Paper 1 Final Revision

Physical Factors affecting Performance

- Location of major bones
- Functions of the skeleton
- Types of Synovial Joints
- Types of Movements at Hine and Ball & Socket Joint
- The roles of muscles in movement
- Short and Long Term Effects of exercise
- Components of Fitness
- Principals of Training (SPOR & FITT)
- Structure and function of the respiratory system
- Aerobic and Anaerobic respiration
- Structure and function of the cardiovascular system
- Planes of Movement and Axes of Rotation
- Lever Systems
- Optimising Training
- Methods of training
  - Warm Up
  - Cool Down
- Prevention of Injury

Functions of the Skeleton - Summary

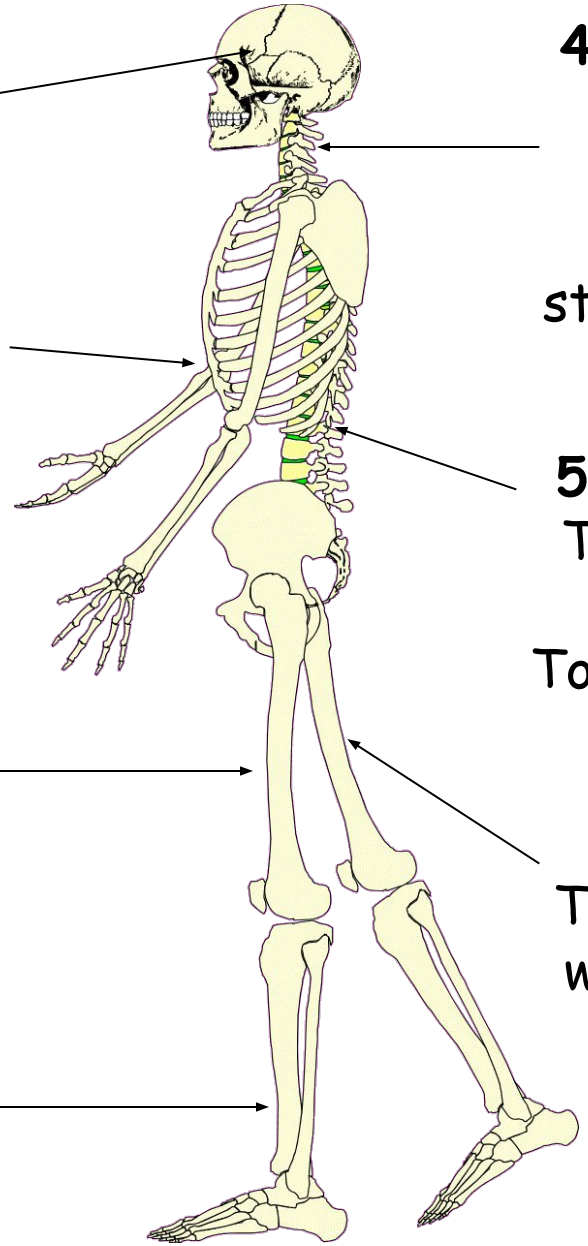
1. Protection
Protects Vital Organs

The cranium protects the soft tissue of the brain.

The rib cage protects the delicate heart and lungs.

2. Blood Production
Red blood cells are made in the ribs and limb bones.

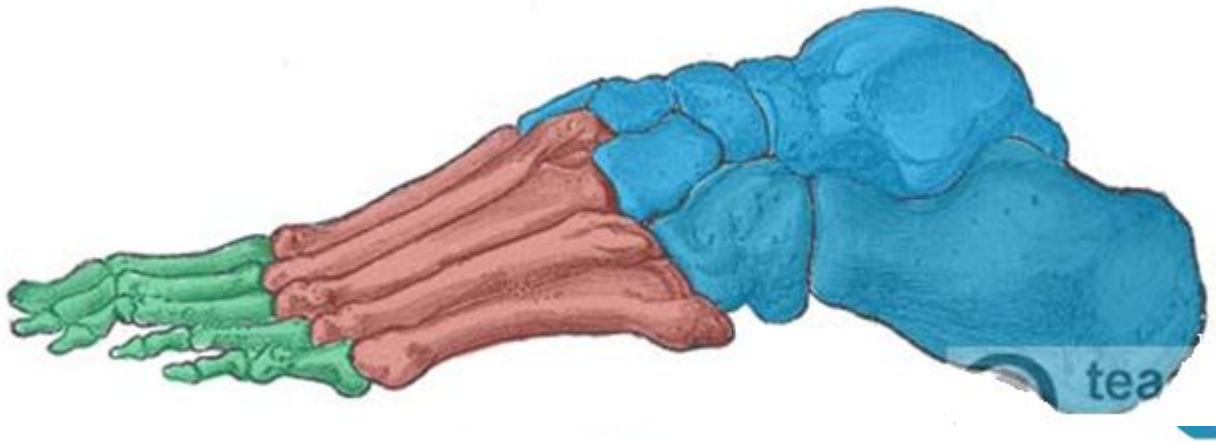
3. Mineral Storage
Bones store vital minerals. E.g. calcium



4. Shape and Structure
The skeleton gives the body its shape, which changes with growth. stable body shape enables essential functions

5. Support & Posture
The bones of the legs support the body.
To keep good posture to prevent backache

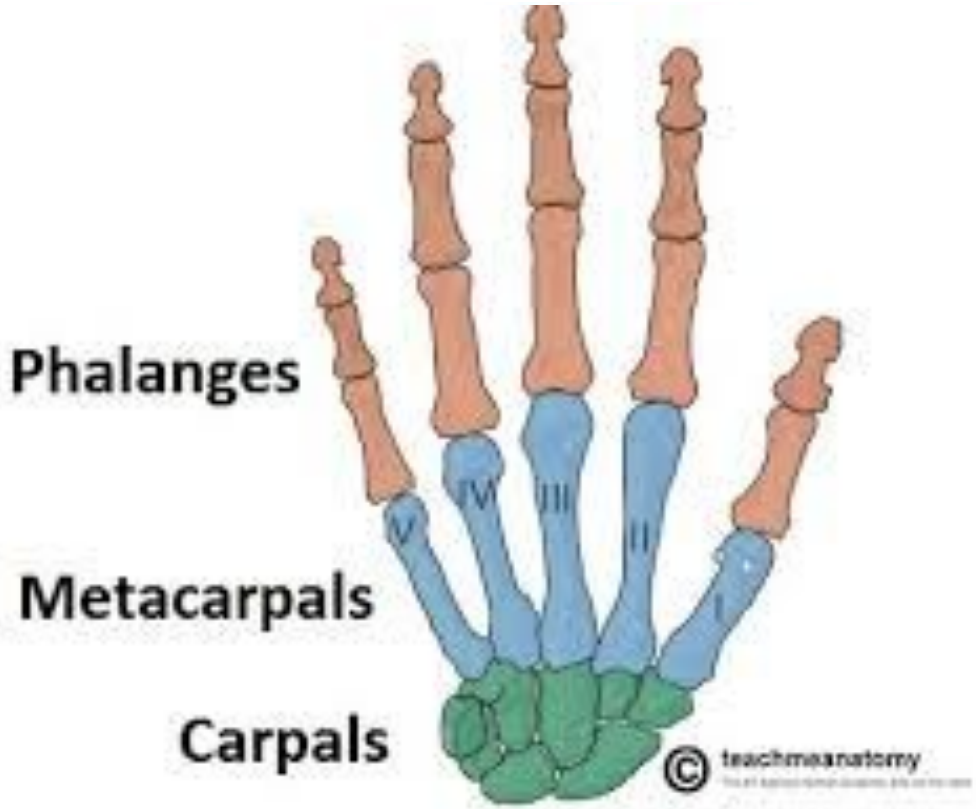
6. Movement
The bones and joints work with muscles to enable us to walk, run and sprint.



Hand – Carpals
Foot – Tarsals

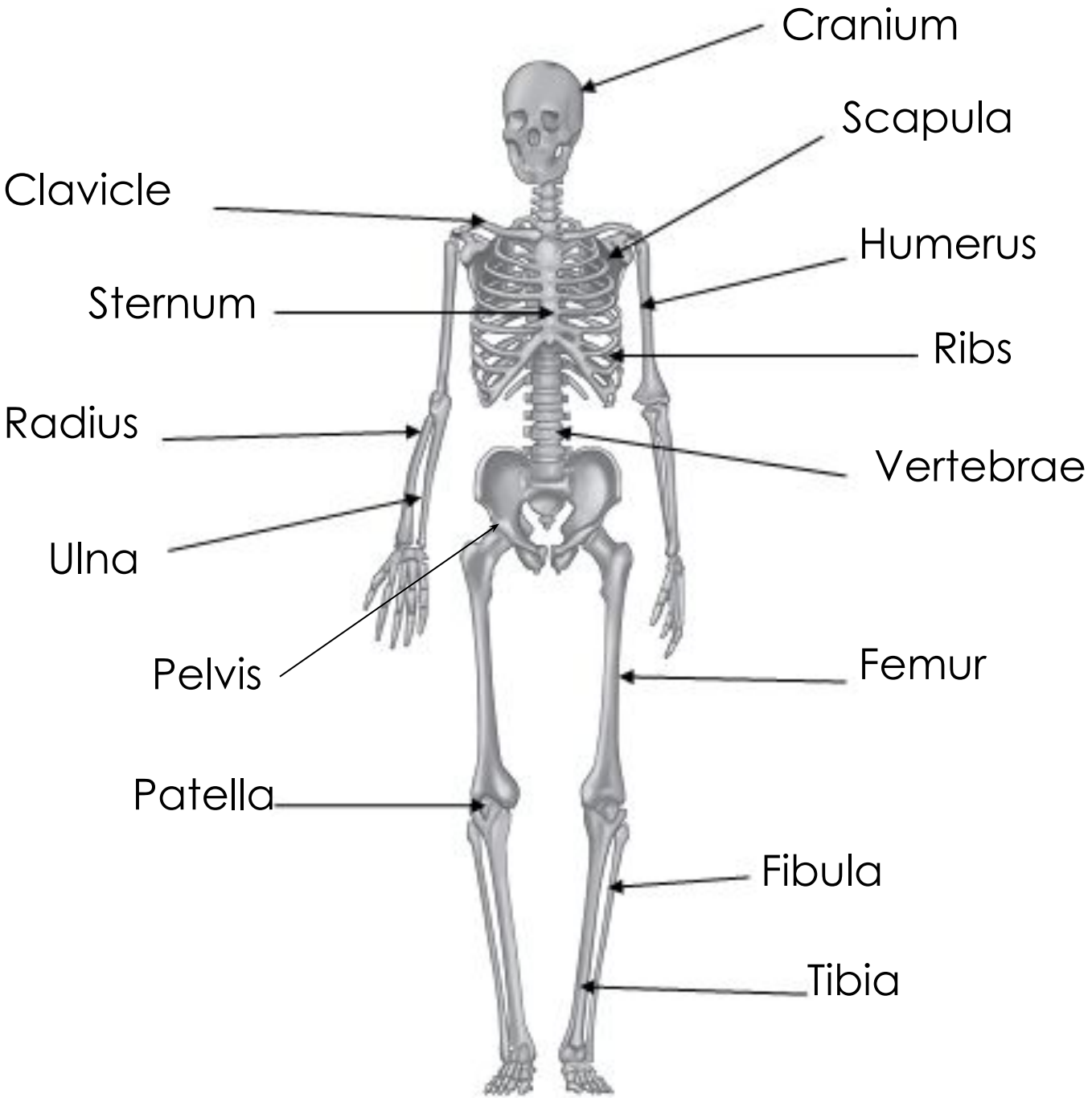
Meta- comes in-between

Phalanges are on the tips

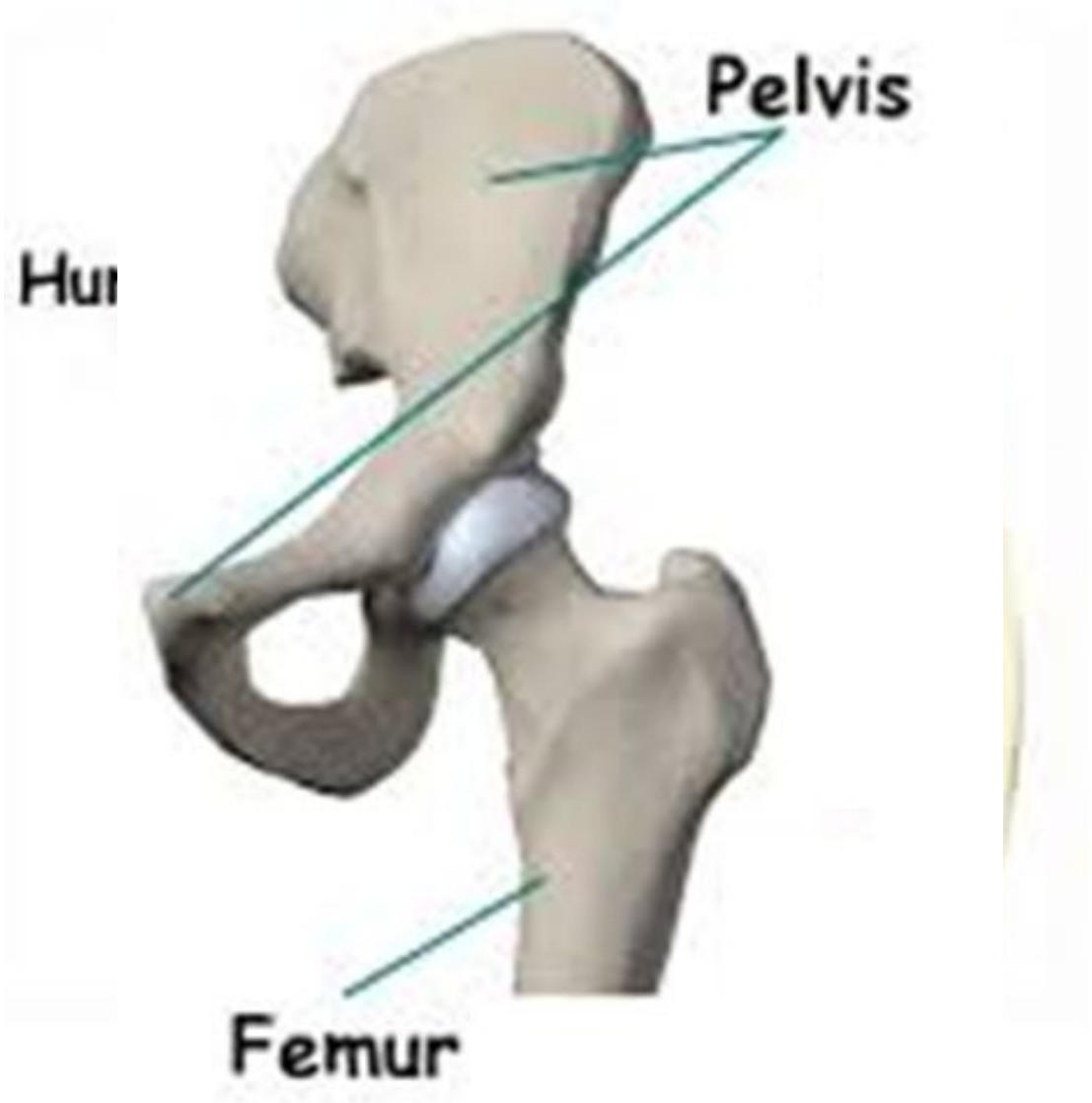


Can you label:

- Phalanges
- Metatarsals
- Metacarpals
- Tarsals
- Carpals


Cranium
Scapula
Clavicle
Humerus
Sternum
Ribs
Radius
Vertebrae
Ulna
Pelvis
Femur
Patella
Fibula
Tibia

Articulating (MOVING) bones



Connective Tissues

Cartilage	Ligaments	Tendons
• Reduces friction • Acts as a shock absorber • Protects surface of the bone • Helps to connect some bones • Tough elastic material • Has no blood supply • Doesn't heal well	• Joins bone to bone • Stabilises the joint • Prevent extreme movements • Prevents dislocations • Tough and resilient	• Joins muscle to bone • Apply the movement power • Prevent over-extension • Gives stability/ support • Stores energy • Strong and a little flexible

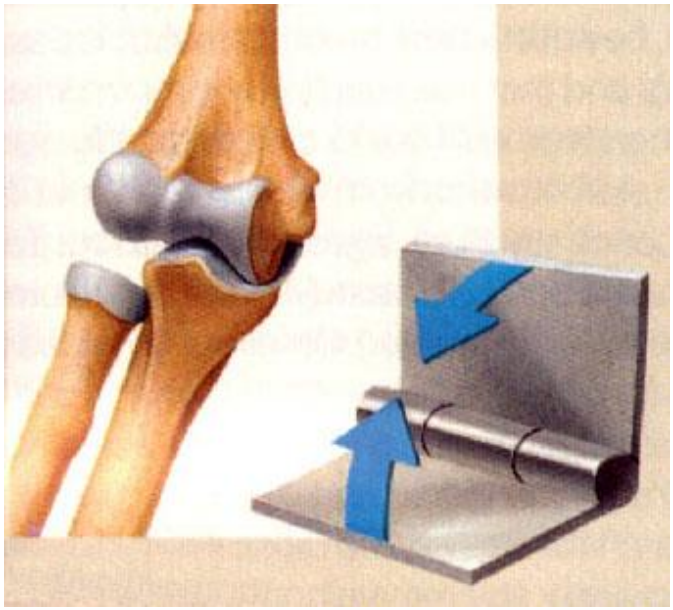
Types of Joints

Hinge

- EG: Elbow and Knee

Movement

- Flexion and Extension

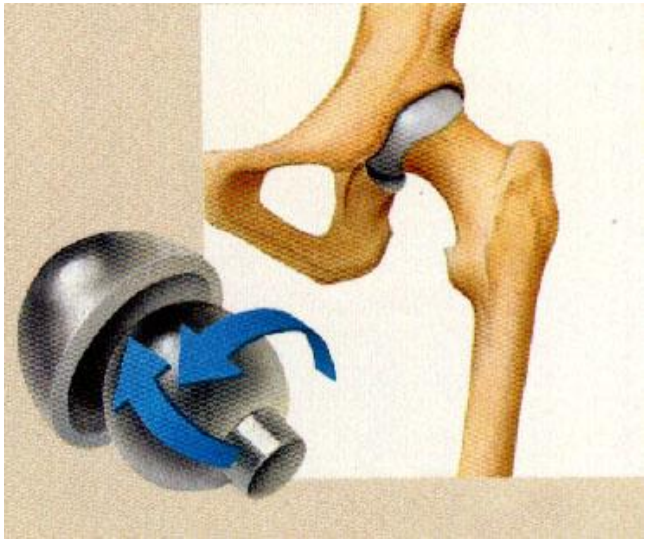


Ball and socket

- EG: Shoulder and Hip

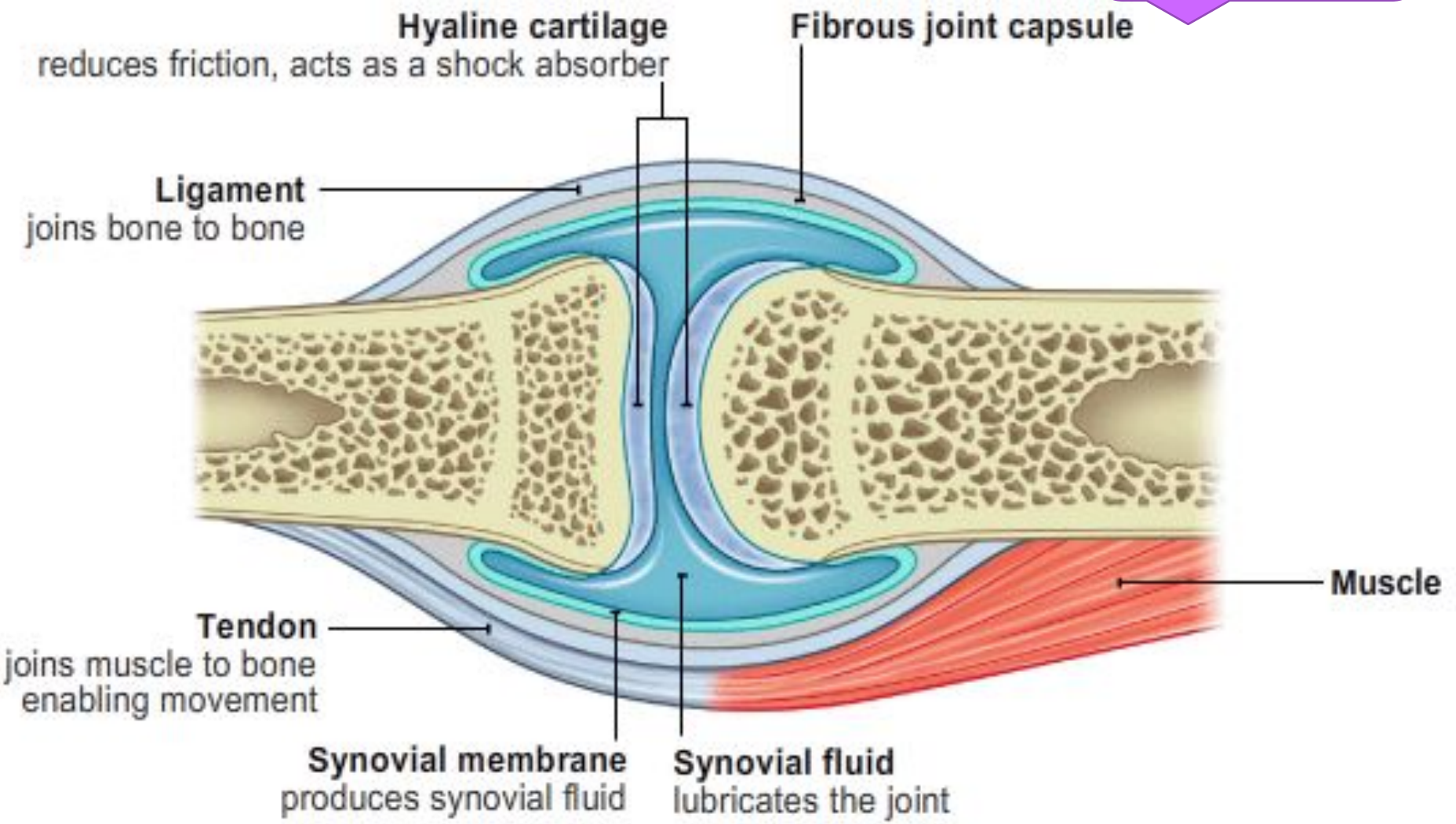
Movement

- Rotation Circumduction
- Abduction Adduction
- Flexion Extension

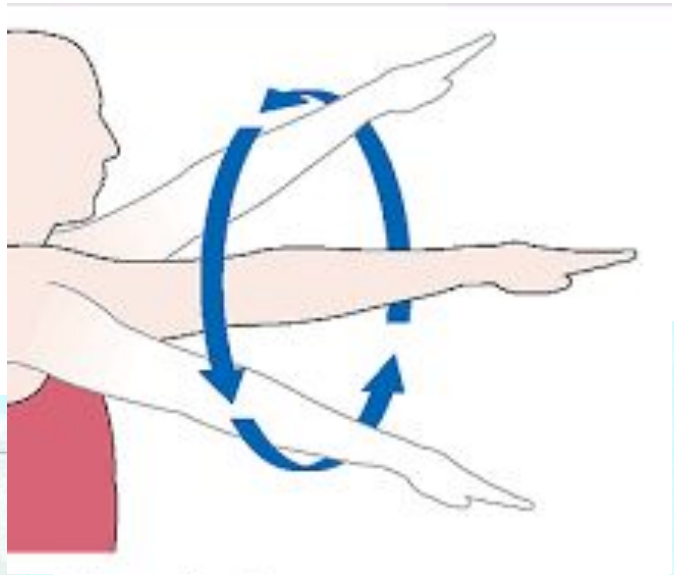


Synovial joints

You could be asked to describe the role of part of the Joint OR describe a joint



Extension: straightening or extending a limb. (Opening a Joint)



Flexion: Bending or flexing a limb. (Closing a joint)

Circumduction: A circular movement of a limb around a joint

TIP:
Which way is the arrow going?

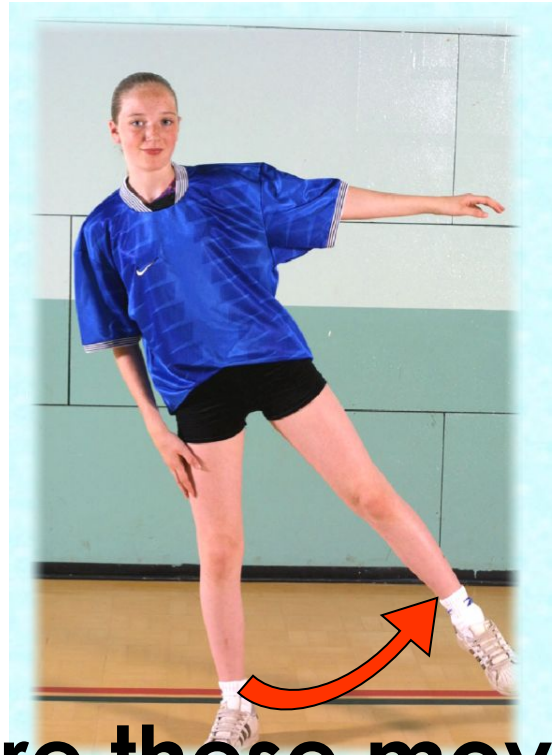
That will tell you which movement is happening.

What are these movements?

Rotation: This is a turning or rotational movement of a limb or body part.

Abduction: Moving a limb away from the centre line of the body.

Adduction: moving a limb towards the centre line of the body



What are these movements?

Ranges of Movement

Movement	Description	Examples
Flexion	Bending the limbs at a joint.	E.g. bending up arm in a bicep curl
Extension	Straightening limbs at a joint	E.g. straightening arm in a bicep curl
Adduction	Movement towards the mid-line of the body	E.g. arms going down in a star jump
Abduction	Movement away from the mid-line of the body	E.g. arms going up in a star jump
Rotation	Movement that turns around its long axis	EG: Using a screw driver
Circumduction	Combination of all other movements. A circular movement of a limb around a joint	E.g. A gymnast on the beam takes her back leg off the beam and moves it out and round to place her foot ahead of her front foot.

Muscles

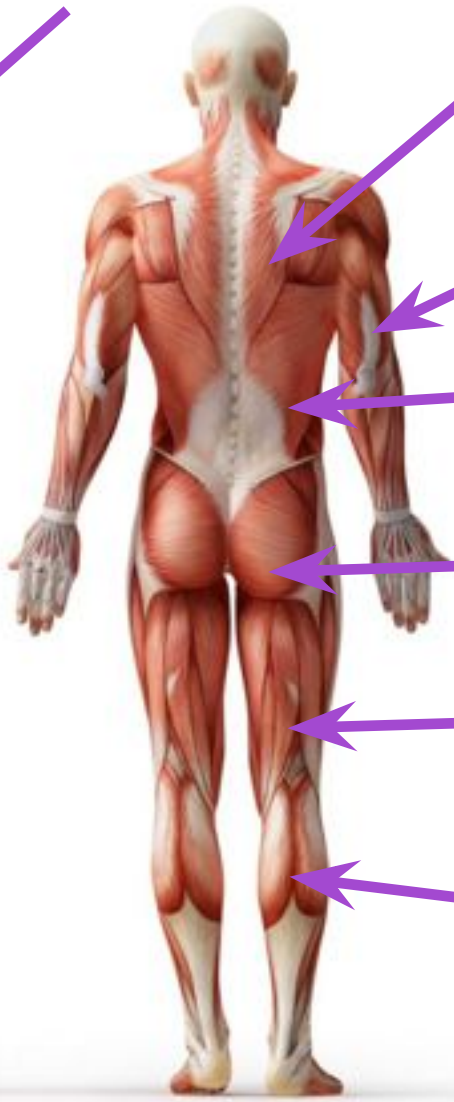
Deltoid

Bicep

Abdominals

Quadriceps

Pectoralis Major



Trapezius

Tricep

Latissimus Dorsi

Gluteals

Hamstring

Gastrocnemius

Muscle groups e.g. Quadriceps

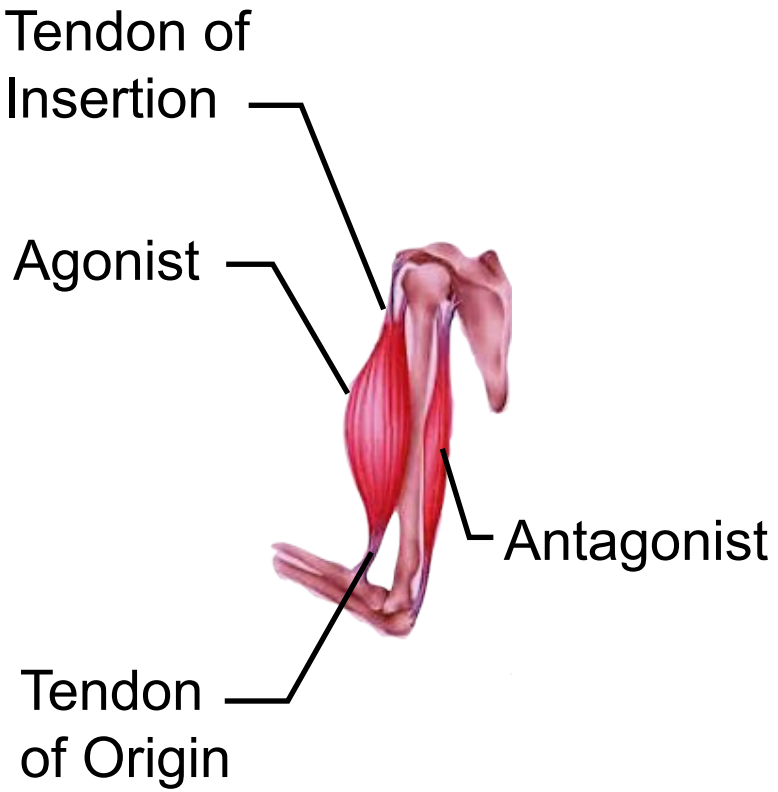
Antagonistic Pairs Examples

- Muscles can only **PULL**
- Muscles work in pairs to create movement

Antagonistic pairs:

- **Hamstrings and Quadriceps –** at the knee joint
- **Biceps and Triceps –** at the elbow joint

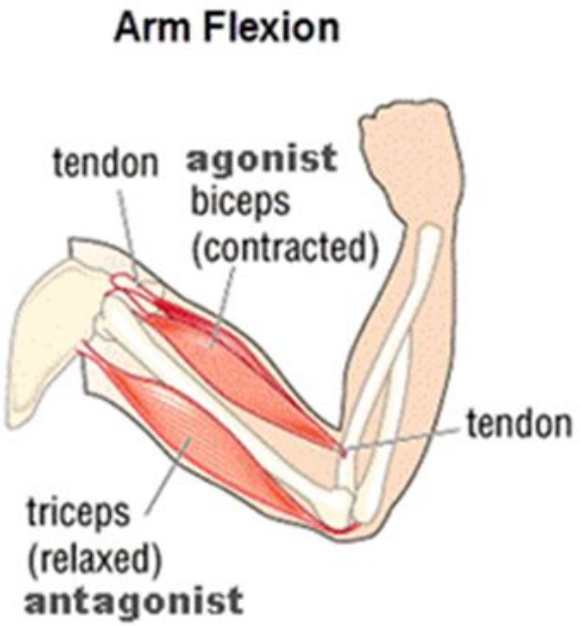
- Within each antagonistic pair there is an **AGONIST** and an **ANTAGONIST** in each movement

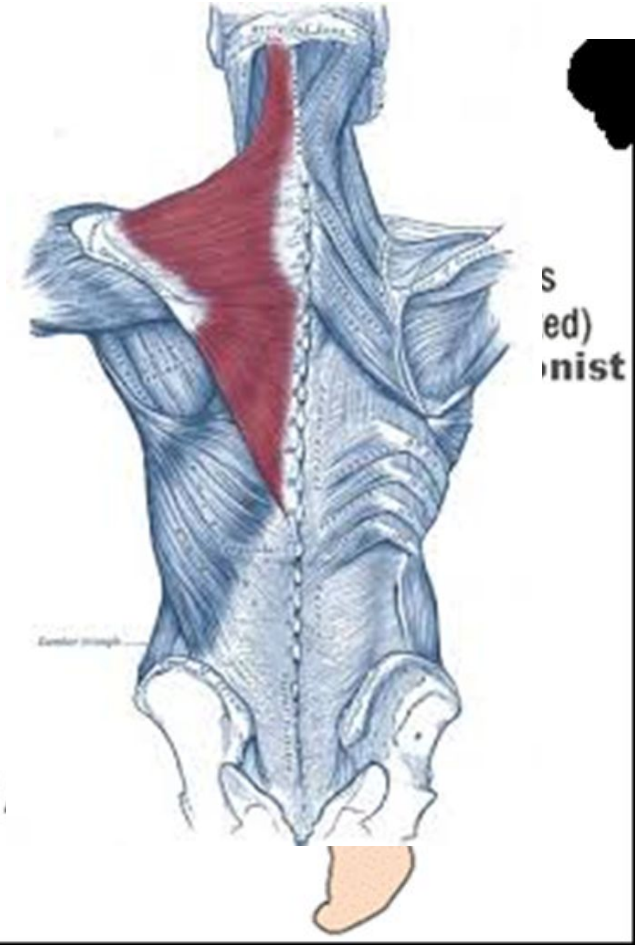


Antagonist

Agonist (WORKING

- Provides the ma
  movement.





Antagonist (RELAX

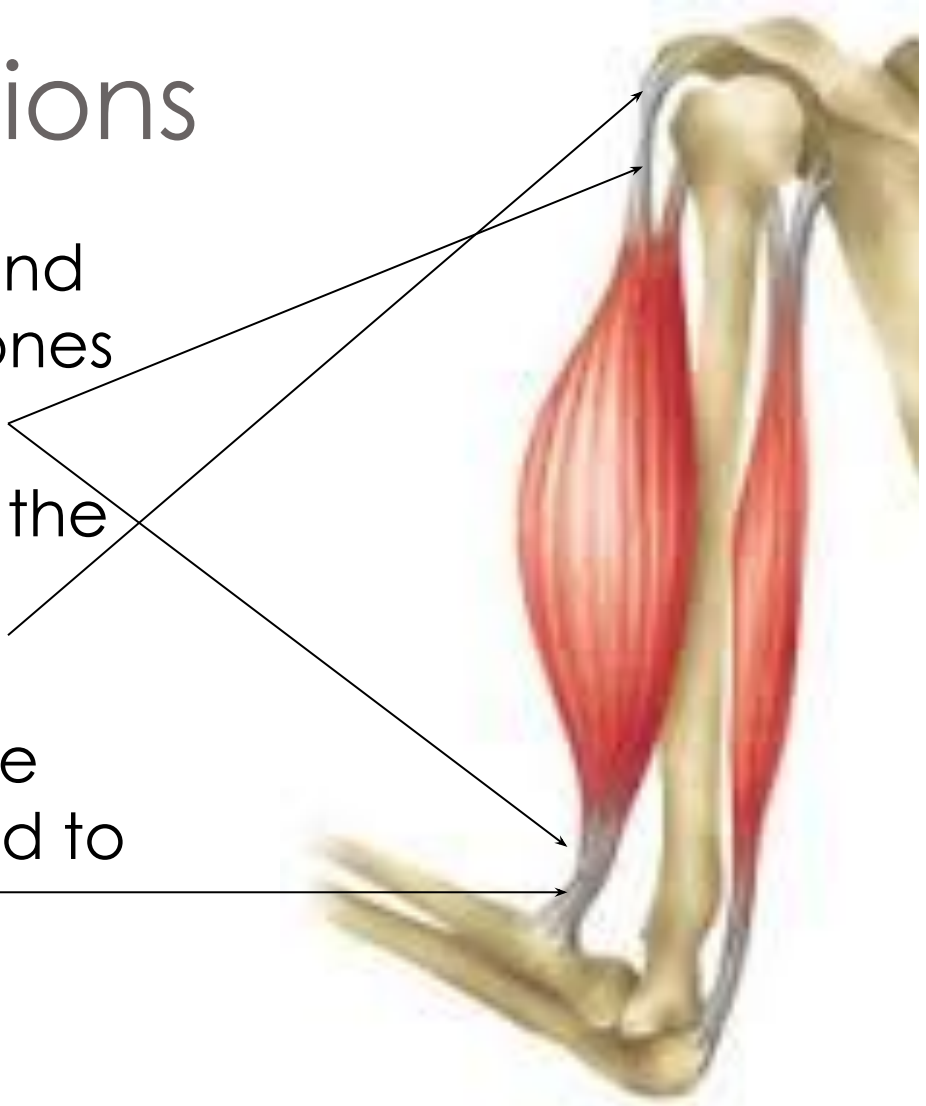
- Typically relaxes
  movement so th

Fixator (Stabiliser)

- This is a muscle that works with others to stabilise the origin of the AGONIST
  - E.g. the trapezius contracts to stabilise the origin of the biceps.

Origins and Insertions

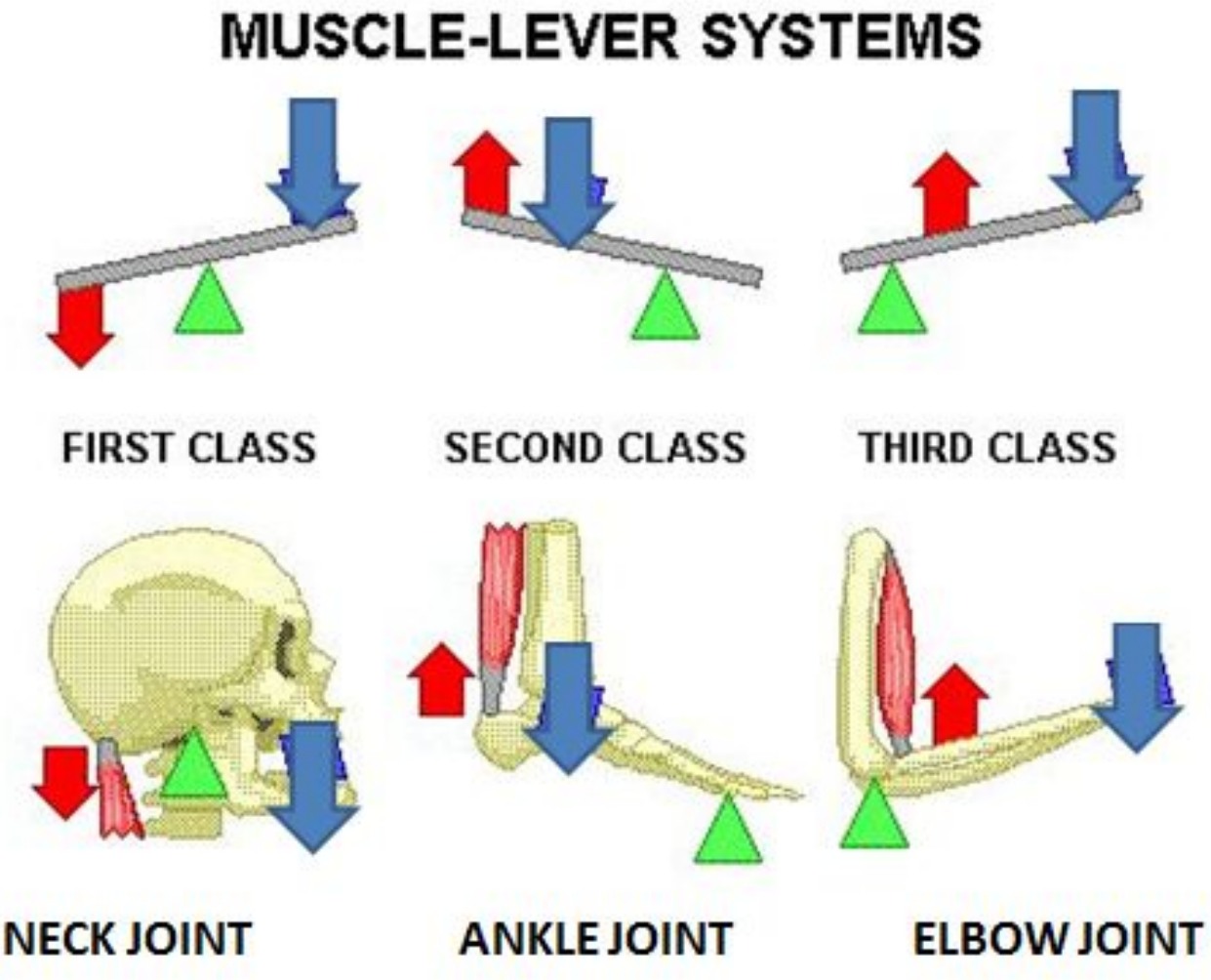
- Muscles have two ends and these are attached to bones by TENDONS.
- The end that attaches to the FIXED bone is called the ORIGIN.
- The other end is called the INSERTION and is attached to the MOVING bone.



Muscle Movement

Voluntary	Main Action	Practical Example
Biceps	Flexion at the elbow	Pull-up, drawing a bow in archery
Triceps	Extension at the elbow	Press-up, throwing a javelin
Quadriceps	Extension at the knee	Kicking a ball jumping upwards
Hamstrings	Flexion at the knee	Bending knee before kicking a ball

Levers Systems



- This is known as gaining

  MECHANICAL

  ADVANTAGE

- This means they allow you

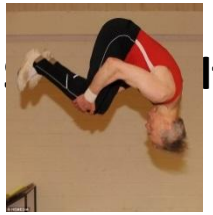
  to move a large output

  with a **small effort.**

Mechanical advantage = effort arm ÷ resistance arm

Axes of Rotation

* Axis of Rotation = This is the centre around which an object rotates

Plane	Movement	Axis	Example
Sagittal	Flexion and Extension	Transverse (Side to side)	
Transverse	Rotation	Longitudinal (Top to Bottom)	
Frontal	Abduction / Adduction	Frontal (Front to Back)	

Planes of Movement

Sagittal Plane

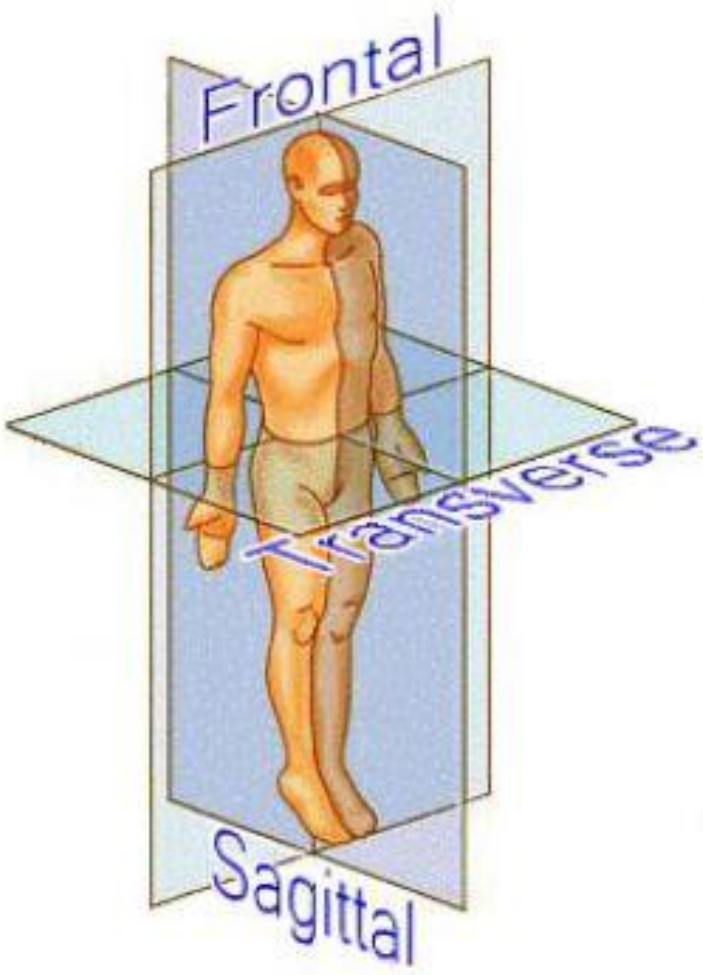
- This splits the body vertically into left and right sides
- Movement = Flexion and Extension (Up and Down)
- E.g. leg action when running

Transverse Plane

- This divides the body into upper and lower sections.
- Movement= Rotation
- E.g. swing in golf

Frontal Plane

- This runs vertically and divides the body in sections between: FRONT and BACK OR Anterior and Posterior
- Movement= Abduction and Adduction
- E.g. Jumping Jacks/Breast Stroke Legs



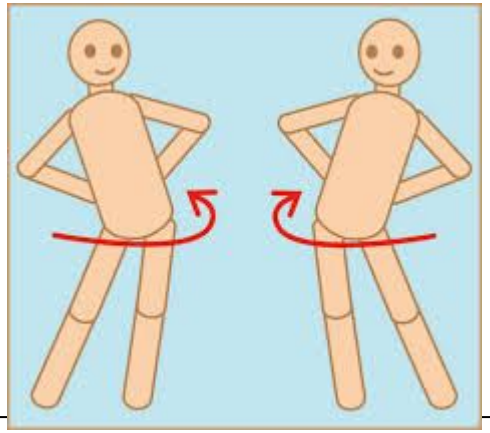
How to Remember??

MOVEMENTS

Sagittal Soldier (Flex/Extend)

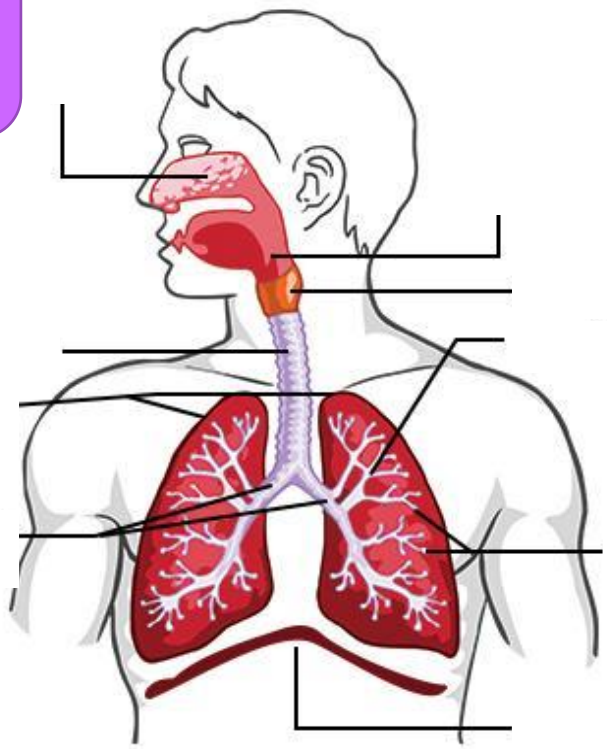
Frontal Flap (Adduct/Abduct)

Transverse Turn (Rotation)



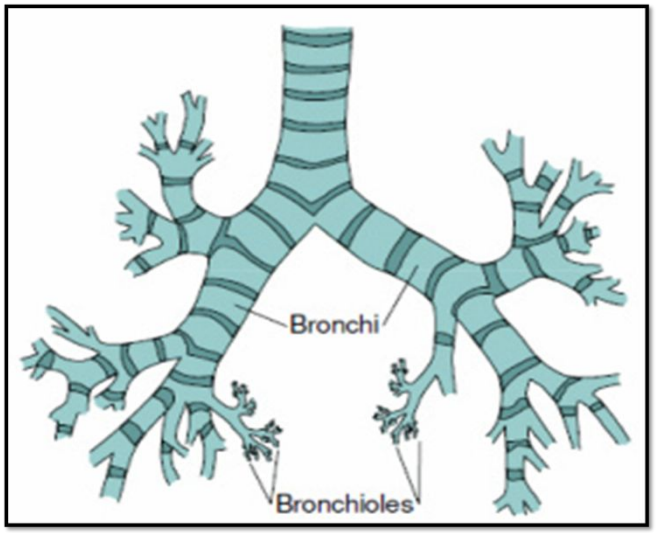
Respiratory System

pathway of air through the respiratory s



It is important to study the Respiratory system in conjunction with the Cardiovascular System

The 2 systems work together to supply oxygen to the working muscles, which is crucial in sport.



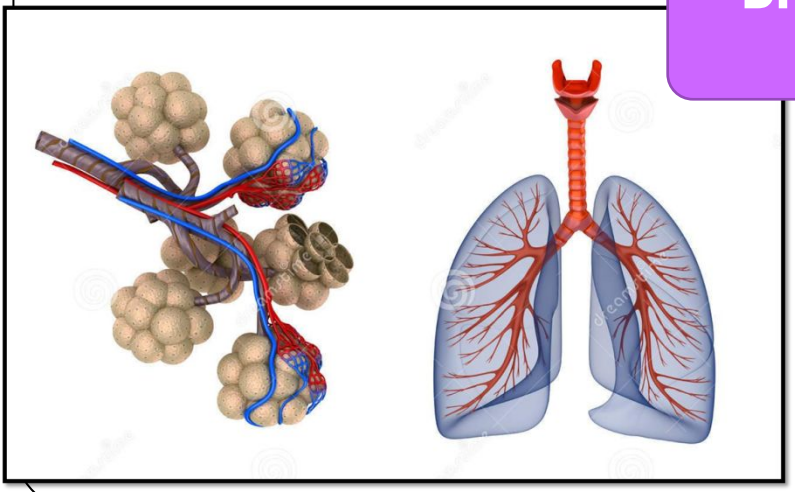
Pathway of Air

Nasal Passage – air enters here

Trachea – is the windpipe

Bronchi – the trachea divides into 2 going to right and left lungs

Bronchioles – smaller tubes going into the lungs



Alveoli – air filled sacs, where gaseous exchange happens

Red Blood Cells – carry O2 and CO2

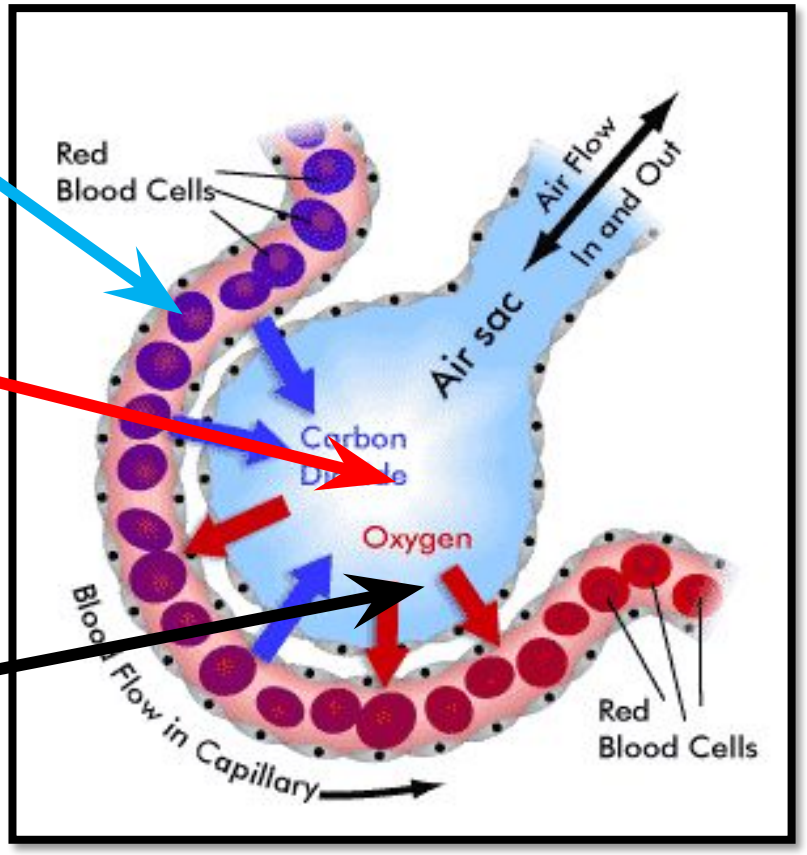
Gaseous Exchange

Blood arriving in the alveoli has a lower concentration of oxygen. The oxygen has been used by the working muscles.

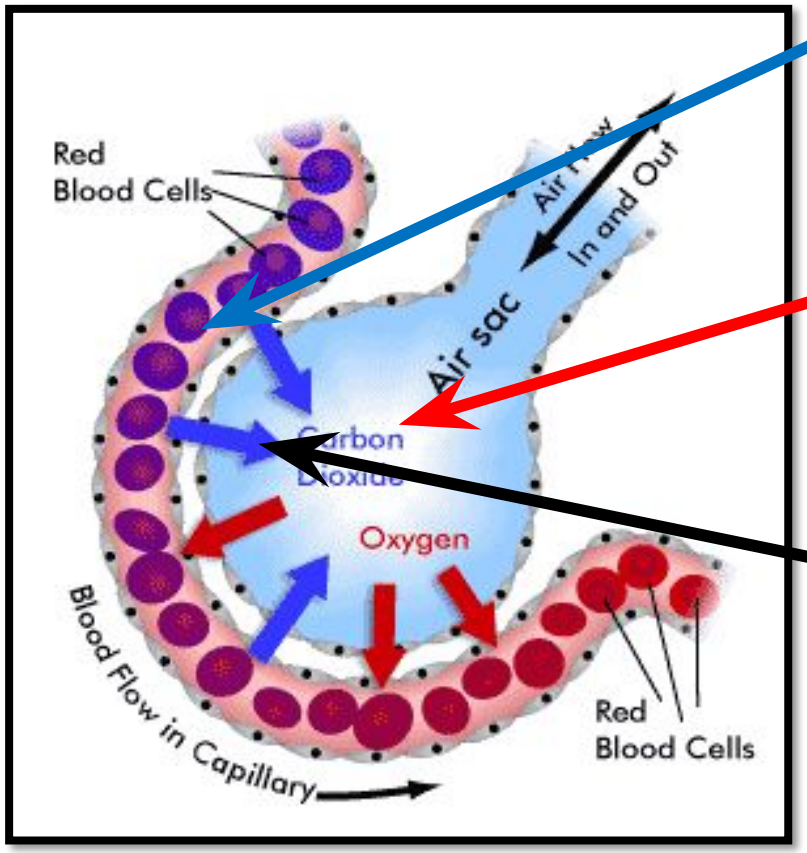
The air in the alveoli has a higher concentration of oxygen.

This allows oxygen to move into the blood by diffusion. Here it combines with haemoglobin in the red blood cells to form Oxyhaemoglobin

Exchange of Oxygen



Gaseous Exchange



Blood arriving in the alveoli from the muscles has a higher concentration of carbon dioxide.

The air in the alveoli has a lower concentration of carbon dioxide.

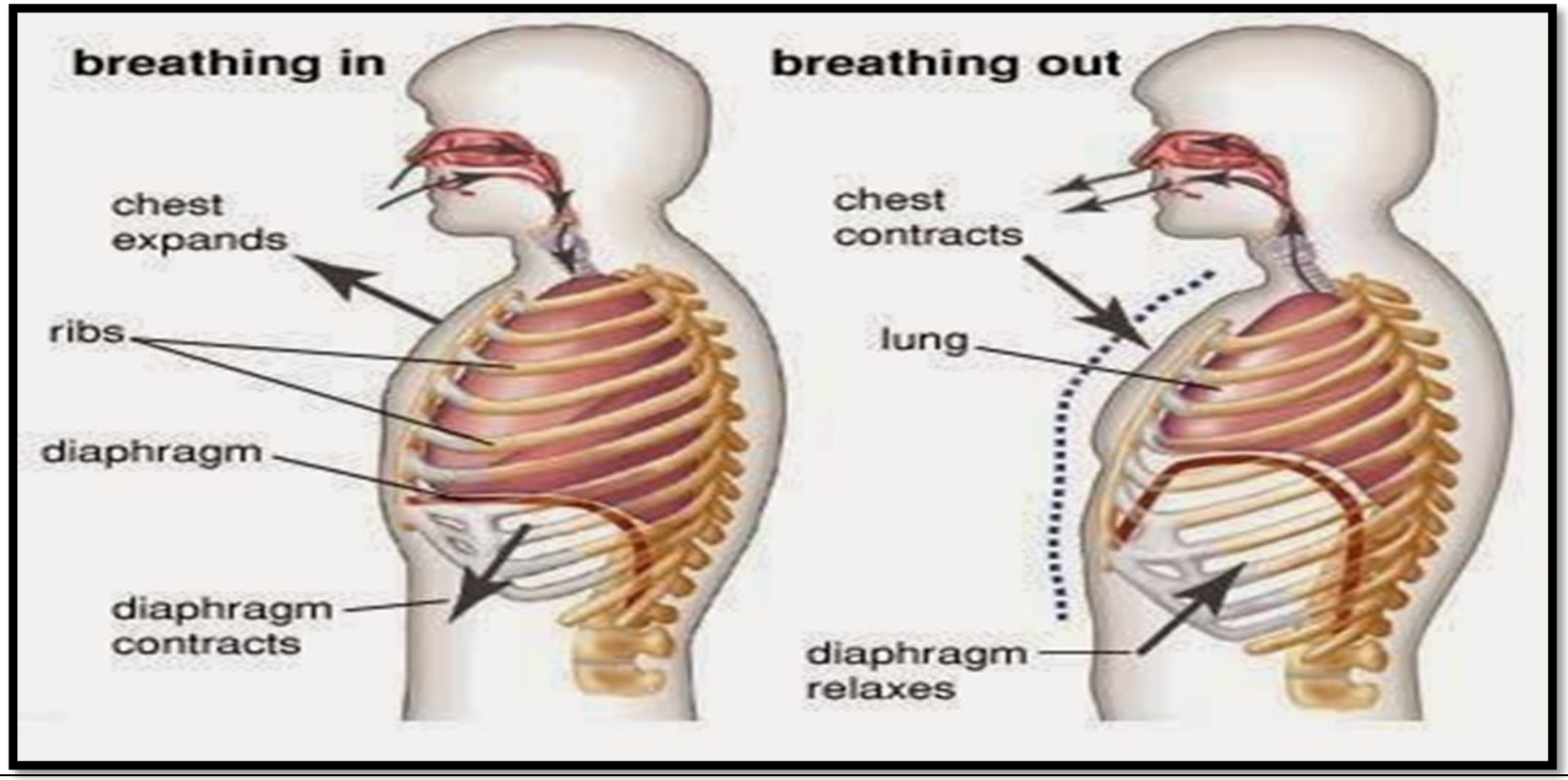
This allows carbon dioxide to diffuse from the blood and into the Alveoli.

Exchange of Carbon Dioxide

Gas exchange at the alveoli

Mechanics of Breathing

- There are 5 steps to be able to effectively describe how we breath in (inspire) and breath out (expire)



Mechanics of Breathing

Inspiration (breathing in) ACTIVE
1:
2:
3:
4:
5:

Mechanics of Breathing

Expiration (breathing out) PASSIVE
1: The Diaphragm and External Intercostal muscles Relax (Passive)
2: Diaphragm pushes upwards The Ribs and sternum move in and down.
3: The Thoracic cavity volume Decreases
4: The Lungs decrease in size The air pressure increases above atmospheric air
5: Air rushes out of the lungs EXPIRATION

Key words

- **Tidal Volume** –
  - this is the volume of air either inspired or expired per breath
- **Minute Ventilation** –
  - this is the volume of air that is inspired or expired in a minute
- **Breathing Rate -**
  - The frequency measured in breaths per minute

Minute Ventilation (VE) =

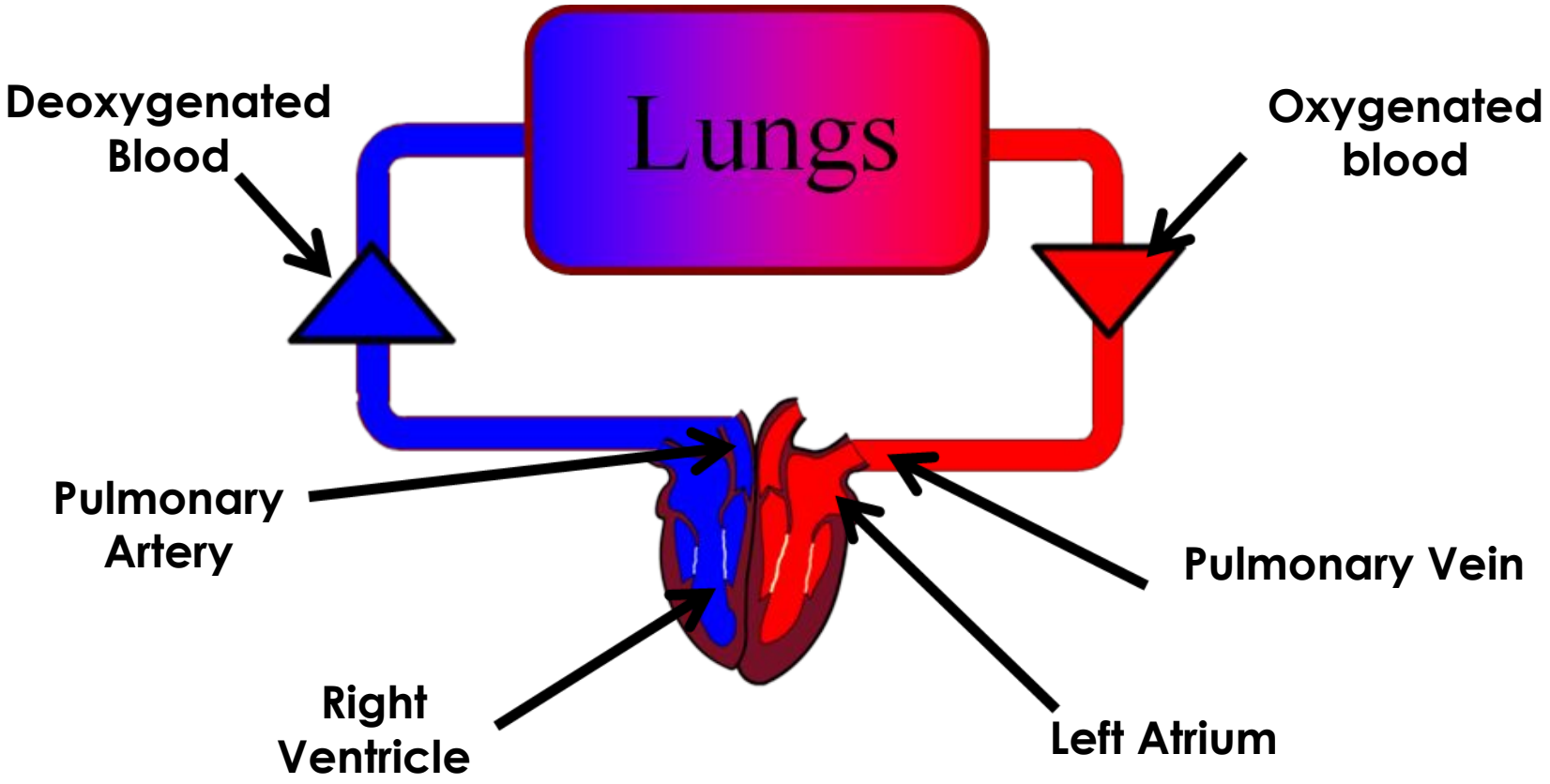
Tidal volume (TV)

X

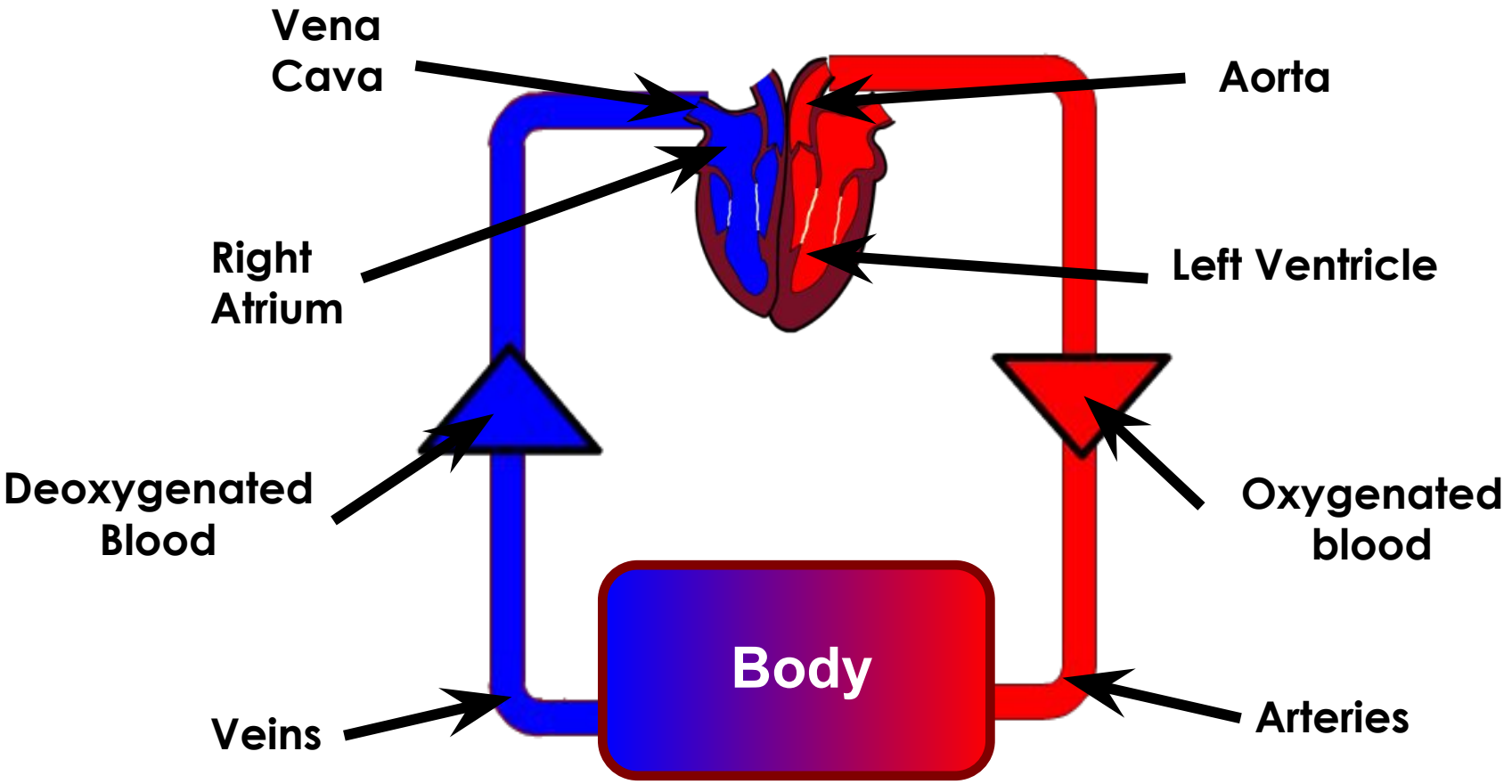
Breathing Rate (BR)

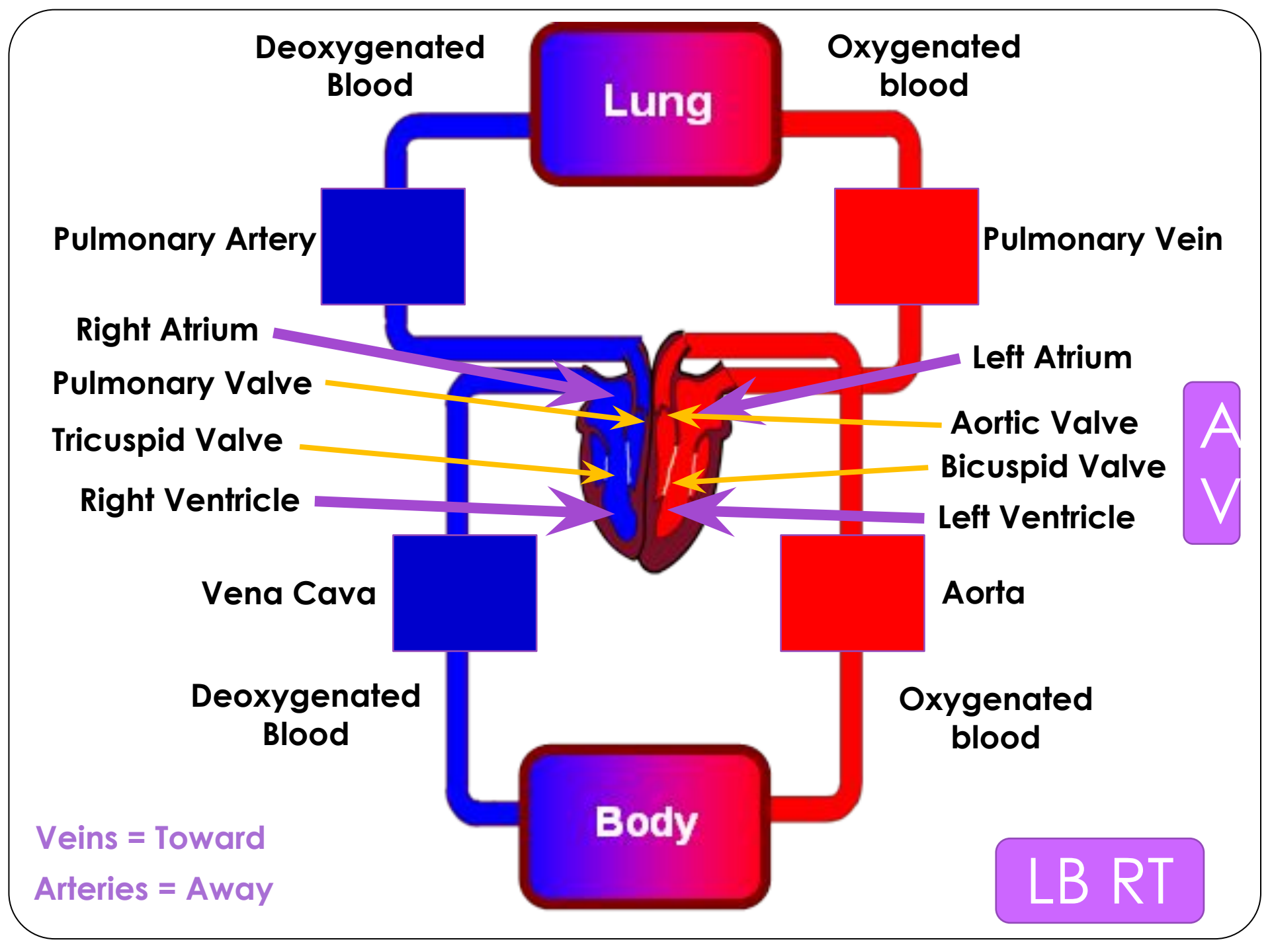
This is measured in litres per minute.

Pulmonary System



The Systemic System




Deoxygenated Blood
Lung
Oxygenated blood
Pulmonary Artery
Pulmonary Vein
Right Atrium
Left Atrium
Pulmonary Valve
Aortic Valve
Tricuspid Valve
Bicuspid Valve
Right Ventricle
Left Ventricle
A
V
Vena Cava
Aorta
Deoxygenated Blood
Oxygenated blood
Body
Veins = Toward
Arteries = Away
LB RT

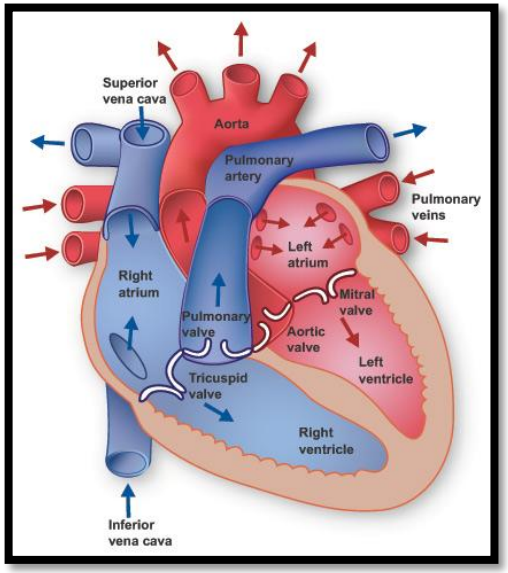
The heart as a pump

Blood Flow Around the Heart

Pulmonary Vein

Lungs

Left Atrium



Pulmonary Artery

Bicuspid Valve

Pulmonary Valve

Left Ventricle

Right Ventricle

Aortic Valve

Tricuspid Valve

Aorta

Right Atrium

Muscle Tissue

Superior/ Inferior Vena Cava

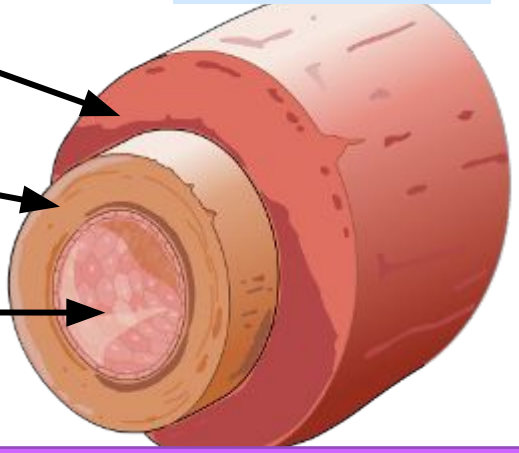
Blood vessels

ARTERY

thick outer wall

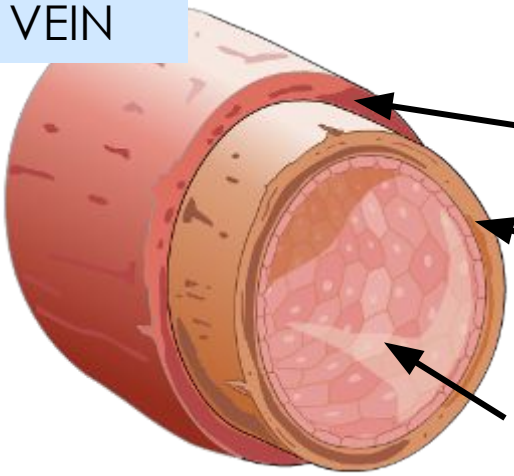
thick inner layer of muscle and elastic fibres

narrow central tube (lumen)



Blood at High Pressure

VEIN



thin outer wall

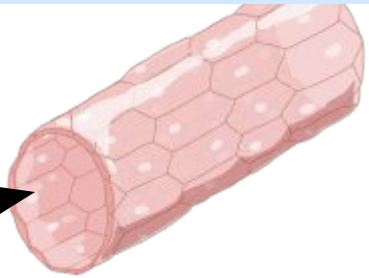
thin inner layer of muscle and elastic fibres

wide central tube (lumen)

Blood at Low Pressure

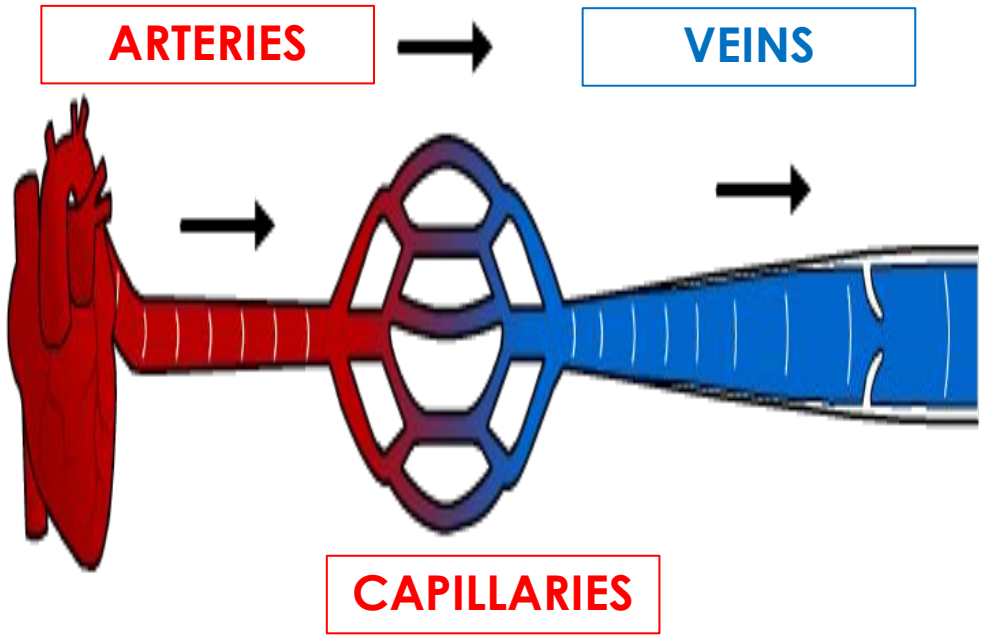
CAPILLARY

wall only **one cell** thick



Transport nutrients/oxygen

Blood Vessels

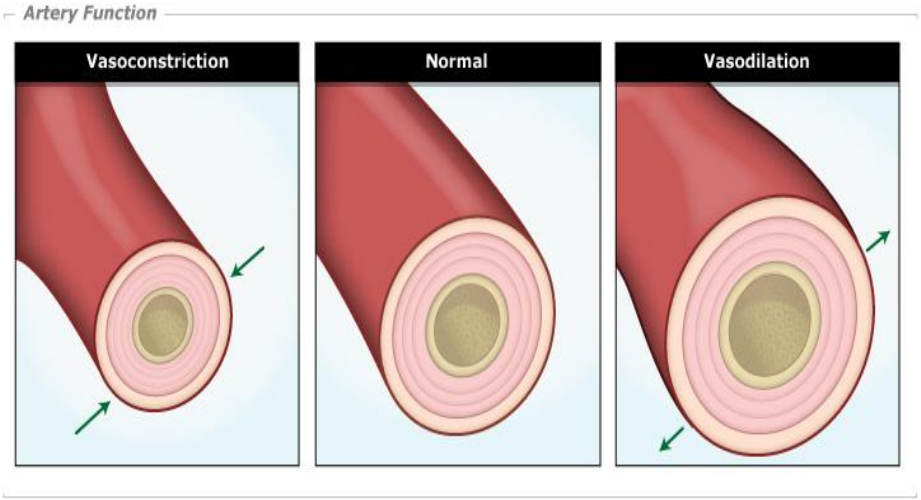


Vasodilation =

- when the artery walls **increase** in diameter.

Vasoconstriction =

- when the artery walls **decrease** in diameter.



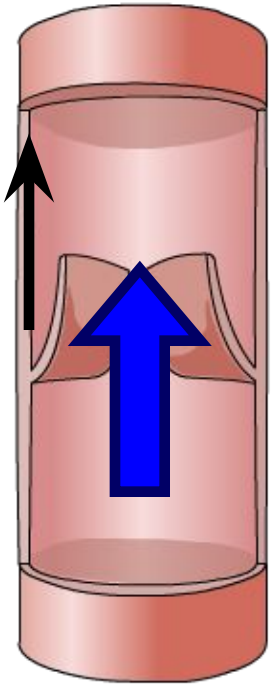
Blood vessels: valves

Veins contain **pocket valves** that prevent the **back flow** of blood.

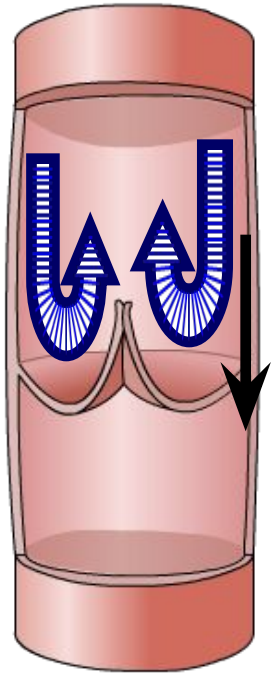
When blood is flowing against gravity, or when a vein is squeezed by muscle action, there is a risk that blood will flow in the wrong direction. Veins have valves to prevent backflow.

vein valve open

blood to the heart



The valves allow blood to flow in the correct direction…

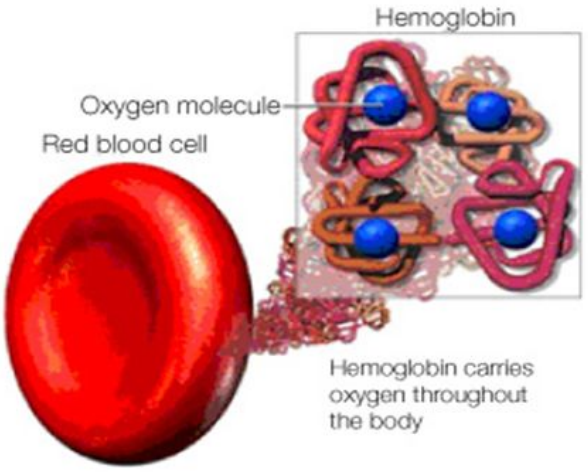


backflow prevented

vein valve closed

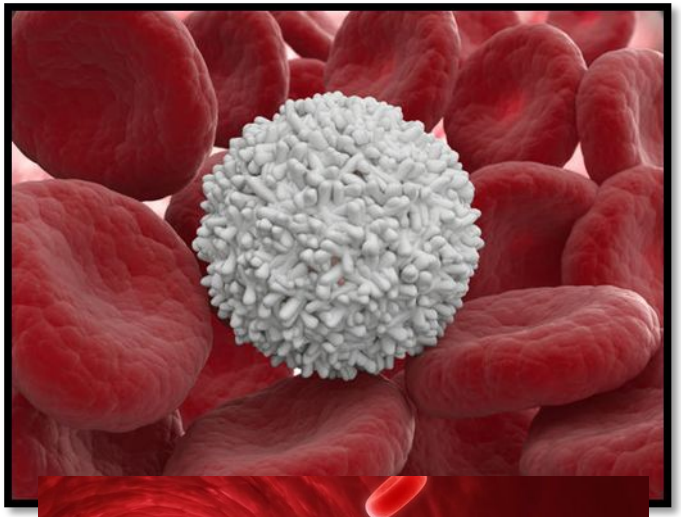
…but close if blood starts to flow in the wrong direction.

Blood Cells



Red Blood Cells

- Contain Haemoglobin
- Transports oxygen to the body and carbon dioxide to the lungs.

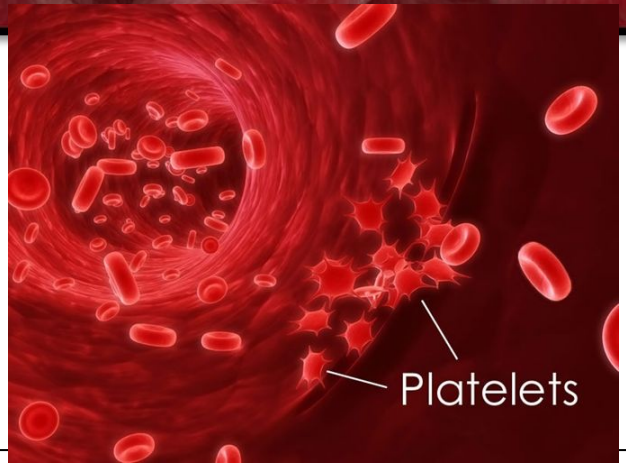


White blood cells

- These combat infections

Platelets

- These are important for blood clotting.

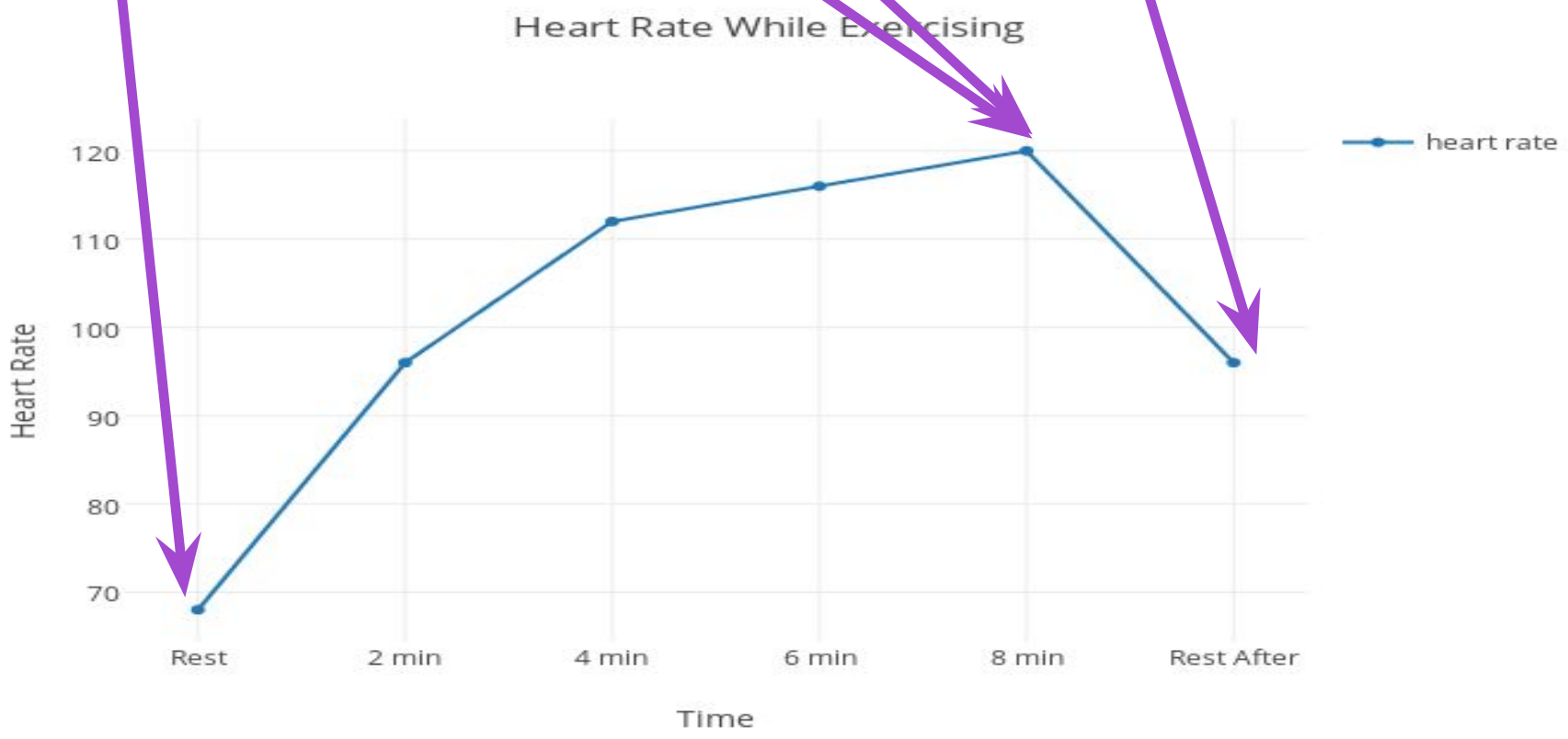


Heart Rate

Heart rate	The number of times the heart beats per minute (bpm).
Resting heart rate	Your heart rate at rest. Normally between 60-80bpm. The fitter you are the lower your resting heart rate will be – your heart is more efficient at pumping the same amount of blood around the body with fewer beats.
Working heart rate	Heart rate during/immediately after exercise. This is an accurate guide to the Intensity of the exercise.
Recovery rate	How long it takes for a person's heart rate to return to its resting heart rate after training. The quicker this happens, the fitter the person is.
Maximum Heart rate	This is the maximum your heart can BEATS per minute (BPM). HRmax = 220 - Age
Peak Heart Rate	The Highest recorded bpm during exercise

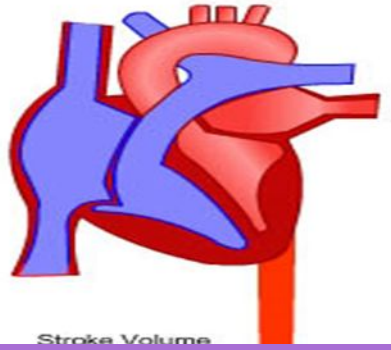
Reading Heart Rate Graphs

- What are their resting heart rates?
- What are their Peak heart rates?
- When do they stop exercise?
- What is their recovery rate? How long to get back to normal?



Cardiac Output

- **Heart Rate –**
  - Is the number of beats per minute (BPM)
- **Stroke Volume** –
  - The volume of blood pumped out of the heart per beat
- **Cardiac Output** –
  - The volume of blood that is pumped out of heart per minute
- **Cardiac Hypertrophy** –
  - Increase in cardiac muscle size



Cardiac Output (Q)
=
Stoke volume (SV)
X
Heart Rate (HR)

This is measured in litres per minute.

Exercise affects 3 areas of the body!

Cardiovascular

Respiratory

And

Muscular

Respiratory System

Short Term

- Breathing rate rises
- Tidal Volume increases
- Minute Ventilation increases

Long Term

- Increase in Lung Capacity
- Increase **Maximum** Minute Volume (rest doesn't change)
- Increase Tidal Volume
- Decrease breathing rate **at rest**
- Increase in capillary density
- More efficient gaseous exchange
- More rapid rate of recovery
- Healthier Lungs

Cardiovascular System

Short Term

1. Heart rate increases
2. Stroke volume increases
3. Cardiac output increases
4. More blood is pumped to working muscles
5. **Vascular Shunt**

Vascular Shunt Mechanism
Redirection of blood from the non-essential organs to the working muscles

Long Term

1. Lower resting heart rate
2. Increase in stroke volume (<u>at rest</u> and during exercise)
3. Cardiac output increases
4. Size of heart increases – **CARDIAC HYPERTROPHY**
5. Decrease in resting blood pressure
6. Increase number of red blood cells
7. Increased cappilarisation

Muscular System

Short Term

- Increase in muscle Fatigue
- Increase in muscle temperature
- Increased flexibility in joints
- Increase metabolism

Long Term

- Muscles get bigger - Hypertrophy
- Muscles get stronger
- Increase Muscular Endurance
- Increase Flexibility
- Muscle cells enable more oxygen to be used by working muscles.
- Increased tolerance to Lactic Acid
- Helps prevent injury

Respiratory System

Short Term

- Breathing rate rises
- Tidal Volume increases
- Minute Ventilation increases

Long Term

- Increase in Lung Capacity
- Increase **Maximum** Minute Volume (rest doesn't change)
- Increase Tidal Volume
- Decrease breathing rate **at rest**
- Increase in capillary density
- More efficient gaseous exchange
- More rapid rate of recovery (oxidise lactic acid easier)
- Increased strength of respiratory muscles
- Increased capillarisation of the alveoli
- More efficient gaseous exchange

Cardiovascular System

Short Term

1. Heart rate increases
2. Stroke volume increases
3. Cardiac output increases
4. More oxygenated blood is pumped to working muscles
5. **Vascular Shunt**

Long Term

1. Lower resting heart rate
2. Increase in stroke volume (at *rest* and *during* exercise)
3. **Maximal** Cardiac output increases (stays the same at rest)
4. Size of heart increases – **CARDIAC HYPERTROPHY**
5. Increased capillarisation of the heart
6. Decrease in resting blood pressure
7. Increase number of red blood cells
8. Reduced chance of CHD

Vascular Shunt Mechanism
Redirection of blood from the non-essential organs to the working muscles

Muscular System

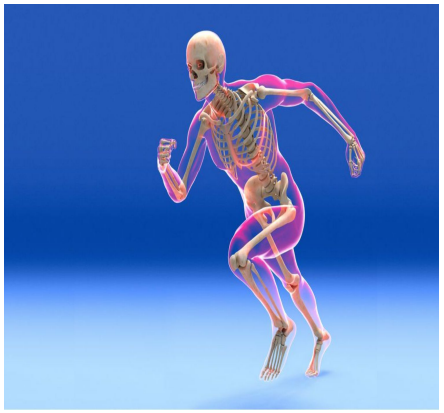
Short Term

- *Increased* muscle temperature
- *Increased* muscle elasticity
- *Increased* demand for oxygen
- *Increased* demand for blood
- Increase metabolism
- Increase in muscle Fatigue
- *Increased* production of lactic acid
- Increased risk of micro tears / DOMs

Long Term

- Muscles get bigger - Hypertrophy
- Muscles get stronger
- Increase Muscular Endurance
- Increase Flexibility
- Increased speed of contraction
- Increased tolerance to Lactic Acid
- Increase rate of removal of lactic acid
- Increased capillarisation of the muscles
- Helps prevent injury

Skeletal System



Short term

- Increase production of synovial fluid
- Increased flexibility in joints

Long term

- Increased bone density
- Increase strength of joints

Components of Fitness

Component	Definition	Practical Example
Cardiovascular Endurance/ Stamina	The ability of the **Heart,** Lungs and Blood Vessels to deliver **Oxygen** and **Nutrients** to the **working muscles.**	Activities that last for a long period of time **EG:** Marathon runner, Swimmer, Football, Netball.
Muscular Endurance	The ability to use the **muscles repeatedly without getting tired.**	Sports with repeated movements **EG:** Rowing, Running, Cycling, Swimming
Speed	The ability to move your whole or part of your **body very quickly**	Any quick movements EG: Sprinting, Tennis, Football
Muscular Strength	This is the **Maximum Force** that can be generated by a muscle or group of muscles.	Shot Putt, Rugby Scrum/Tackle, Weightlifter
Flexibility	The **range of movement** that is available at a joint of the body.	Most sports require some Flexibility Gymnastics, Tennis, Hurdlers

Components of Fitness

Component	Definition	Practical Example
Agility	Is the ability of a sports performer to quickly and **precisely change direction at speed.**	Sports performers are often required to dodge or move past an opponent. E.g. Team Sports – Netball
Power	To **exert maximum force as quickly as possible**	Jumping and Throwing E.g. Netball, Basketball, Athletics
Balance	This is the ability to keep your body mass or **centre of mass over a base of support.**	It can help with coordination and fluency of movements. Keeps body safe E.g. gymnastics & Judo
Coordination	To **move different limbs at different times** To do **more than one task at a time**	If you can make a decision and then do it well it shows good coordination. EG: Dance, Tennis, Team Games, Karate
Reaction Time	The time taken between the **onset of the stimulus and the initiation of the response**	How quickly you can respond to something E.g. the gun at the start of a race

Fitness Testing

Components of Fitness	TESTS
Cardiovascular Endurance	Multi Stage Fitness Test 12 Minute Cooper Test
Muscular Endurance	1 minute Sit up 1 minute Press up
Muscular Strength	Grip Dynamometer 1 Rep Max
Speed	30m sprint Test
Flexibility	Sit and Reach Test
Agility	Illinois Agility Test
Power	Vertical Jump Standing Broad Jump
Balance	Stork Test
Coordination	Ball Throw Test
Reaction Time	Ruler Drop test

Principles of Training

S P O R T

PECIFIC

- Relevant to the individual needs of the performer/sport
  - E.g. Doing Medicine Ball chest passes for a netball player

ROGESSION

- Makes the activity more challenging/difficult
  - E.g. Increasing the time from 30 sec to 40 sec per station
  - E.g. Doing a side plank instead of a normal plank

VERLOAD

- Makes the body do more than it would usually do
  - E.g. Increase the weights you use

FITT principle:

- **Frequency** – how often?
- **Intensity** – how hard?
- **Time** – how long?
- **Type** – what type of training?

EVERSIBILITY

- If training stops, performance/fitness decreases
  - Not training for 2 weeks may mean you have to start at a lower point e.g. 30 sec instead of 40 sec per station

EDIUM

- Training should be varied to avoid boredom
  - Do different activities in a circuit to keep motivation

Methods of Training

- Continuous Training
- Fartlek Training
- Interval Training
- Circuit Training
- Weight Training
- Plyometric
- High Intensity Interval Training

Continuous Training

- **LONG, SLOW** and **LOW/MED** intensity exercise
- **Constant rate** without a **rest**
- **Between 30 mins to 2 hours**

- Aerobic Respiration
- Improves **Cardiovascular Endurance**
- Good for **weight loss**
- Reduces **resting heart rate**
- **Strengthens the cardiovascular system**
- Improve resistance to lactic acid building up from anaerobic respiration

- E.g. Marathon Runner or Long Distance Cycler
- Training programme – going for a 45 minute run

Fartlek Training

- Swedish - '**Speed Play**'
- It involves changes in intensity **without stopping** or resting.
- This is usually achieved by varying the **speed** or **terrain**, e.g. uphill running.
- Improves Aerobic and anaerobic fitness
- E.g. Games Player – netball, football, rugby
- Walk, Jog, Sprint, Walk, Jog, Sprint – 1 minute each

Interval Training

- Involves alternating between periods of hard exercise and rest.

- Can be used for aerobic and anaerobic fitness
- It improves speed and muscular endurance.
- E.g. Sprinter or Games Players
- 4 x 100m sprints with 1 minute between each

Circuit Training

- Involves performing a series of exercises in a special order called a circuit.
- Each activity takes place at a 'station'.
- Improves Aerobic and Anaerobic

  - Each station is performed for a set time/reps
  - Rest stations in between
  - Focuses on various muscle groups
  - Can be made sport specific e.g. include dribbling

  - E.g. Any Sport

What should we consider when creating a training programme?

- Not overusing the same muscles

Weight Training

- Involves a series of **exercises using weights to provide resistance**
- Focuses on a **specific muscle group.**

- Train for Strength – (high weight, low reps) throwing events in athletics
- Train for Endurance – (low weight, high reps) e.g. swimming or cycling

- Mainly **Anaerobic**

Plyometric Training

- Rapid and repeated contractions or stretching of the muscles
- Increase Strength and Power
- Is used to be called "**jump training**."
- You'll do a series of **jumps, bounds and hops**, like jump squats or one-leg hops.
- You might jump up and onto a **box or bench**, or jump over cones.
- Some moves will be faster than others – need to be **warmed up to avoid injury**
- E.g. basketball, volleyball, tennis, or any other activity that uses **explosive movements.**

High Intensity Interval Training

- Brief Speed and Recovery Intervals
- High intensity for 30 seconds to 3 minutes
- The higher the intensity the shorter the speed interval
- Recovery intervals are equal or longer than speed intervals
- Improves performance and burns fat
- Last between 20-30 mins
- Bike, running, swimming or on gym equipment

Warm up

BITES

<u>Why is a warm up important?</u>

1. Increases **B**reathing rate
2. To prevent **I**njury
3. Increases Body **T**emperature
4. Gradually increases **E**ffort to full pace
5. Practise movement **S**kills through the whole range of movements

It also…

1. Increases Heart rate
2. Improves flexibility
3. Improve performance
4. Increase Motivation
5. Delay onset of lactic acid

Parts of an Effective Warm Up

1) **Pulse Raiser or CV warm up**
    1) Jogging
    2) Increase muscle temp
2) **Mobilising Joints**
    1) Put joints through full range of movement e.g. leg swings, side steps, lunges
3) **Stretching**
    1) Static Stretching – hold for 10+ seconds e.g. hamstring
    2) Dynamic Stretching
    3) Cover all main muscle groups
    4) Steady Breathing
    5) Improve flexibility
4) **Dynamic Movements**
    1) This involves movements that show a change of speed and direction
5) **Sport Rehearsal (Skills/Drills)**
    1) Increase effort for game
    2) Mentally Prepare
    3) Practice skills and game situations

Cool down

The cool down gradually returns the body back to its resting state.

Why is it important?

1. Decrease body temperature
2. Decrease Heart rate
3. Decrease Breathing Rate
4. Prevents stiffness in joints and soreness in the muscles
5. Speed up removal of waste products E.g. Lactic Acid and Carbon Dioxide
6. Prevents injury
7. Relax

What is in a cool down?

1. Reduced intensity exercise
    1. E.g. light jog or walking
2. Stretches (probably static)
    1. Stretches should be held for 10 seconds

Relaxation methods are a good way to end a cool down – it helps to relieve stress

Energy Systems

Aerobic

- With Oxygen
- Low/Medium Intensity
- Long Duration
- Cardiovascular Endurance
- E.g. Marathon, Football

Anaerobic

- WITHOUT Oxygen
- High Intensity
- Short Duration
- Lactic Acid is produced
- E.g. Sprinting, Weights

Effects of Lactic Acid on performance:

- Muscle Fatigue
- Pain/Soreness
- Stop/Reduce performance
- Stiffness

Minimise the risk of injury

- Correct clothing/footwear
- Personal protective equipment e.g. GUM SHEILD
- Follow rules/fair play/checking facilities/equipment
- Lift and carry equipment correctly
- Compete at appropriate level
- Warm up/cool down
- Correct technique/skills
- Stop/cease activity

Identifying Potential Hazards

- In a range of settings related to the role of Participant, Leader or Official
  - **The gymnasium/sports hall/fitness centre/swimming pool**
  - **Playing Field**
  - **Artificial Outdoor Areas** - ASTRO or 4G
  - **Court Areas**
  - **Outdoor Adventurous Areas –** rock climbing, kayaking, Go ape

Examples of Potential Hazards

- Litter/glass/debris on the court/dog/animal faeces/leaves
- Discarded equipment
- Slippery surface/wet/icy surface
- Uneven ground/surface/holes
- Hard surface/unforgiving surface
- Faulty equipment / Poor lighting
- Other people/players/officials/members of the public
- Weather/heat/sun/cold/rain/wind
- Inappropriate footwear/untied shoelaces

7 common sporting injury's

- Sprain
- Strain
- Blisters
- Head Injury
- Spinal Injury
- Dislocation
- Fractures

Injury	Description	Treatment
Sprain	This is tear to a ligament and often caused by an overstretch.	RICE – Rest, Ice, Compression and Elevation Hospital is required for grade III injuries
Strain	This is a twist or tear to a muscle or tendon	
Blisters	Layers tear and fluid builds between the damaged layers	Cleanse the skin, puncture the blister then put on a protective clothing to prevent infections
Head Injury	Knocked unconscious or suffer a concussion	May need immediate medical attention and take weeks to fully recover
Spinal Injury	Spinal cord breaks can be fatal or result in permanent paralysis	Do not move. Spinal board used. Hospital is vital.
Dislocation	Involves movement of a joint from its normal position and is caused by a blow or fall.	Hospital is required to put the joint back. Isolation is needed for the joint.
Fractures	Damage the bone and can damage the tendons, ligaments, muscles and skin.	Treated at hospital and could take 5-12 weeks to recover