MUSCLE ACTIONS

- **Latissimus dorsi** – on the back, from the armpit to the lower back. They allow movement at the shoulder backwards, forwards, up and down, again used in swimming arm actions
- **Gluteals** – at the lower back, around the bottom region at the back of the hips .These assist with walking, climbing and standing up as well as rotation of the hips
- **Quadriceps** – at the upper front of the leg in the thigh region, between the knee and the pelvis. They allow the leg to straighten so they assist kicking



MAJOR MUSCLE ACTIONS

- **Hamstrings** – at the upper back of the leg, between the knee and the pelvis. They allow movement of the hips and the knee, mainly bending. They also assist kicking
- **Gastrocnemius** – at the back, bottom rear of the leg, between the knee and the foot. They assist with walking, running, jumping and pointing the toes.



CIRCULATORY SYSTEM

FUNCTIONS OF THE CIRCULATORY SYSTEM

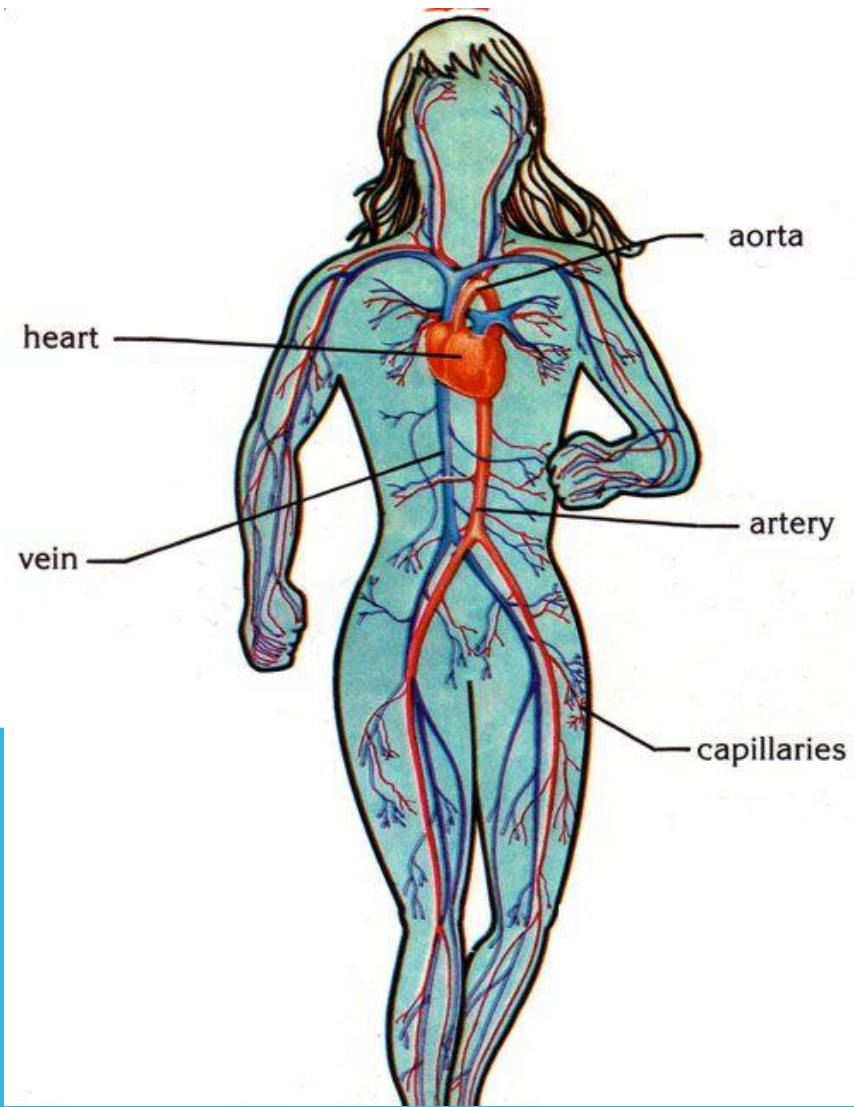
They are three main functions of the circulatory system:

- **Transport** – carrying blood, water, oxygen and nutrients throughout the body and the transport and removal of waste.
- **Body temperature control** – the blood absorbs the body heat and carries it to the lungs and to the skin, where it is then released.
- **Protection** – it helps to fight disease, e.g. antibodies which fight infection are carried in the blood, also the clotting of blood seals cuts and wounds.

CIRCULATORY SYSTEM

The circulatory system has four main parts:

- The heart
- The blood
- The blood vessels
- The pulmonary and systemic circuits



CIRCULATORY SYSTEM

THE HEART

The heart is a muscle and, like any other, it contracts and relaxes. Each time it does this it performs a heartbeat. Your pulse is the way you can feel the blood being pumped around by the heart. There are four pulse points in the body:

- At the base of the thumb on the inside of the wrist (**radial pulse**)
- On either side of the neck (**carotid pulse**)
- Just over the temple at the side of the forehead (**temporal pulse**)
- In the groin (**femoral pulse**)

