

# Cambridge Nationals – Sport Science

## Unit R041

### Revision Guide

### Reducing the Risk of Sports Injuries

**Learning Outcome 1:** Understand different factors which influence the risk of injury.







**Extrinsic Factors which can influence the risk of injury.**

These are factors outside of the individual that can alter the risk of them getting injured.




□ Task 1 – Complete the table to describe the type of injury would expect to see in each sport.

			
Gymnastics - vaulting	Rugby	Swimming	Boxing

□ Task 2 – Identify 3 ways a coach or manager could increase the risk of a participant getting injured:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

□ Task 3 – Identify the 3 different categories of environmental factors from the pictures.

			
Environmental Factor:			

		
Environmental Factor:		



Environmental Factor:

□ Task 4 – Complete the table to describe how the equipment can influence the risk of an injury.

Protective Equipment	Performance Equipment	Suitable clothing/footwear

□ Task 5 - Complete the table to describe how each step to reduce hazards can influence the risk of injury.

Risk Assessment	Safety Checks	Emergency Action Plan

## Intrinsic Factors which can influence the risk of injury.


These are factors that an individual can take control of which can alter the risk of them getting injured.





□ Task 6 – Answer the clues to work out the 6 ways that **physical preparation** can influence the risk of a participant getting injured:

The exercise you do over a period of time to help prepare for an event.	T_____
The pulse raiser and stretches you do before you start exercising.	W_____ U_____
The pulse raiser and stretches you do when you have finished exercising.	C_____ D_____
How fit you are depending on how much training you have been doing.	F_____ L_____
Working your body or certain muscles too hard without giving them enough time to rest and repair.	O_____
Overtraining some of your muscles but not training others enough.	M_____ Im_____

□ Task 7 – Consider 6 individual variables between people that could influence the risk of a participant getting injured.







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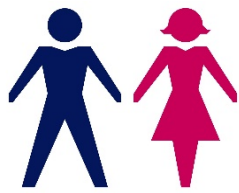


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- Task 8 – Consider how the 3 **psychological** factors could influence the risk of a participant getting injured.

Motivation	Aggression	Arousal/Anxiety
The reason for people's actions. If they are hugely motivated they will put in lots of effort. If they are not very motivated they will not try very hard.	Hostile or violent behaviour. Some sports have an element of aggression BUT how much is appropriate?	Anxiety - negative emotional state. Arousal - how alert and attentive a performer is.
How could this affect the risk of injury?	How could this affect the risk of injury?	How could this affect the risk of injury?

- Posture is the position you hold your body. Poor posture can impact on the risk of injury.

- ★ Poor stance/gait - hunching shoulders/bending knees.
- ★ Sitting positions – slumping/slouching.
- ★ Physical defects – where muscles have weakened around an injured area.
- ★ Lack of exercise – lack of core muscle strength = less support, overweight = strain on posture.
- ★ Clothing/Footwear – high heels can affect posture.
- ★ Fatigue – tired muscles unable to support the skeleton properly.
- ★ Emotional Factors – low self esteem/lack of confidence can influence posture.

- Task 9 – Poor posture can lead to specific sports injuries. Write a description for each condition

	Lordosis	
	Kyphosis	

	Round shoulder	
	Scoliosis	

## □ Task 10 - **Exam Questions**

1. a) Identify **three** different extrinsic factors that may influence the risk of injury to a participant in physical activity.

1. \_\_\_\_\_ (1)
2. \_\_\_\_\_ (1)
3. \_\_\_\_\_ (1)

b) Describe each of these extrinsic factors.

1. \_\_\_\_\_ (1)
2. \_\_\_\_\_ (1)
3. \_\_\_\_\_ (1)

2. Explain how **four** individual variables can influence the risk of injury to a sports performer.

1. \_\_\_\_\_ (1)
2. \_\_\_\_\_ (1)
3. \_\_\_\_\_ (1)
4. \_\_\_\_\_ (1)

3. Using practical examples, explain how risk assessments can help to reduce the risk of injuries to participants in physical activity.

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(4 marks)

4. Using examples, describe **two** environmental factors that may cause injury to sports performers.

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(2 marks)

5. A lack of exercise can be one cause of poor posture.

a) Describe **four** other causes of poor posture

1. \_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_

3. \_\_\_\_\_  
\_\_\_\_\_

4. \_\_\_\_\_  
\_\_\_\_\_

(4 marks)

b) Identify **two** types of sports injuries related to poor posture

1. \_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_

(2 marks)

6. Chronic injuries are also known as overuse injuries. Give **two** examples of overuse injuries in sport.

1. \_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_

(2 marks)

## Answers – Mark your own work and make corrections! 😊

1. a) Any three from:

Type of activity or sport

Coaching/Supervision/Poor coaching technique/poor instructions/following rules/refereeing

Environmental factors/weather/playing surface/other participants

Equipment/protective equipment/performance equipment/clothing/footwear

Hazards/Risk Assessments/Safety Checks/Emergency Action Plans

b) Description must link to example from part a.

Contact sports present a greater risk of collision injuries (or other relevant examples)

Incorrect coaching technique could lead to a performer carrying out a skill incorrectly which could

lead to an injury.

Excessive rain on an outdoor playing area could lead to participants slipping and injuring themselves.

Wearing shin pads in football can reduce the chance of sustaining an injury to the front of the leg.

Carrying out a risk assessment before an activity begins ensures that the playing area, participants and equipment are all safe and reduces the risk of an injury.

2. Any four from:

Gender - males are generally stronger so less prone to injuries.

Age – older people are generally weaker/more prone to injury.

Flexibility – increased flexibility decreases chance of injury.

Nutrition – drinking enough water to prevent dehydration/eating enough to avoid fatigue.

Sleep – important we have enough sleep so we are focussed.

Previous injuries – can lead to weak areas that are prone to injury.

Psychological factors – being over aggressive can lead to dangerous tackles.

Individual Physical Preparation – fully warming up can reduce the risk of injury.

Fitness – The fitter we are the less likely we are to get injured (especially towards the end of a game)

Behaviour – Not following the rules and being reckless can lead to injuries.

Experience/Ability – being aware of risks to be able to protect yourself. Know how to time a tackle.

3. Any four from (or any other appropriate examples).

Assessing the possibilities of an accident by identifying hazards.

Referee completing a pitch inspection and calling game off if it's frozen.

Action taken to avoid/prevent/reduce chances of accident.

Removing debris/litter from a tennis court.

Checking/assessing facilities **during** the activity.

Referee stopping the game due to heavy rain.

Checking/assessing equipment.

Referee checking goal posts.

Checking/assessing participants.

Officials checking if players are wearing jewellery.



Surrounding area/spectators.  
Boarding/objects too close to the pitch.

4. Any two from  
Weather/climate/sun/rain/snow/ice e.g. a wet football pitch would cause players to slip/fall.  
Playing surface/potholes/surrounding area e.g. players colliding with advertising boards.  
Litter/sharp objects/glass/stones/wet leaves e.g. players could trip on them/cut themselves.  
Other participants e.g. being tackled and injured.  
Equipment in the environment e.g. goal posts/hit in the head by a ball.
5. a) Any four from  
Poor stance/gait - hunching shoulders/bending knees when walking.  
Sitting positions – slumping/slouching.  
Physical defects – where muscles have weakened around an injured area.  
Lack of exercise – lack of core muscle strength = less support, overweight = strain on posture.  
Clothing/Footwear – high heels can affect posture.  
Fatigue – tired muscles unable to support the skeleton properly.  
Emotional Factors – low self esteem/lack of confidence can influence posture.  
  
b) Any two from  
Lordosis  
Kyphosis  
Round shoulder  
Scoliosis
6. Any two from  
Tendonitis  
Tennis Elbow  
Golfer's Elbow  
Shin Splints  
Repetitive Strain Injury  
Osgood Schlatter Disease

Push yourself because no one else is going to do it  
for you! Good Luck with your exams 😊

# Cambridge Nationals – Sport Science

## Unit R041

### Revision Guide

## Reducing the Risk of Sports Injuries

**Learning Outcome 2:** Understand how appropriate warm up and cool down routines can help to prevent injury.



### **The Physical Benefits of a Warm Up**

- Task 1 – Complete the table to describe why each benefit is important.

Warming up muscles/preparing the body for physical activity	
Increase in body temperature	
Increase in heart rate	
Increase in flexibility of muscles and joints	
Increase in pliability of ligaments and tendons	
Increase in blood flow and oxygen to muscles	
Increase in the speed of muscle contraction	

## The Psychological Benefits of a Warm Up

- Task 2 – Match up the reasons with why they are important.

Heighten or control arousal levels (e.g. 'get in the zone' or settle nerves)	Helps you forget about any worries/stress that you might have been dealing with before the event. You are solely concentrating on the task in hand.
Improve concentration/focus	Help you visualise certain parts of your performance. E.G. Lots of 100m sprinters will visualise themselves running the race from the start position.
Increase motivation	Help you achieve an optimum arousal. Not too much that you are 'over excited' and not too little that you are not going to try.
Mental rehearsal	Helps you improve feelings of wanting to perform well or win.



It's really important that you know the difference between physical and psychological. Physical is to do with the changes that happen to the parts of the body like your heart and muscles. Psychological is to do with changes to your brain and how you are thinking or feeling.

## Key Components of a Warm Up

- Task 3 – Number each component so they are in the order you should complete them.

	Skill Rehearsal
	Mobility
	Pulse Raiser
	Stretching

- Task 4 – For each component, explain why you should include them in a warm up.

COMPONENT	COMPONENT	COMPONENT	COMPONENT
<b>PULSE RAISER</b>	<b>STATIC STRETCHING</b>	<b>SKILL REHEARSAL</b>	<b>MOBILITY</b>
DEFINITION Light physical activity like jogging, walking or swimming. Should take between 5 and 10 minutes and result in a general sweat.	DEFINITION Placing the body into a position where the muscle or group of muscles is put under tension.	DEFINITION More vigorous activity which reflect the type of activity which is required during the session.	DEFINITION A controlled, soft bounce of swinging motion that moves a body part to the limit of its range of movement.

## The Physical Benefits of a Cool Down

- Task 5 – Complete the table to describe why each benefit is important.

Helps the body's transition back to a resting state	
Gradually lowers heart rate	
Gradually lowers temperature	
Circulates blood and oxygen	
Reduces breathing rate	
Removes waste products such as lactic acid	
Reduces the risk of muscle soreness and stiffness	

Aids recovery by stretching muscles	
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## Key Components of a Cool Down

- Task 6 – In the final column add some examples of appropriate activities.

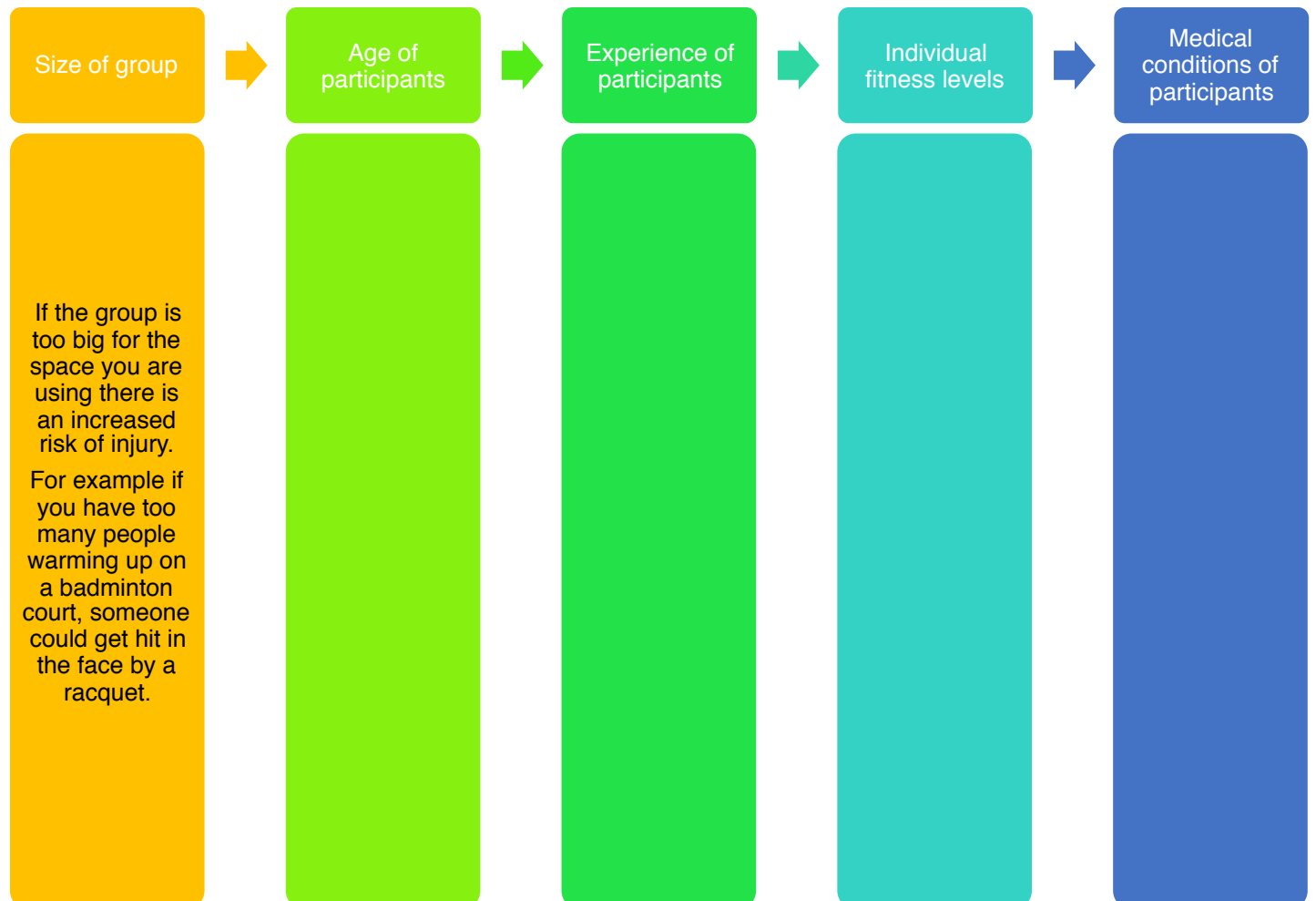
Pulse Lowering	Exercises which <b>gradually</b> lower heart rate and reduce temperature.	
Stretching	Exercises which lengthen and stretch muscles for next work out.	



Top Tip – whenever you refer to a cool down lowering heart rate, you **must** use the word gradually.

## Specific needs which a Warm up and Cool Down must consider

- Task 7 – For each characteristic, come up with an example of how it could lead to an increased risk of injury



□ Task 8 – Environmental factors can effect warm ups and cool downs. Can you match up solutions for each of these environmental factors?

Availability of facilities	During a tournament, netball pitches are being used for games.	A specific area for warm up and cool downs should be provided.
Availability of facilities	Warm up and cool down facilities are poor.	
Temperature (too hot)	It is an excessively hot day for a football tournament.	
Temperature (too hot)	It is a hot day for a marathon and a number of participants have become dehydrated.	
Temperature (too hot)	A rugby game has been played in excessively hot conditions and players have another game in 2 days.	
Temperature (too cold)	It is excessively cold and a 100m sprinter has just finished their race.	
Temperature (too cold)	After a road race, the cyclists are extremely cold.	

Cool down indoors to prevent more heat loss.	Take on even more fluids and refuel after event	Ice baths to help lower core temperature.
Use a longer cool down to ensure cool down is effective.	Warm up and cool down inside or in a shaded area.	Find an alternative/better facility or you will not be able to complete it properly.

## Task 9 - Exam Questions

1. Describe a suitable cool down for a rugby player.

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(2 marks)

2. Describe the following key components of a warm up.

a) Pulse Raiser

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(1)

b) Mobility

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(1)

c) Stretching \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(1)

d) Skill Rehearsal \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(1)

3. Mental rehearsal can be used as part of a warm up routine. Use a practical example, describe mental rehearsal.

Example

\_\_\_\_\_  
\_\_\_\_\_  
(1)

Description

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2)

4. A coach must have knowledge of any medical conditions that participants may have before they warm up. Identify **two** medical conditions that a coach would want to be made aware of before starting a warm up.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2)

5. Identify **four** specific needs that need to be taken into consideration when planning a warm up or cool down.

- 1 \_\_\_\_\_  
\_\_\_\_\_
- 2 \_\_\_\_\_  
\_\_\_\_\_
- 3 \_\_\_\_\_  
\_\_\_\_\_
- 4 \_\_\_\_\_  
\_\_\_\_\_

(4 marks)

6. Describe **four** physical benefits of a cool down.

\_\_\_\_\_

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(4 marks)

### **Answers – Mark your own and make corrections** 😊

1. Any two from

Pulse lowering exercise – jogging, light running, light exercises that will gradually reduce heart rate.  
Stretching – exercise that will lengthen and stretch out muscles that have been used.  
Ice Bath

2. One mark for each explanation

a) Pulse Raiser

Consist of exercises that **slowly/gradually** increase the heart rate/increase core body temperature.

b) Mobility

Consist of exercise that take joints through their full range of movements.

c) Stretching

Lengthens muscles in preparation for exercise.

d) Skill Rehearsal

Practicing actions used in a game/rehearsing common movement patterns/rehearsing specific skills.

3. One mark for a relevant example

A gymnast before performing a routine

A 100m sprinter at the start of their race

Two marks for the explanation

Thinking through/visualising/imagining each element of the routine before performing it.

Focussing on the event/task and ignoring distractions such as the crowd.

4. Two from

Diabetes

Epilepsy

Asthma

Scoliosis

Osgood Schlatter's

Heart Disease/Heart problems

Allergies (Severe)



## DO NOT ACCEPT INJURIES – ONLY MEDICAL CONDITIONS

5. Four marks from the following.

- Size of group
- Age of participants
- Gender (mix) of participants
- Experience of participants
- Individual fitness levels
- Injuries/medical conditions of participants
- Type of activity involved
- Space available
- Weather
- Time available

6. Any four marks from the following.

- Gradually** lowers/slows heart rate.
- Gradually** lowers body temperature.
- Maintain circulation of blood/oxygen supply.
- Gradually** decrease breathing rate.
- Remove/get rid of waste products/lactic acid. **DO NOT ACCEPT PREVENTS LACTIC ACID**
- Reduce risk of muscle soreness/cramps/stiffness.
- Decreased risk of injury.
- Aid recovery/facilitates participation the next day/prevent fatigue.
- Prevents blood pooling
- DO NOT ACCEPT PSYCHOLOGICAL – ONLY PHYSICAL**

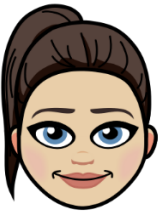
## 8 Mark Question Practice

Describe the key components of a cool down and explain the physical benefits that a cool down provides for a sport performer.

(8 marks)

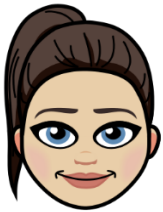
Intro paragraph –  
What is a cool  
down? When do  
you do it? What  
kind of activities  
would you include  
in it?

What are the  
physical benefits  
of a cool down?



Sum up your

Sum up your  
overall comments






# Cambridge Nationals – Sport Science

## Unit R041

### Revision Guide

# Reducing the Risk of Sports Injuries

**Learning Outcome 3:** Know how to respond to injuries within a sporting context.



## **Acute and Chronic Injuries**

□ Task 1 – Fill in the gaps using the words from the box.

immediate	overuse	sudden	gradually	function	continuous
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Acute injuries are caused as a result of a \_\_\_\_\_ trauma to the body.

They result in \_\_\_\_\_ pain.

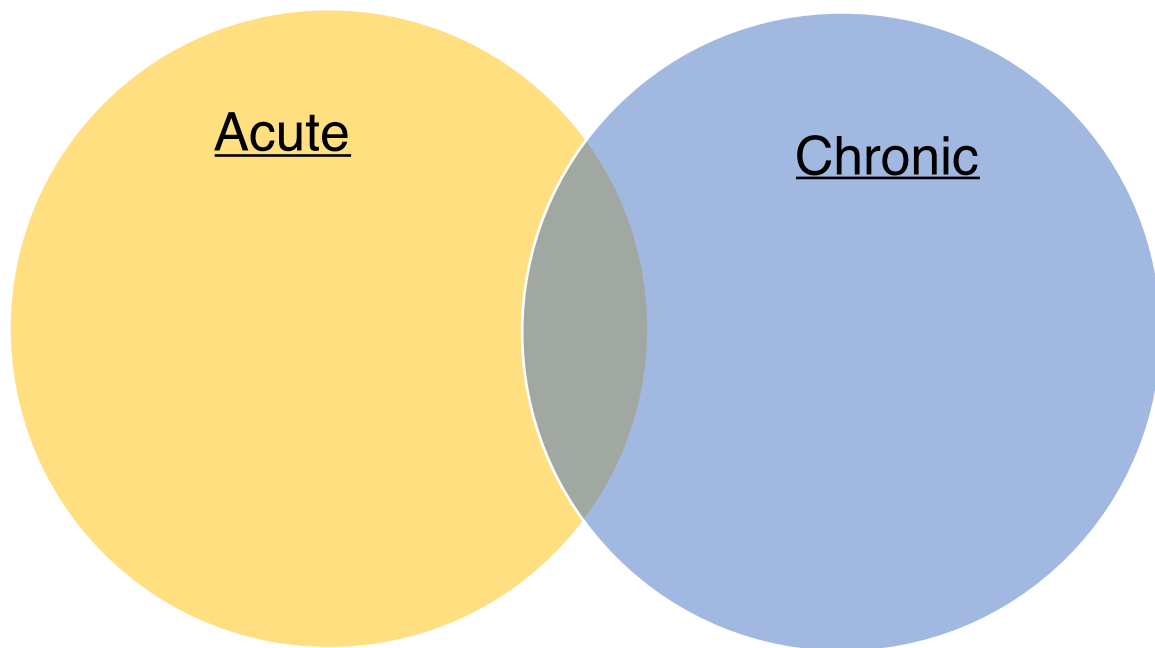
They usually result in a lot of swelling and a loss of \_\_\_\_\_.

Chronic Injuries are also known as \_\_\_\_\_ injuries.

They are the result of \_\_\_\_\_ stress to an area.



They tend to develop \_\_\_\_\_ over a period of time


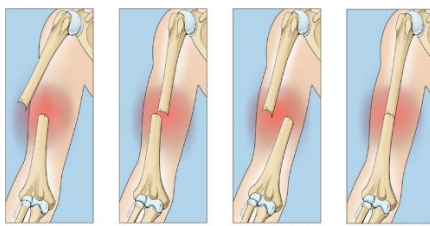
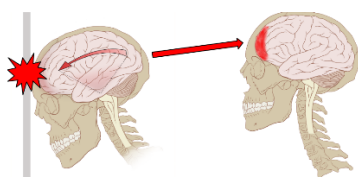



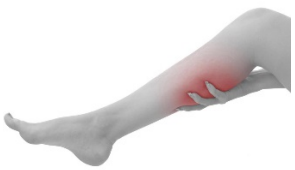
- Task 2 - In the Venn diagram list as many acute and chronic injuries as you can.



### **Types, causes and treatment of common sports injuries**

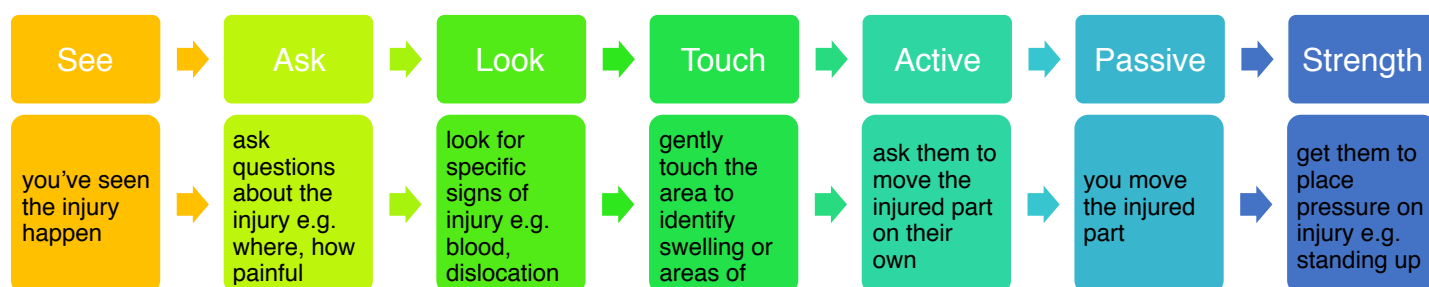
- Task 3 – Complete the table to identify causes and treatments of common injuries

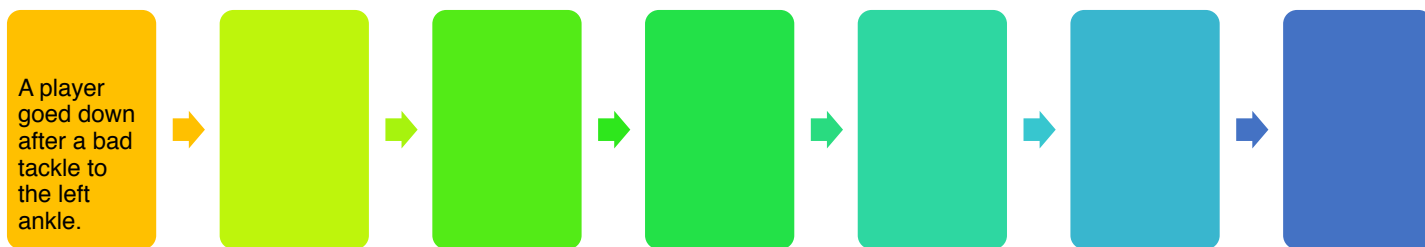
Injury	Picture	Symptoms	Treatment
Soft Tissue Injuries		Result in swelling/ bruising	
E.G. Sprains/Strains			
Overuse Injuries		Caused by repetitive trauma. Gradual onset of pain	

E.G. Tendonitis/ Tennis Elbow/Shin Splints		Gradual onset of pain. Stiffness. Aching. Swelling.	
Fractures		Immediate pain. Unable to move. Disfigurement of limb. Open – bone breaking through the skin.	
E.G Open/Closed/ Displaced/Non Displaced			
Concussion		A head injury with temporary loss of brain function. Headaches/trouble with memory/blurry vision/nausea.	
E.G. Signs and Symptoms			
Abrasion		Split skin. Blood seeping out of area.	
E.G. Grazes and Cuts			
Contusions		Bleeding under the surface of the skin. Discolouring of an area or skin.	
E.G. Bruises			
Blisters		Red, raised skin. Painful to touch.	
E.G. Different parts of the body			
Cramp		Painful sensations caused by muscles contractions or over shortening	
E.G. Different parts of the body			

## How to respond to injuries and medical conditions in a sporting context

□ Task 4 - Complete the bottom chart to work through an example (Use QR code for extra help).

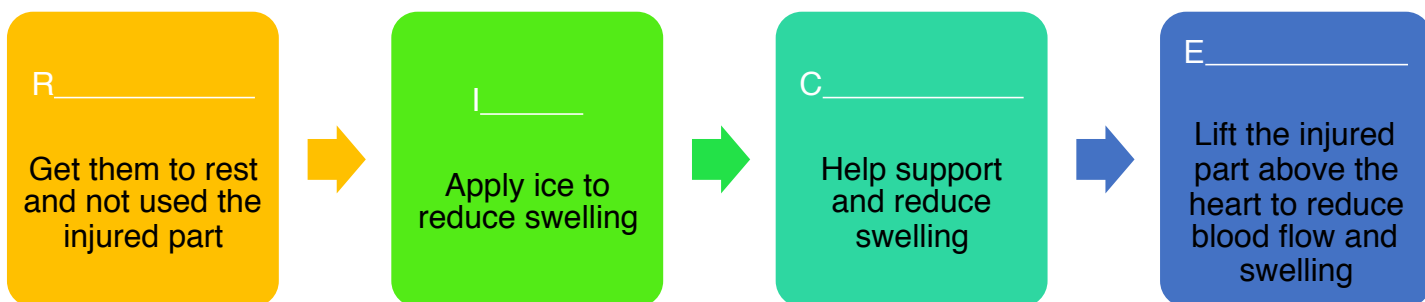




Top Tip – when assessing an injury and a participant cannot do the next stage of SALTAPS you must STOP.  
If they can do all of this, it is time to consider how to treat



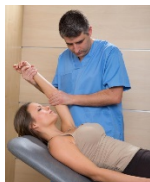
□ Task 5 - Identify the word for each stage of the R.I.C.E. procedure (Use QR code for extra help).




Top Tip – You would not use RICE for a serious injury (E.G. a fracture) where a participant is unable to move the injury. This could cause further damage.







□ Task 6 - Fill in the gaps to describe how stretching and massage can help aid recovery.



<p>Stretching</p> 	<p>If the performer has pulled a muscle, they will need to get the muscle to relax and stretch it back to its normal self using active and passive stretching.</p>	<p>This will increase _____ to promote healing and remove _____ products such as lactic acid.</p>
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<p>Massage</p> 	<p>Massage helps promote blood flow to the targeted area which can help healing as well as relaxing the injured area.</p>	<p>It helps to _____ waste products such as _____ acid, reducing stiffness.</p>
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- Task 7 - To stop an injury become worse, further support can be provided in the following ways. Match the picture to the correct name.

	Taping	Taping the area to keep it rigid and structured, reduce movement.
	Bandaging	Wrapped around the area to support and reduce swelling.
	Slings	Reduce load and movement allowed.
	Splints	Keep the part very rigid and unable to move.

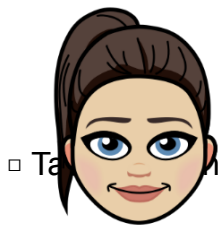
- Task 8 - Fill in the gaps to describe how hot and cold treatment can aid recovery.

<p>Ice</p> 	Used for acute injuries	Apply the cold for 20 minutes at a time and repeat every few hours.	<p>_____ the pain</p> <p>_____ the blood flow.</p> <p>_____ the swelling.</p>
<p>Heat</p> 	Used for chronic injuries	Apply for 20 minutes. Do not repeat.	<p>_____ relax.</p> <p>_____ blood flow.</p> <p>_____ pliability of muscles, tendons and ligaments.</p>

## Emergency Action Plans (EAP) in a sporting context.

Sports clubs/events/venues need to have a plan in place ready in case of a serious injury or incident. They need to know what to do if something happens. Without this response a person could be put at greater risk.





□ Task 9 - Can you identify the **Emergency Personnel** that could be identified in an EAP?



A Carry Primer	_____	Designated people  Must hold a relevant up to date qualification.  React to injury and start treatment process.
Raised Rift	_____	
Achoc	_____	
Therapy Istiophs	_____	
Friedn Presorts	_____	



The size of the event/venue will determine the amount of emergency personnel. At a premier league football match their will be significantly more than at a game of U10's local football.




□ Task 10 - Can you identify the **Emergency Communication** that could be identified in an EAP?

		
Referee using _____	First Aiders using _____	Physiotherapist using _____

There must be a way of communicating either to get the emergency personnel or the emergency services.  
This is important as depending on the situation it may require more people, equipment to be brought out, or at worst an ambulance.

On the plan there will also be emergency numbers to contact.

□ Task 11 - Can you identify the **Emergency Equipment** that could be identified in an EAP?

You need to have the appropriate equipment to be able to treat and respond to injuries. E.g. a first aid kit, stretcher, evacuation chair for if you need to get them down or up steps etc.

Again this is vitally important as you need to have the correct tools to be able to treat the injury or start the treatment process while further help arrives.



Use the QR code to watch a video where different aspects of an EAP come into force. Can you spot SALTAPS being used as well?

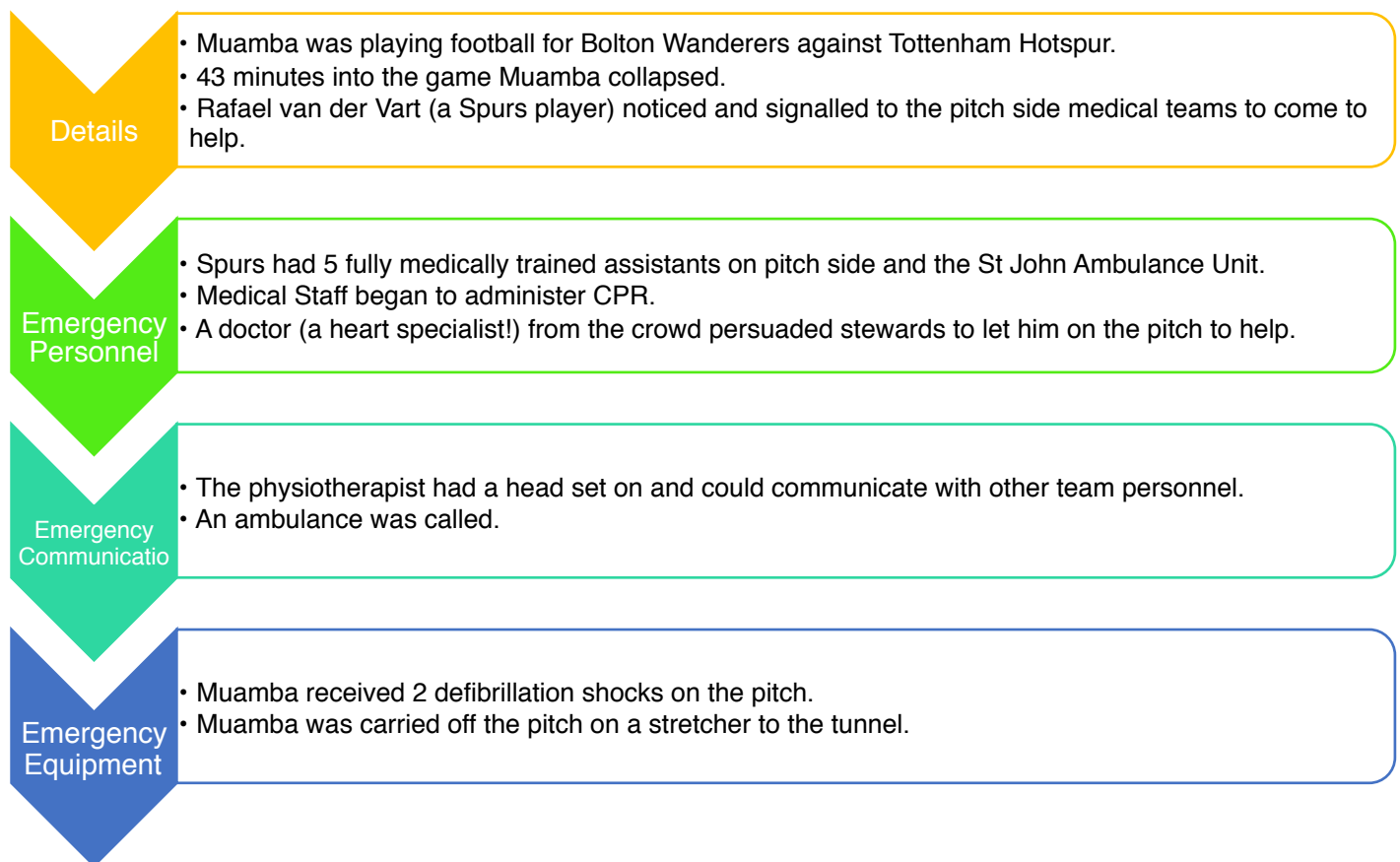


### Case Study

Name: Fabrice Muamba

Date: 17<sup>th</sup> March 2012

Location: White Hart Lane



#### Further incidents:

- The referee called the game off.
- Down the tunnel, Muamba received another defibrillation shock whilst they waited for an ambulance.
- There were a number of medical professionals present: Tottenham's Club Doctor, 2 paramedics, Bolton's Physiotherapist, Bolton's Club Doctor, The doctor from the crowd.
- The doctor from the crowd persuaded the ambulance men to go to a different hospital. They had planned to go to the nearest, but the doctor persuaded them that Muamba needed the specialist equipment at a hospital 8 miles away.
- During the ambulance journey Muamba received 12 more defibrillation shocks and continued to receive CPR.
- Once in the hospital Muamba continued to receive treatment and finally regained consciousness on the Monday – 2 days later.



Use the QR code to watch a video of the incident. Although you can't see specific details, when you watch it with the case study information, you can see how the Emergency Action Plan was used to save Muamba's life.



## Task 12 - Exam Questions

1. Give **one** example of each one of the following common sports injuries

Type of Injury	Example of type of injury
Soft Tissue Injuries	
Overuse Injuries	
Fractures	

Abrasions	
Contusions	

(5 marks)

2. Which one of the following is **not** a suitable response when dealing with a muscle strain?

- A. Heat Packs
- B. Bandaging
- C. Elevation
- D. Ice Packs

(1 mark)

3. Explain the R.I.C.E..method when dealing with a soft tissue injury.

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(4 marks)

4. a) Identify **one** acute injury and describe why it is an acute injury

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(3 marks)

b) Identify **one** chronic injury and describe why it is a chronic injury

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(3 marks)

5. Describe **two** possible causes and **one** suitable treatment for blisters.

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(3 marks)

6. Tendonitis is a common sports injury. Complete the following table below to show the type of injury it is, **one** symptom of it and its treatment.

Injury Type	Symptom	Treatment

(3 marks)

7. Debbie is training for a marathon and is running 50KM per week. Identify **three** possible injuries that she may experience as a result of her training and what might have caused each of them.

Injury 1: \_\_\_\_\_ (1)

Cause: \_\_\_\_\_

\_\_\_\_\_ (1)

Injury 2: \_\_\_\_\_ (1)

Cause: \_\_\_\_\_

\_\_\_\_\_ (1)

Injury 3: \_\_\_\_\_ (1)

Cause: \_\_\_\_\_

\_\_\_\_\_ (1)

8. Which one of the following does the term R.I.C.E. stand for?

- A. Reassurance, Ice, Compress, Emergency
- B. Rest, Ice, Compress, Elevate
- C. Rest, Insulin, Cold, Emergency
- D. Response, Ice, Compress, Elevate

(1 mark)

9. Which one of the following does the term S.A.L.T.A.P.S. stand for?

- A. See, Ask, Look, Touch, Active, Passive, Strength
- B. Search, Ask, Look, Touch, Active, Passive, Strength
- C. See, Ask, Look, Touch, Action, Passive, Strength
- D. See, Ask, Look, Touch, Action, Passive, Success

(1 mark)

10. All sporting clubs have a responsibility to and duty of care to ensure a safe environment for participants and spectators and this is often highlighted in their Emergency Action Plan (EAP)

Identify **three** different components of an Emergency Action Plan

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

(3 marks)

**Answers – Mark your own and make corrections!**

1. Accept one for each

Soft Tissue Injuries	Sprain/Strain/Tearing/Twisted ankle/bruising/pulled muscle
Overuse Injuries	Tendonitis/Tennis Elbow/Golfer's elbow/Shin Splints
Fractures	Open/Closed/ Broken limb/chipped bone/cracked bone
Abrasions	Grazes/Cuts
Contusions	Bruises/Hematoma

2. A Ice Packs

3. Four marks from:

**R** - Rest the injured part/stop the activity/don't put your weight on it.

Use crutches/Use splints/putting feet up/continued activity can cause further harm/injury.

**I** – Apply ice

15/20 minutes every 2/3 hours to stop internal bleeding/reduce swelling/relieve pain.

**C** – Compress

Bandage the injured area to prevent swelling/movement or to stop/control bleeding or to support/protect.

**E – Elevate**

Above level of heart/keep leg up/keep limb up to reduce swelling/pain/blood flow.

Answers must include a description of 'how' or an explanation of 'why'.

4. a) Acute Injuries

**One mark max** for example:

Acute injuries such as sprained ankle, strained back, fractured hand, strain, sprain, concussion (or any other example that happens suddenly during an activity).

**Two marks max** for description

Caused as a result of a sudden trauma or blow to the body.

Immediate pain.

Immediate swelling

Immediate loss of function/weakness

b) Chronic Injuries

**One mark max** for example:

Chronic injuries such as tendonitis, shin splints, tennis elbow, golfer's elbow (or any other relevant example)

**Two marks max** for description

Overuse injuries/result of continuous stress on an area.

These injuries tend to develop gradually over a period of time.

Resulting in pain.

Swelling over a period of time.

Lasts a long time or keep recurring.

Gradual loss of function or increase in weakness.

5. Any **two** marks for a reason from:

Caused by friction/rubbing from footwear/poorly fitting footwear/inappropriate footwear/new footwear.

No socks/inappropriate socks.

Heat/hot weather.

Sweating/wet feet.

Large amounts of stress/impact/overtraining/overuse/long distances.

Not used to the training.

Any **one** mark for a treatment

Sterilise/clean/disinfect/use cream.

Leave the blister to heal/intact.

Cover/Put a plaster on/Put a dressing on.

If signs of infection seek advice.

Puncture with **sterilised** needle.

Apply ice pack to blood blisters.

6. Injury type (one mark from the following)

Overuse injury

Chronic injury

Soft Tissue injury

Symptoms (one mark from the following)

Pain/soreness in the area where the tendon is

Inflammation

Swelling

Treatments (one mark from the following)

Rest

Ice Pack

Taping/Bandaging

Mobility Exercises

Ultrasound

RICE

Anti-inflammatory medicine

7. One mark for each injury and one mark for each correctly identified cause.

- **Shin Splints or stress fracture**

Caused through overuse, too much running on hard surfaces/incorrect footwear.

- **Fractures**

Caused by falling.

- **Blisters**

Caused by ill-fitting footwear or clothing e.g. Wearing a new pair of trainers for a long run without breaking them in/ over use.

- **Cramp**

Caused by muscular contraction- lack of fluids/minerals in body or poor hydration.

- **Abrasions/Cuts**

Caused by falling/tripping over.

- **Contusions/Bruises**

Caused by falling/tripping over.

- **Tendonitis**

Caused by overuse.

- **Sprain**

Caused by going over on your ankle.

- **Strain**

Caused by not being fit enough/doing too much at once/not warming up properly.

- **Concussion**

Caused by falling/tripping over and banging head/colliding with something.

8. Which one of the following does the term R.I.C.E. stand for?

B. Rest, Ice, Compress, Elevate

9. Which one of the following does the term S.A.L.T.A.P.S. stand for?

A. See, Ask, Look, Touch, Active, Passive, Strength

10. Any three marks from:

Emergency personnel (accept named person e.g. first aider/coach/first respondent)

Emergency communication (telephone/emergency telephone numbers/emergency services)

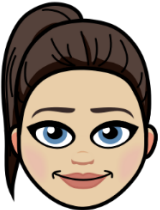
Emergency equipment (accept named examples e.g. first aid kit/defibrillator/stretchers)



### 8 Mark Question Practice

Describe how SALTAPS can be used to respond to injuries and medical conditions.

(8 marks)

<p>Intro paragraph – What is SALTAPS? What does it stand for? When is it used?</p>	
<p>What are the different sections of SALTAPS and what do they involve?</p> 	

[illegible]

Sum up your overall comments	
	





Cambridge Nationals – Sport Science  
Unit R041  
Revision Guide  
Reducing the Risk of Sports Injuries

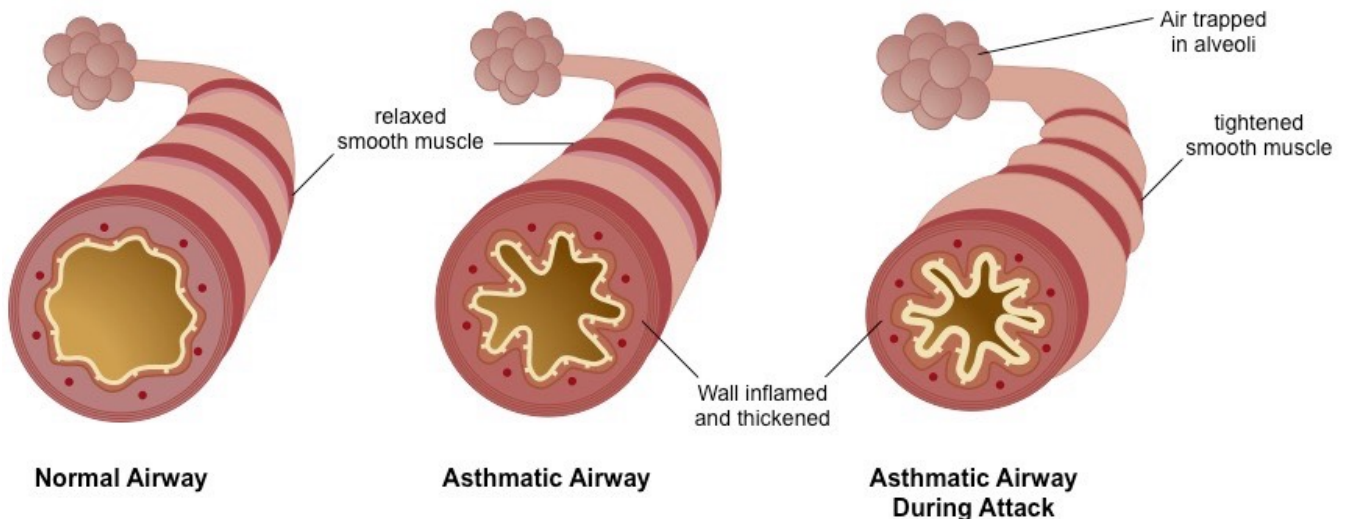
**Learning Outcome 4: Know how to respond to common medical conditions.**



## The Symptoms of Medical Conditions

□ Task 1 – Read through the facts about Asthma.

1. Around 5 million people in the UK suffer from asthma.
2. Asthma is inflammation of the bronchi and bronchioles in the lungs.
3. This causes the airways to become narrower.
4. Due to the lack of oxygen, breathing rate is increased which can cause an asthma attack.



Check out the two videos to see 'What is Asthma' and 'The Symptoms of Asthma'.

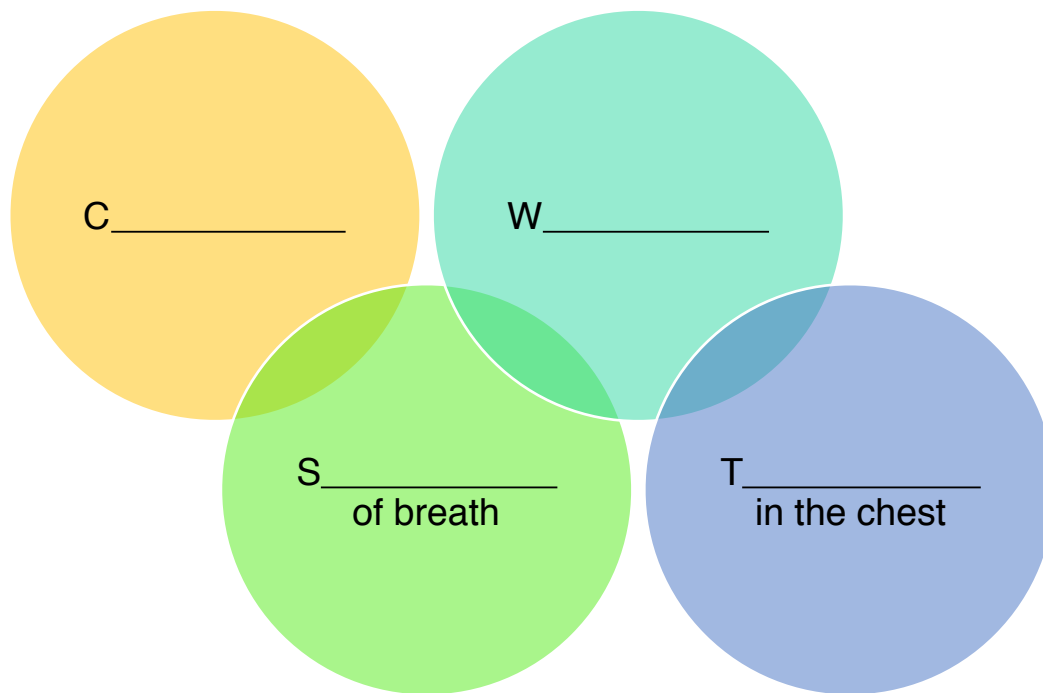
What is  
Asthma?



The Symptoms  
of Asthma.

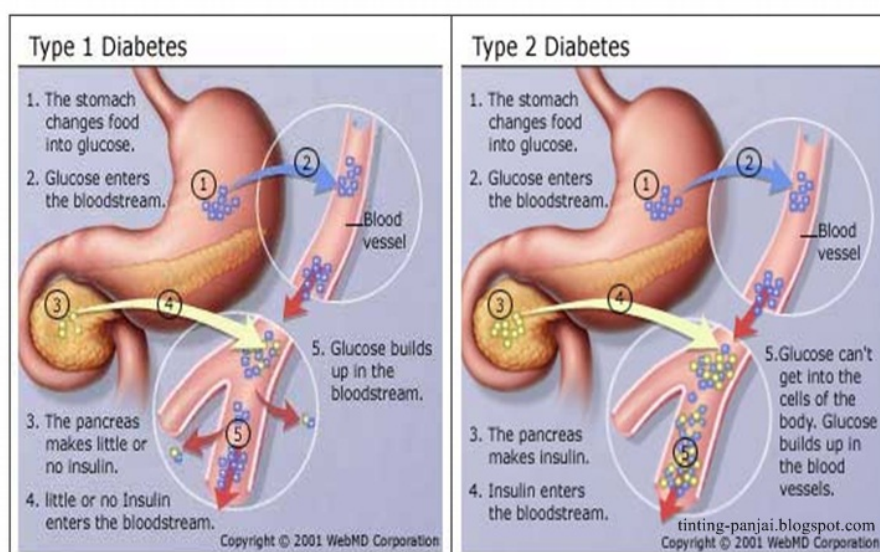


- Task 2 – Fill in the table to add the symptoms of Asthma.



- Task 3 – Read through the facts about Diabetes.

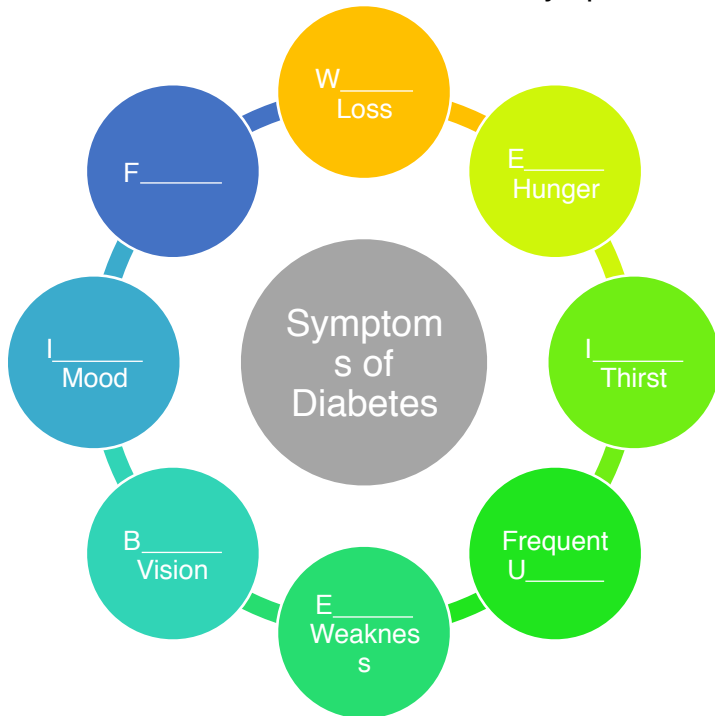
1. Around 4 million people in the UK have diabetes.
2. Diabetes is to do with your blood sugar levels.
3. Type 1 – Your body cannot produce insulin (you need insulin)
4. Type 2 – Your body resists insulin (you do not need insulin)
5. Insulin is what helps to control sugar levels in your body so with both types your body struggle to control blood sugar levels.



Check out the video to improve your understanding of diabetes.



□ Task 4 – Fill in the chart to add the symptoms of diabetes.



□ Task 5 – Read through the facts about Epilepsy.

1. Effects more than 500,000 people in the UK.
2. It is where a person is likely to have seizures.
3. This is due to electrical signals in the brain not working correctly. It stops the brain from functioning properly.
4. Once it has stopped the person functions as normal but may feel tired/unwell after.



Check out the video to improve your understanding of epilepsy.

What is Epilepsy?



- Task 6 – Fill in the chart to add the symptoms of epilepsy.

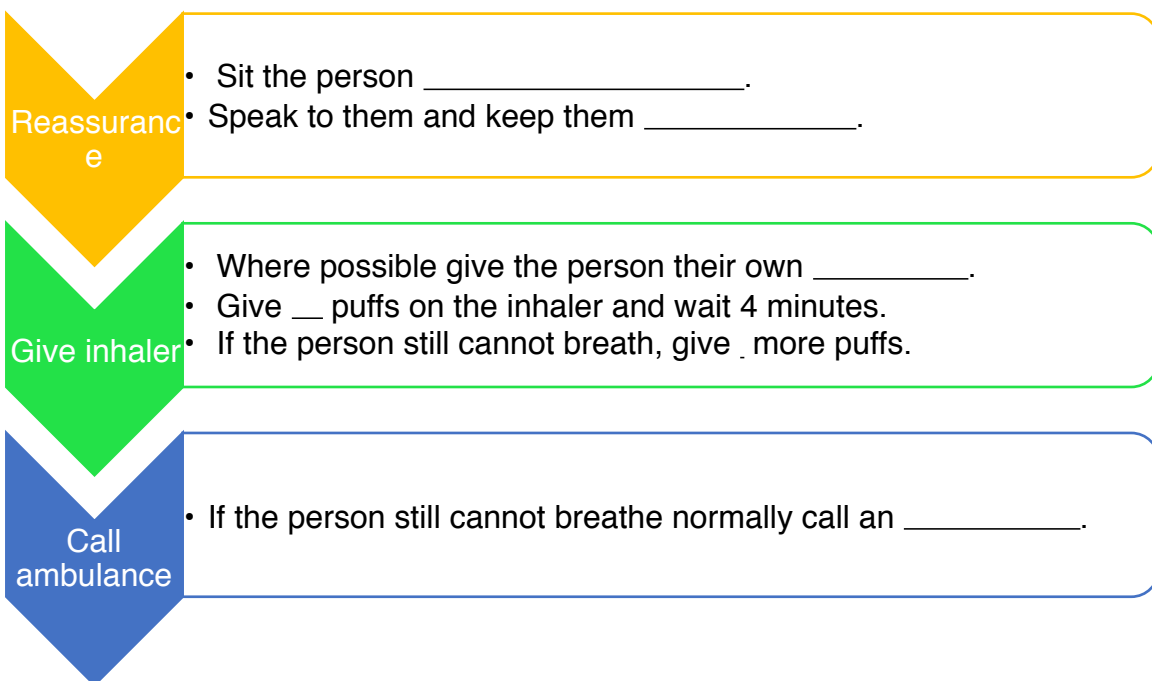


### **How to respond to these common medical conditions**



Top Tip – It is essential that coaches/people delivering sessions are aware of any participants' medical conditions prior to commencing physical activity.

- Task 7 – Fill in the flow chart to explain how to respond to asthma.



□ Task 8 – Read the table to see the different ways to respond to each type of diabetes.

Type 1 diabetes	Type 2 diabetes
Insulin injections are taken with food to help blood sugar levels stay normal.	If you are diagnosed with type 2 diabetes you will have to take medication to bring your blood sugar levels down.
Hyperglycaemia – when blood sugar levels get too high. You will need to adjust your diet or insulin.	It can be managed by a healthy diet and exercise. Changes to lifestyle are encouraged.
Hypoglycaemia – when blood sugar levels get too low. You will need to have something sugary and then a slower releasing carbohydrate.	Alcohol and smoking can also have a negative impact on type 2 diabetes, so you will be encouraged to alter your lifestyle.



Top Tip – Physical activity can lower blood sugar levels, so an individual with Type 1 diabetes may need to check their blood sugar to avoid having a 'hypo' when doing physical activity.

□ Task 9 – Organise the following points into the Do and Don't column when dealing with an individual having an epileptic seizure.

Stay with the person.

Time the seizure.

Put anything in the person's mouth.

Roll onto the side when jerking stops or immediately if food/drink in mouth.



Observe and reassure until recovered.  
 Restrain the person.  
 Move hard objects out of the way and clear the surrounding area.  
 Move person unless in danger.  
 Protect head from injury.

DO	DO NOT



Top Tip – It is important to have an emergency care plan in place for an individual with epilepsy.

### Task 10 - Exam Questions

1. During a training session a client is starting to feel breathless and the personal trainer suspects they are having an asthma attack.

a) Other than breathing difficulties, identify **two** other symptoms that could determine they are having an asthma attack.

Symptom 1: \_\_\_\_\_

Symptom 2: \_\_\_\_\_

(2 marks)

b) The client has left their inhaler in the changing room.

Give **two** ways that the personal trainer could deal with the asthma attack until the inhaler is given to the participant.

1. \_\_\_\_\_ (1 mark)

2. \_\_\_\_\_ (1 mark)

2. One of the main roles a steward has during a sporting event is ensuring the health and safety of the

spectators. A cricket steward has just been informed that a spectator is having a suspected epileptic seizure.

a) Identify **three** possible symptoms the steward could look for to confirm it is an epileptic seizure.

1. \_\_\_\_\_ (1 mark)

2. \_\_\_\_\_ (1 mark)

3. \_\_\_\_\_ (1 mark)

b) Other people have made the area safe around the spectator who is having the seizure. What else could the steward do to ensure the safety and recovery of the spectator?

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(2 marks)

3. a) Describe the symptoms of hypoglycaemia.

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(2 marks)

b) Identify **two** responses to treat hypoglycaemia.

1. \_\_\_\_\_ (1 mark)

2. \_\_\_\_\_ (1 mark)

## **Answers – mark your own and make corrections 😊**

1. a) Two marks from any of the following.

1. Coughing
2. Wheezing
3. Tight chest or chest pain
4. Grey / blue lips (if severe)
5. Pale/clammy skin or change of skin colour

b) Two marks from any of the following

1. Reassurance/keep calm or keep participant calm or stay with them
2. Emergency service/phone 999 (if attack severe)
3. Sit them down or don't lie them down / bend them over
4. (Encourage them to) take long/slow/steady/deep breaths
5. Get them away from the trigger (The asthma attack could be triggered by dust, cigarette smoke or the smell of chemicals) or take them to an air-conditioned environment or any place with clean air.
6. Give them a hot/cafeinated beverage (drinks like coffee can help to open up the airways slightly, providing some relief for an hour or two)

2. a) Accept any three from the following.

1. Tingling/pins and needles
2. (Sudden) muscle stiffness
3. Spasms/twitching on one side of the body/shaking/eyes rolling or loss of control
4. Loss of senses or change in senses/blurred vision / loss of consciousness or dizziness or disorientation/ confusion or auras
5. Reaction to light

6. Not remembering / unable to communicate / slurred speech / unaware of surroundings / blank staring or not responding or vacant episode
7. Headaches / sleepiness
8. Lip smacking / foaming at mouth/dribbling
9. They have a feeling events have happened before or déjà vu
10. Sudden intense emotions
11. Rubbing hands / fiddling with objects or fidgeting

b) Accept any two from

1. Call emergency services
2. Emergency care plan
3. Stay with them
4. Give appropriate medication
5. Keep them warm
6. Support the head or cushion their head
7. When fit is over put in recovery position

3. a) Accept any two from the following.

1. Low blood glucose/sugar levels (fall below 4 mmol/L (72mg/dL)
2. Sweating
3. Fatigue/weakness/tired/headaches/drowsy
4. Feeling dizzy or nausea or sickness
5. Being pale
6. Feeling hungry
7. A higher heart rate than usual
8. Blurred vision
9. Confusion
10. Shaking or convulsions
11. Loss of consciousness / fainting

b) Accept any two from

1. Eating or drinking glucose tablets or sweets or sugary fizzy drinks or fruit juice or eat/take sugar.
2. Take glucose gel (smear inside cheeks)
3. A blood test should be taken (after 15-20 minutes to check whether blood glucose levels have recovered).
4. Call an ambulance or call 999
5. Take glucogen (hormone) (if severe)



The 8 mark question has NEVER been on a medical condition! Focus on knowing the symptoms and treatments and you will do a great job!