THE COMPONENTS OF FITNESS

By Millie Beckwith

Components of fitness

- There are 10 components of fitness.
- The components of fitness help us to perform well in a sport, they enable us to have a better change of success in the sport.
- If the components of fitness are weak then it could lead to many things such as injury, falling over, missing a move in a routine or could restrict you from performing your best and could even lead to disqualification.
- The components of fitness consist of cardiovascular Endurance, Speed, Strength, Agility, Reaction Time, Co-ordination, Balance, Flexibility, Power and muscular endurance

Cardiovascular endurance

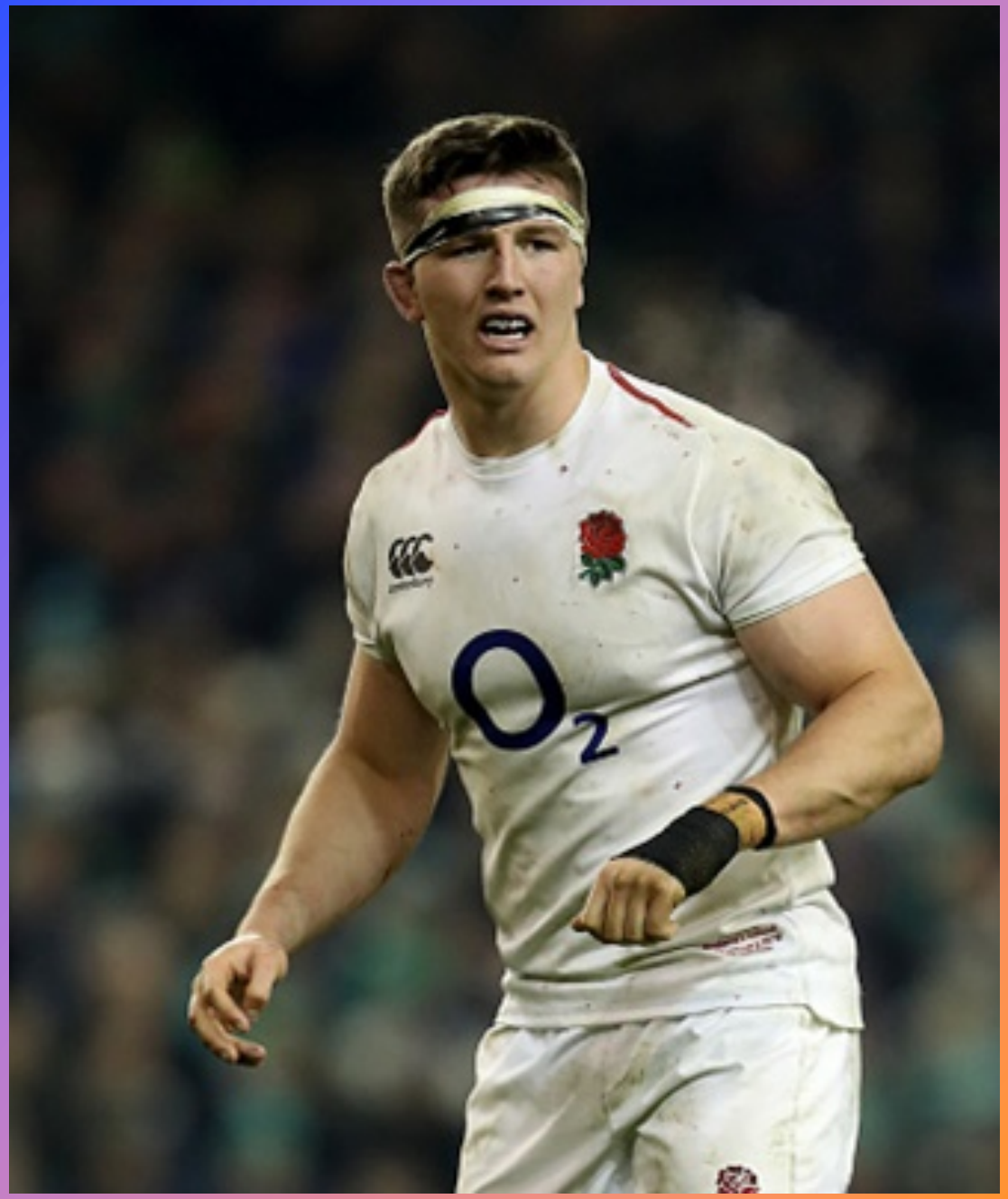
- Cardiovascular endurance is the ability to continuously exercise without tiring.
- A sporting example of this would be long-distance runners and cyclists.
- If an athlete had good cardiovascular endurance it would allow them to continuously exercise without tiring which would help them succeed in the sport, and give the a better chance of winning.
- If an athlete had poor cardiovascular endurance then the athlete would be exercising and getting very tired at the same time which decreases their chance of winning. Also, it could lead to injury as they are working to the max that their body can take.

Mo Farah

- MO Farah is a long-distance runner (a marathon runner)
- At the London 2012 Olympics he won two gold medals. He won both the 10,000 m and 5000 m events.
- Mo Farah has very good cardiovascular Endurance. He is able to exercise continuously without tiring. This allows him to perform to a high standard and allows him to have a higher chance of being successful and win .

Speed

- Speed is the ability to move the body or body parts quickly.
- Speed is important for many athletes such as game players for example football and rugby. Also track athletes such as sprinters and cricket bowling.
- If an athlete requires speed for their sport and has good speed then it will allow them to perform to their best ability and gives them a better chance of success and winning. Also, a better chance of getting the ball quicker in game situations.
- If an athlete has poor speed then it will have an impact on their performance and reduce the chance of success. In a game situation it will effect the player as they can not get to the ball quick enough and will lose it to the opposition.



Tom Curry

- Tom Curry is an England Rugby player. He plays a forward position.
- Tom needs speed in able to perform to a good standard.
- He needs speed in order to run quickly towards the ball or to run quickly towards the player so he can takle the player. Also, to run quickly towards the tri line.
- If Tom has good speed then he can do all these things above and have a good performance which can lead to success and can lead to winning the game.
- However, if Tom doesn’t have good speed then he will not be able to run towards the ball quick enough and run towards a player, or the tri line which will affect the team and his performance which can lead to losing points to the opposition and losing the game.

Strength

- Strength is the maximum force a muscle or a group of muscles can apply against a resistance.
- Strength is used in some sports such as rugby, weight lifting, shotput.
- Having good strength can help the athlete perform to their best ability in a sport like weight lifting and it can give the athlete a better chance of winning.
- However , having poor strength can lead the athlete to poor performance and for example in weight lifting if you had poor strength and drop the weight it could lead to injury and also disqualification.

Rugby scrum

- Strength is used in a rugby scrum
- It is important that rugby players have good strength. .
- Rugby players need to have good strength in order to help hold up the scrum safely. Also so they can lift up the player safely.
- If the rugby player(s) had bad strength, then the scrum could be held unsafely which could lead to injury. Also, when they lift up the player if they had bad strength then they can drop the player which could lead to injury.

agility

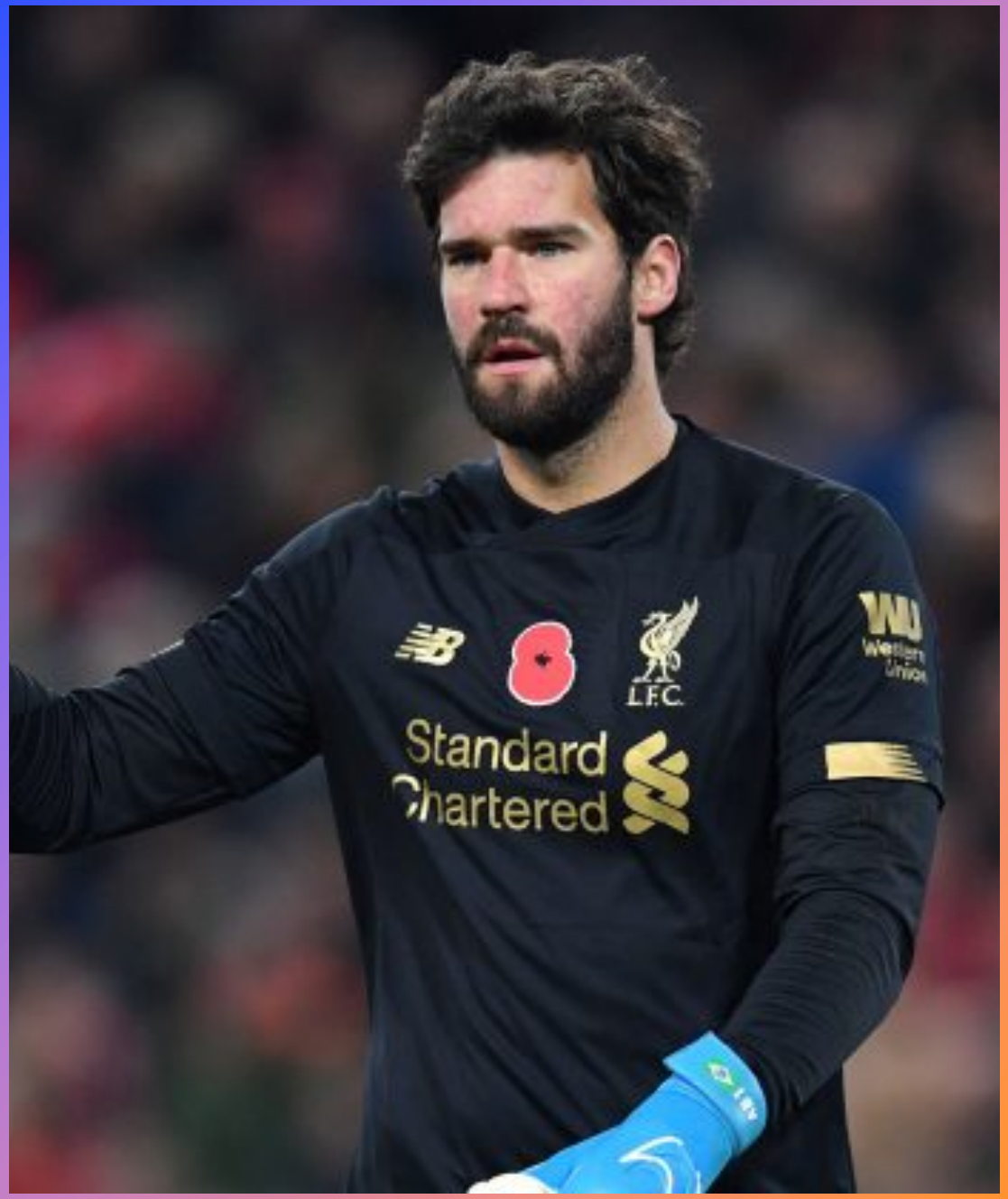
- Agility is the ability to change direction at speed
- Agility is mostly for game players.
- Some examples are rugby players, Hockey players and football players, netball players, volleyball players, squash players.
- If a game player has good agility it Ables them to change direction at speed. This means they are able to get away from the opposition which reduces the chance of the player being attacked and having good agility means that they doge the opposition. This allows the players to have a good performance which could lead to gaining points and winning the game.
- However , If players have bad agility they will not be able to dodge the opposition and they will not be able to get away from the opposition. This could lead to the opposition gaining points and winning the game.

Alex Danson

- Alex Danson is a England Hockey player.
- She plays upfront/ forward position.
- Alex needs to have good agility in order to have a good performance.
- Alex uses agility so she can dodge the opposition, so she is able to score and gain points.
- By having good agility she is able to get away from the opposition and not get tackled so she can score goals.
- By Alex having good agility and the rest of the team having good agility it Ables them to have a good team performance, get away form the opposition, score goals so they can succeed and win the game.
- However if Alex and her team have poor agility then they will not be able to doge the opposition which will lead to the other team gaining possession and scoring goals which could lead to the other team winning the game.

Reaction time

- Reaction time is the time taken to respond to a stimulus
- Reaction time is used in sprinting, football by the goal keepers, table tennis.
- If an athlete has good reaction time for example in sprinting it allows them to respond quickly to the gun so they get a good start and have a good performance. However, it also leads them to start on time and not early or late.
- If an athlete has poor reaction time for example in sprinting they can have a late start which can affect their performance and decrease the chance of them winning. Or they can start early which can lead to disqualification.



Alisson Becker

- Alisson Becker is a goalkeeper for Liverpool.
- It is important in a game that Becker has good reaction time.
- It is important that Becker has good reaction time because it will improve the chances of saving the shot on goal. It will allow him to act at the right time so he can dive and have a higher chance of saving the ball. Having a good reaction time will stop goals going in which will give the team a better chance of winning.
- However, if Becker had poor reaction time then he has less chance of saving the ball and will choose to dive at the wrong time . This means that more goals will go in and the opposition will gain points and win the game.

Co-ordination

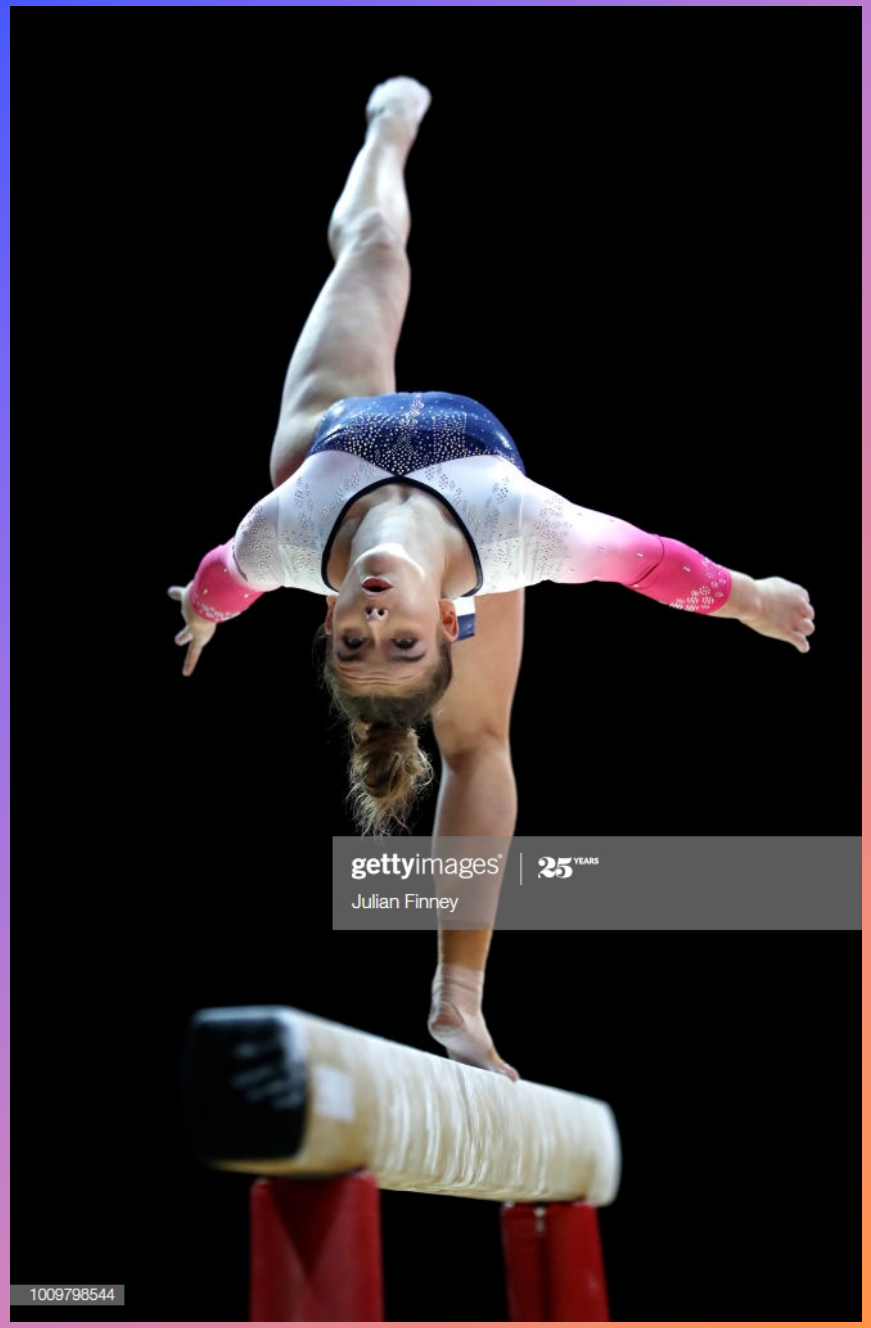
- Co-ordination is the ability to use two or more body parts together
- co-ordination is needed in sports such as rugby when the player is taking a drop kick. Also, a serve in badminton. Also, in golf.
- In some sports co-ordination is key you need to be able to use two or more body parts together for example a rugby player taking a drop kick if they have good co-ordination they will be able to kick the ball successfully.
- However, if a rugby player had poor co-ordination then they wouldn’t be able to drop kick the ball successfully. Which in a game situation could lead to losing points.

Badminton

- A badminton needs to have good co-ordination in order to play the game or match successfully.
- When a badminton player serves, they need co-ordination as they are using more then one body part. They are using one arm to release the shuttlecock and using the other to hit the shuttlecock. Also, another example of when they are using co-ordination is when they are running toward the shuttlecock, they hit it as well sometimes while they are in the process of running. Another example is when they jump and hit the shuttlecock.
- However if a badminton player had poor co-ordination then they will not be able to do the 3 above very well and not have a good performance. Without good co-ordination they will miss the shuttlecock which will result in them to lose points which could lead to them losing the game.

Balance

- Balance is the ability to maintain equilibrium , whether stationary or moving.
- Balance is needed in sports like dance and gymnastics.
- If an athlete has good balance it can help them perform well in their sport.
- However, if an athlete has poor balance then it could lead to bad performance and sometimes injury.

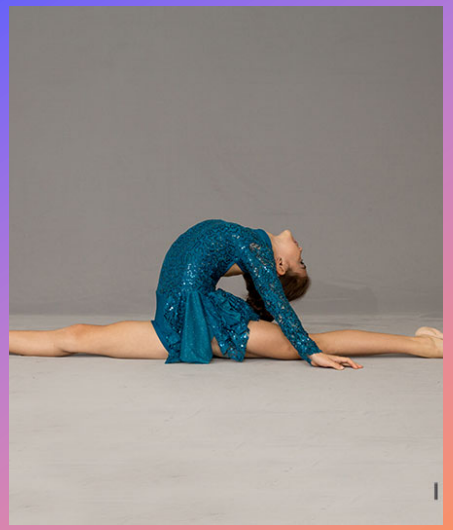


Alice Kinsella

- Alice Kinsella is a gymnast.
- She needs to have good balance.
- She needs to have good balance so when she is doing floor routines and is on the beam she is able to hold those positions without falling over and so she can perform the moves to her best ability so she can gain points which could lead to her being successful and winning.
- However if Alice had poor balance then when she is doing beam routines and floor routines, she will lose balance and fall. This can lead to injury but can also lead to disqualification.

Flexibility

- Flexibility is the range of movement of a joint
- Flexibility is needed in sports like gymnastics, trampolining and dance.
- Flexibility is important in dance, gymnastics and dance as it allows them to difficult moves confidently which will able them to gain more points and have a higher chance of winning.

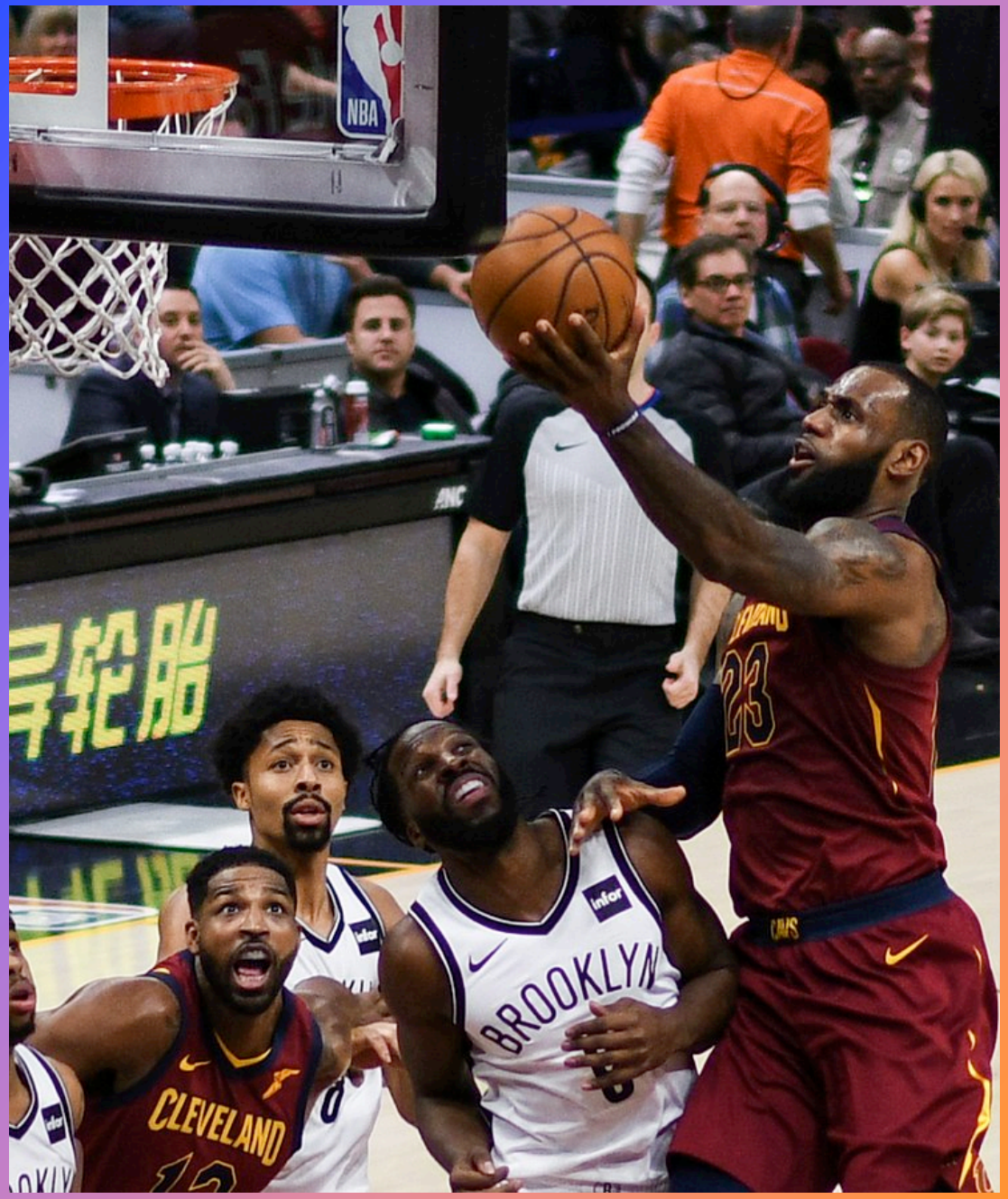


Darcy Bussell

- Darcey Bussell is a dancer.
- Darcey Bussell Has good flexibility.
- A dancer requires to have good flexibility in order to be able to complete tricky moves to a good standard.
- If a dancer doesn’t have good flexibility then it will affect their performance they will not be able to complete difficult moves which will put them to a disadvantage. Also, if a dancer doesn’t have good flexibility then they will not perform moves to a good standard and they will be weak. This will make them lose points which will decrease their chance of winning.
- Darcey Bussell has good flexibility.

Power

- Power is strength x speed (maximal force performed at speed)
- Power is used In basketball, football, high jump and tennis.
- Most sports require power and if they have good power it allows them to perform to their best ability.
- one example of power is tennis player uses power to fore a shot down the court making it harder for the opposition to return.



Basketballers

- Basketballers require power.
- If a basketballer has good power, it allows them to jump high to be able to get a rebound. If they have good power, they will be able to get the rebound and have another attempt at shooting which will allow them to score a goal which could lead to the team winning.
- However, if a basketball player has bad power then they wouldn’t be able to jump and get the rebound which means that the other team will gain possession of the ball and could result in losing the game.

Muscular endurance

- Muscular endurance is the ability of a muscle or muscle groups to repeatedly contract or keep going without tiring.
- Muscular endurance is used in rowing, cycling, swimming.
- Muscular endurance is really important in most sports as it Ables the athlete to perform well in their sport without their muscles tiring.
- If an athlete had poor muscular endurance then their muscles will get tired very easily and it will affect their performance and affect their chance of winning.

Rowing

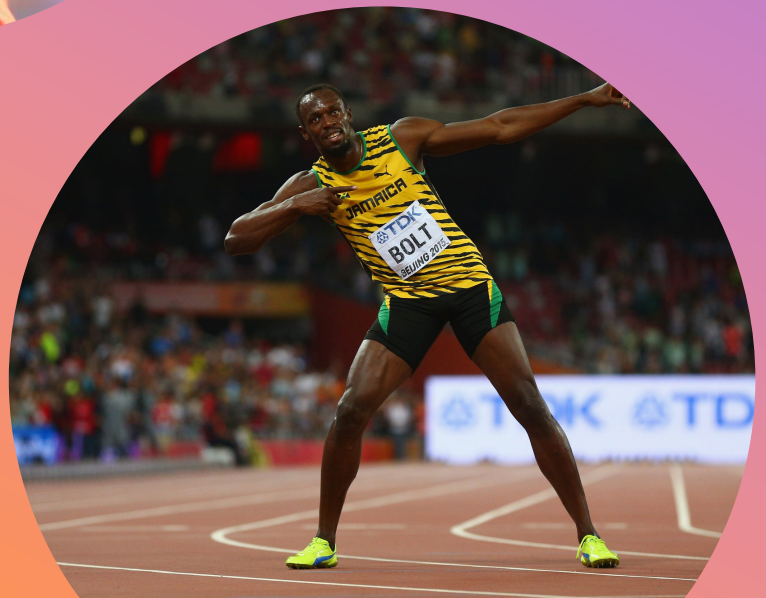
- Rowing requires to have good muscular endurance.
- If a rower had good muscular endurance, then their muscle or muscle groups would repeatedly contract or keep going without tiring. This will help them have a good performance throughout and stop their muscles getting tired without. It able them to have a good performance and increase the chances of winning.
- However, if the rowers have bad muscular endurance then their muscles would get tired very quickly and it would be a struggle for them to carry on. This will affect their performance and reduce their chance if winning.

Fast twitch fibres fact (speed)

- Genetics influence how fast you are but training can improve.
- Fast twitch fibres are are white and contract more powerfully and quickly
- red slow twitch fibers better for longer distances as they don't have the power but they don't get tired so easily so have more endurance

USAIN BOLT VS MO FARAH

Who is faster? Who can run the furthest.



Usain Bolt

- Usain bolt has Fast twitch fibres
- Usain Bolt is the fastest human in the world, but only up to 200m.
- His huge legs, packed with fast-twitch muscle fibres, allow explosive acceleration but they can’t sustain prolonged aerobic exertion, making them dead weights over longer distances.
- Therefore he can run the fastest.

Mo Farah

- Mo Farah has red slow twitch fibers better for longer distances as they don't have the power, but they don't get tired so easily so have more endurance
- He can run longer distances then Usain Bolt.
- Therefore he is not the fastest but can run the longer distance.

MO FARAH	versus	USAIN BOLT
1.75m	HEIGHT	1.95m
60kg	WEIGHT	94kg
4	OLYMPIC GOLD MEDALS	8
12.98s	100m	9.58s
3min 56.49s	MILE	4min 30s (estimate)