



Cambridge National Sport Science

Summer Revision Pack

# Summer Revision Pack

This pack contains knowledge organisers and practice exam questions from LO1-LO3. These are the three learning outcomes that were covered before the Easter Holidays.

The aim of the pack is to help refresh your memory and give you a step back into learning for the R041 exam module before you return to the classroom.

Each topic has a knowledge organiser followed by a series of linked past paper questions.

Please read through the knowledge organiser, highlight and make notes and then attempt the past paper questions. The mark schemes are included in the pack. The suggestion would be for you to attempt the question in one colour, mark yourself and then add in any information that you might have missed in a different colour pen. This allows you to quickly identify which part of the answer you didn't know.

We hope you all have a fantastic summer holiday, and we look forward to welcoming you back to school!

# LO1 – Understand the different factors which influence the risk of injury

## Type of Activity

Different types of activity pose different injury risks. Risks from contact sports, such as rugby and boxing will differ from those of individual sports, such as running, gymnastics and trampolining.



## Environmental Factors

### Weather

Poor weather conditions could make the playing surface dangerous and increase the chance of getting injured.



### Playing surface/performance area and surrounding area

Damages, uneven playing surfaces or surrounding areas, or obstacles and spillages on the surface could lead to injuries.

### Other participants

If other participants are different in terms of size, weight, age, fitness, skill level or experience they may create a hazard during games and increase the chance of injury.

## EXTRINSIC Factors which can influence the risk of injury

## Coaching/Supervision

### Poor/incorrect coaching techniques

If participants are taught the wrong technique then this could lead to injury.

### Ineffective communication skills

If coaches do not communicate instructions clearly or supervise properly when practicing skills or games then injuries could occur.

### Importance of adhering to rules and regulations

If players are not taught the rules properly and do not adhere to them, then injuries can occur to themselves and other participants. Referees and umpires should enforce the rules.



## Equipment

### Protective equipment

In some sports participants need to wear certain protective equipment in order to stay safe and reduce the chance of injury.

### Performance equipment

Participants make use of equipment that is necessary for performance, it may also have the potential to cause injury E.g hockey sticks, cricket ball

### Clothing/footwear suitable for playing surface/weather conditions/specific sport or activity

For some sports and activities it is important to wear certain clothing and footwear to be able to carry out the activity safely and prevent injury e.g. football boots.

## Safety Hazards

### Risk assessments

A risk assessment is an assessment of a particular activity or playing area to identify potential hazards. These should be carried out before the activity. E.g. pitch inspection

### Safety checks

Certain safety checks will need to be made before starting a game or activity on the players and equipment being used to make sure it is safe. E.g. no jewellery

### Emergency action plans

Emergency actions plans will be put in place to let people know what to do in the case of an accident or emergency.



1) Identify **two** aspects that would be checked during a risk assessment.

(a) .....

(b) .....

**[2]**

2) Identify **three** sports and for each give the specific type of footwear worn to help prevent injury.

Sport 1: .....

Footwear: .....

Sport 2: .....

Footwear: .....

Sport 3: .....

Footwear: .....

**[3]**

3) Identify **three** environmental factors that could cause injury to a performer when exercising in a fitness suite.

1 ..... [1]

2 ..... [1]

3 ..... [1]

4) Using practical examples, describe how the following factors can prevent injury to performers.

a) Coaching techniques

.....  
.....  
.....  
..... [2]

b) Performers that adhere to rule and regulations

.....  
.....  
..... [2]

1

<p>Two marks for two from:</p> <ol style="list-style-type: none"> <li>1. Equipment / facilities</li> <li>2. Jewellery</li> <li>3. Weather or temperature</li> <li>4. Participants' age / health / medical conditions / previous injuries</li> <li>5. Participants' clothing / footwear or <u>protective</u> equipment</li> <li>6. Environment / (playing) surface / floor or surrounding area or litter</li> </ol>	[2]	<p>Accept examples if valid: eg check if goal posts are safe = pt 1</p> <p>Check if participant has inhaler = BOD pt 4</p> <p>Move clothing/footwear = vg pt6 Safety hazards = vg pt6 Check floor for obstacles/clothing = pt 5</p> <p>Nothing to slip on / nothing to fall over = vg pt6 Wet or dry (surface) = BOD pt 6</p>
--	-----	---

2

<p>Three marks for three from:</p> <ol style="list-style-type: none"> <li>1. Rugby – (boots with) studs</li> <li>2. Football – (boots with) studs</li> <li>3. Running – spikes / trainers that support the ankle</li> <li>4. Cricket – spikes/studs / blades</li> <li>5. Hockey – spikes/studs / blades</li> <li>6. Ice hockey – blades/skates</li> <li>7. Ice skating – blades/skates</li> <li>8. Skiing – (ski) (boots with) straps/support</li> <li>9. Basketball – ankle support footwear</li> <li>10. Boxing – ankle support footwear</li> <li>11. Climbing – climbing shoes with grips</li> <li>12. Trampolining – socks with grips (on the bottom)</li> </ol>	[3]	<p>Accept other sports and their examples One mark per sport with correct example</p> <p>Shoes/boots (on their own) for any activity = vague</p> <p>Football/rugby boots = vg Bowling / ballet shoes = vg (must be related to helping prevent injury) Trainers = vg</p> <p>Rugby – toe protectors = BOD</p>
--	-----	---

3

<p>Three marks for three from: (Environmental factors of fitness suite)</p> <ol style="list-style-type: none"> <li>1. Surface or performance area (e.g. weights room) or surrounding area or slippy/wet surfaces/ floors or glass/other weights on floor or equipment</li> <li>2. Temperature / air conditions</li> <li>3. Other participants (e.g. not spotting correctly) or someone dropping a free weight on your foot or not following correct health and safety rules or overcrowding or poor/(dangerous) behaviour</li> <li>4. Electrical equipment or electrical supply or machine wires</li> </ol>	[3]	<p>Accept examples as equivalents Accept one word identification eg 'equipment' (pt2) Accept 'playing surface' (BOD) Weather = Vg (in fitness suite) Surroundings (on its own) = Vg Objects lying around = Vg No supervision = Vg Heat (on its own) = vg</p>
---	-----	--

4

a	<p>Two marks for: (Coaching techniques)</p> <ol style="list-style-type: none"> <li>1. Correct instructions / messages / information / correct technique or being observant/attentive can avoid dangerous play or avoid injury</li> <li>2. (Practical example) Coaching the correct tackling technique in rugby or equivalent can avoid dangerous play</li> </ol>	2	<p>Answers must have description and example for full marks Responses must be on reducing injury Accept opposites as equivalents eg wrong technique can lead to injury (pt1)</p>
b	<p>Two marks for: (Adhere to rule and regulations)</p> <ol style="list-style-type: none"> <li>1. Can avoid danger / injury / stay safe by following/abiding by rules</li> <li>2. (Practical example) Not making a two-footed tackle in football or equivalent</li> </ol>	2	<p>Answers must have description and example for full marks Responses must be on reducing injury Accept opposites as equivalents 'Following rules' (on its own) = Vague</p>

# LO1 – Understand the different factors which influence the risk of injury

## Physical Preparation

### Training/Fitness Levels

Participants must make sure that they are fit enough to cope with the demands of physical activity by carrying out appropriate training. Lack of fitness will increase the chance of injury as muscles will become tight and fatigued.

### Warm up

It is important to warm up to prepare the body physically and psychologically for the sport. Gentle exercises will get the heart, muscles and joints ready for more vigorous activity and reduce the chance of injury.

### Cool down

A cool down allows the body to gradually return to a resting or near-resting state. Easy exercises and stretches will help to prevent DOMS after exercise and the risk of muscle cramps.

### Overuse

Repeated exercises on the body or a certain part of the body can result in overuse injuries. Overuse injuries are where the tendons, ligaments, muscles and soft tissue become damaged over a period of time.

### Muscle Imbalance

Muscles work in pairs, one contracts and shortens while the other relaxes and lengthens. If one of the muscles in the pair becomes stronger than the other this can cause a muscle imbalance and result in injury.



## Individual variables

### Gender

What gender you are can affect what activities you are suitable for. Men tend to be stronger than women and can lift heavier weights. If women try to lift the same weights this could lead to injury. Women tend to be more flexible than men so can move their joints through a wider range of movements.

### Age

Age can affect how much and the type of exercise you do. Generally older people are not as strong as younger people and are more at risk of suffering injuries.

### Flexibility

Flexibility is one of the main components of fitness. A lack of flexibility will put extra stress on the body during exercise which may lead to injury. You are more likely to strain a muscle or sprain a joint if you are less flexible. Lack of flexibility can result in poor technique which could also result in injury.

### Nutrition

It is important to eat a balanced diet and get the right nutrients into the body in order to have enough energy to take part in sport and to allow the body to recover properly. Poor nutrition can lead to:

Dehydration and muscle fatigue due to not taking in enough water.  
Loss of concentration due to the brain not having the right nutrients.  
Being overweight if too much fat is consumed.  
Weaker bones or muscles due to a lack of vitamins and minerals.

### Sleep

Insufficient sleep before exercise can cause fatigue and increase the chance of injury. Lack of sleep can lead to injury by:  
Causing poor decisions to be made, resulting in dangerous play or poor reaction times,  
Decreased motivation causing a player to not put their full effort into an action.  
Increasing performer irritability and aggression.

### Previous/recurring injuries

If a player has a history of injuries or reoccurring injuries then it will increase their chance of injury occurring again. As a result fitness will be lost, muscles and tendons will become weaker causing flexibility and strength to be lost.

## Psychological Factors

### Motivation

This is the drive to do something. Lack of motivation can stop a performer committing fully to an activity.

### Aggression

This is the physiological and psychological intention to cause harm to others. E.g. go into a tackle too hard

### Arousal

Is the level of excitement of a performer ranging from coma to high excitement.

### Anxiety

Is a negative emotional state concerned with feeling worried or nervous. E.g. injuries due to lack of confidence

**INTRINSIC**  
Factors  
which can  
influence  
the risk of  
injury

1. Describe how the following might increase the risk of injury for a sports performer:

(a) Fitness levels

.....  
.....  
..... [1]

(a) Muscle imbalance

.....  
.....  
..... [1]

(a) Overuse

.....  
.....  
..... [1]





**Fitness levels:**

- Lack of fitness due to lack of training – more at risk to a number of injuries
- Tired and tight muscles caused by fatigue – fatigue causes incorrect standing or sitting position causing injury

**Muscle imbalance:**

- If in a pair of muscles one is stronger than the other this can lead to overuse injuries as the body tries to counteract the imbalance
- Training particular muscles more than others can cause an imbalance (e.g. training upper body and not legs)

**Overuse:**

- Caused by repetitive actions which can cause damage to muscles, ligaments and tendons
- Too much training of the same muscles can lead to overuse injuries

<p>Two marks for two from: (Gender)</p> <ol style="list-style-type: none"> <li>1. males and females should not be mixed (in sport sessions) or (possible) different levels of strength</li> </ol> <p>or males (can be) stronger than females or females more flexible than males</p> <ol style="list-style-type: none"> <li>2. e.g. in contact sports such as football or rugby</li> </ol>	2	<ul style="list-style-type: none"> <li>• One mark for an explanation</li> <li>• One for an appropriate example - <u>annotate with EG</u></li> </ul> <p>Accept example that has context / sport / activity (Age) Do not accept: levels of fitness or older is weaker = Vg</p>
<p>Two marks for two from: (Age)</p> <ol style="list-style-type: none"> <li>1. young people/children should be competing against people of their own age or ensure similar age groups are together or young more likely to be injured when playing older.or activity at right level for age</li> <li>2. e.g. adults playing rugby alongside/against teenagers or children could cause injury or lighter weights for younger children</li> </ol>	2	
<p>Two marks for two from: (Previous/recurring injuries)</p> <ol style="list-style-type: none"> <li>1. ensure the activity is not going to place too much stress on an area of the body that has or is susceptible to injury</li> <li>2. e.g. too much jumping and landing in netball may cause knee pain/injury</li> </ol>	2	

(a)	<p>Two marks max – one mark for each explanation:</p> <p>Arousal/anxiety levels</p> <ul style="list-style-type: none"> <li>- Too stressed/worried/nervous <u>to perform well</u></li> <li>- May be too committed/<u>or example of aggression</u></li> <li>- Lack confidence /Too soft / pull out of tackles /</li> <li>- May not be able to concentrate or focus/ Make wrong decisions</li> </ul>	2	<p>If the opposite point is made to avoid injury then accept. Accept an example as part of the explanation</p> <p>Do not accept: too anxious or not anxious enough (in question)</p> <p>Too angry/annoyed/aggressive/hyped up/panic attack = vague (unless applied to a practical example)</p>
(b)	<p>Two marks max – one mark for each explanation:</p> <p>Aggression</p> <ul style="list-style-type: none"> <li>- Being aggressive in certain sports can cause other players to retaliate/become aggressive in return</li> <li>- Can foul or hurt/harm opponent</li> <li>- Can result in poor technique and in turn result in injury</li> <li>- Can cause lack of control</li> </ul>	2	<p>Accept an example as part of the explanation. Do NOT accept 'cause injury' on its own</p> <p>Do NOT accept lack of/insufficient aggression</p>
(c)	<p>Two marks max – one mark for each explanation:</p> <p>Motivation</p> <ul style="list-style-type: none"> <li>- Poor motivation levels could result in a performer not committing themselves enough – when competing at a high level in contact sports this could cause them to become injured e.g. boxing</li> <li>- Over motivation/carried away (leads to over arousal) could result in too much commitment in competition and cause injury</li> </ul>	2	<p>Accept an example as part of the explanation. Do NOT accept lack of focus</p> <p>Poor motivation/over motivation on own = vague</p>

# LO1 – Understand the different factors which influence the risk of injury

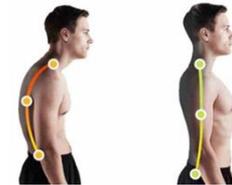
## Posture and causes of poor posture

Posture is the position which someone holds when standing and sitting. Poor posture can result in certain muscles tightening up and others loosening. Poor posture can result in injury and may be caused by a number of different factors:

Poor stance or gait (how you walk or run), e.g. bending your knees when walking or hunching should.

- Learning or being coached into a poor technique.
- Adopting slouching or slumping sitting position, rather than sitting upright.
- Adopting an uncomfortable sleeping position in bed.
- Physical defects, for example muscles being weakened around an injured area.
- Long standing or genetic problems.
- The position of the unborn baby during pregnancy.
- Being overweight or obese.
- Fatigue, as tired muscles are unable to support the skeleton properly.
- Emotional factors, such as having low self esteem or lack of confidence causing people to slouch or walk looking down.
- Wearing ill-fitting clothing or footwear, e.g. regularly wearing high heels.
- Carrying heavy bags or luggage.

Lack of exercise can also affect posture. If the core muscles are weak then they will provide less support for the body. Core muscles are in the trunk and torso. These muscles are involved in most movement we do everyday and in sport. If these are weak then it is more likely that you will become injured.



### Pelvic tilt



This is when the pelvis is not lined up correctly with the femur. This can be caused when the pelvis is moved forward, backwards and to the side more than the normal range. Common symptoms of this are pain in the lower back, and stiffness and tightness in the muscle of the lower back.

### Round shoulder



This is when there is an excessive curve forward of the neck which can make the shoulders hunch forward. Symptoms are forward head posture, hunched upper back and shoulders and pain in the back and neck.

## Sport injuries related to poor posture

### Scoliosis



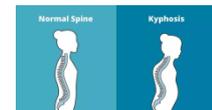
This is a condition where the spine of backbone is curved to the side giving it a C or S shape. One shoulder will appear higher than the other and the person will often lean to one side and not be able to stand up straight. This is more common in skiers, skaters who often put an uneven load onto the spine, or in throwing events and tennis where more emphasis is placed on one side of the body.

### Lordosis



This is a condition where there is excessive forward or inward curving of the lower back and spine. This gives the appearance of the stomach sticking out. Symptoms involve muscle pain and muscle spasm, numbness in the lower back. This is common in gymnasts and dancers.

### Kyphosis



This is a condition where there is excessive backward or outward curvature of the upper part of the spine or back so it appears hunched. Symptoms are severe back pain and stiffness of the spine. Cyclists, cricket wicket keeper and baseball catchers are more at risk of suffering from this.

1. Describe what is meant by each of the following medical conditions:

Scoliosis .....

.....

Lordosis .....

.....

Kyphosis .....

.....

Pelvic tilt .....

.....

Round shoulder .....

.....

2. Explain how emotional factors can affect someone's posture.

.....

.....

..... [2]

3. Name **three** factors that can affect posture, other than sports injuries, and explain how they might lead to poor posture.

Factor 1 .....

Explanation .....

.....

.....

Factor 2 .....

Explanation .....

.....

.....

Factor 3 .....

Explanation .....

.....

.....

Five marks for five from:

1. (Scoliosis) – A visibly curved spine / 'S' or 'C' shape / one shoulder higher than the other
2. (Lordosis) – Forward/inward curving of the lower back/spine (so that stomach sticks out)
3. (Kyphosis) – Forward / inward curvature/ hunched / rounded at the top/upper back/spine
4. (Pelvic tilt) – One side of the pelvis / hips is higher than the other side / hips not level or pelvis angled forward and back (compared to normal) or one side of the pelvis higher than the other or pelvis is at different angle (than normal)
5. (Round shoulder) – Forward curve of the neck / hunching the shoulders forward

One mark per correct description.

For points 2 – 3 look for location (upper/lower) and direction of curve (forward/back) to give a mark

Hunchback = vg for any points

Curving to the side = vg pt1

Curved spine = vg pt1

Lumbar section of the spine curves in = pt2 (Has the idea of location and direction)

Problem with lower/upper spine = vg pt 2/3

Curving at the lower of spine = vg pt2 (no direction of curve)

Butt stuck out or back curved in = vg pt2

Pelvis goes inwards = vg pt4

Anything relating to tilting = vg pt4

Anything relating to rounded = vg pt5

Shoulders pop out of back = vg pt5

Shoulders high towards cheeks = BOD pt 5

[5]

Circular shoulders = vg pt5

Bending forward = vg pt5

<p>Two marks for two from:</p> <ol style="list-style-type: none"> <li>1. Low self-esteem / lack of confidence / shy or has low confidence or is anxious/nervous / upset / depressed / sad</li> <li>2. ....can cause someone to look down / hunch forward or leading to round shoulder / poor posture (in the upper body) or slouching</li> </ol>	[2]	<p>One mark per valid comment</p> <p>It lowers your confidence = x (not crediting result of poor posture but how emotions can affect posture)</p> <p>Sad &amp; not focus on posture = pt1 and BOD pt2 Hunchback = vg pt2</p>
--	-----	--

Six marks for six from:

1. (Factor) Poor stance/gait/walk/run
2. (Expl) (e.g. bending your knees or hunching your shoulders when stood up or slumping)
3. Sitting or sleeping positions or slouching or sitting without support
4. (e.g. slumping/slouching on the sofa rather than sitting upright)
5. Physical/genetic defects or obesity/overweight/ pregnancy
6. (e.g. muscles weaken around an injured area)
7. Lack of exercise
8. (e.g. lack of core muscle strength means less support; being overweight puts strain on posture)
9. Fatigue or lack of sleep
10. (e.g. tired muscles will be unable to support the skeleton properly) or you slept awkwardly
11. Emotional factors or low self esteem or lack of confidence
12. (e.g. can cause slouching/curved back/ head down that can influence posture)
13. Clothing/footwear
14. (e.g. wearing high heels can affect posture)

Accept other relevant examples

One mark for factor (odd numbers)

One mark for explanation/example (even numbers)

If factor is incorrect, do not accept explanation i.e. valid factor must be identified for explanation to get marks.

If factor does not match MS then vg  
Do not accept sports/carrying injuries  
- repeats question

'Sitting' = vg (pt3)(must be 'sitting position' / 'sitting awkwardly' etc)

'If you don't sit straight you will damage your back' = vg (pt 4)

Accept scoliosis/lordosis/kyphosis (pt 5)

Accept 'Will cause a curved spine' (pt 4)

Accept (for pregnancy) 'puts a stain on your back' (pt6)

Do not accept 'humped back' for (pt5)

# LO2- Understand how warm-up and cool down routines can help prevent injury

## What is a warm up?

A warm up is a simple and gentle exercise routine that is performed before doing exercise or playing sport to get the body physically and psychologically prepared. These vary depending on the activity being done.

A warm up should include the following 5 components:

**Pulse raiser** - Gentle exercises that slowly start to increase the heart rate and body temperature.

**Mobility** - These are exercises that take the joints through their full range of movement.

**Dynamic movements** - These involve changes in speed or direction.

**Stretching** - This involves lengthening the muscles in preparation for exercise. There are different stretches that can be used:

Static stretch - when you hold a static position for about 30 seconds.

Passive stretching - when you use a partner to hold a certain position.

Dynamic stretching - when you are moving through a range of movement.

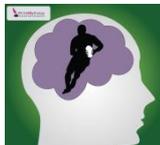
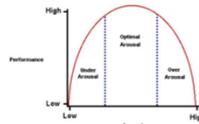
Ballistic stretching - like dynamic stretching but using bouncing movements.

**Skill rehearsal phase** - This is when you practice the actions that you are about to be used in the game or activity.



## Physical benefits of a warm up

- Increase in body temperature making the muscles more flexible
- Increase in heart rate so delivery of oxygen to working muscles is increased
- Release of adrenaline which increases the blood flow
- Increasing the flexibility of muscles and tendons to allow wider range of movement
- Speed up muscular contractions to improve reaction time
- Increases elasticity of tendons and ligaments allowing more movement at joints
- Warm up synovial fluid to increase range of movement at joints
- Warming up can also delay the production of lactic acid which is formed during anaerobic exercise. This will delay the feeling of fatigue and reduce the risk of injury further.



## Psychological benefits of a warm up

During the warm up you have time to think about the activity you are about to do which helps to prepare them. The benefits include:

### Controlling arousal levels

Thinking about the activity ahead will help to 'get into the zone', calm them down, settle nerves to reach the right level of arousal. Being over aroused can lead to injury as players can get too wound up and make rash decisions.

### Improving concentration and focus

Thinking about the activity will help to get in the right frame of mind and concentrate. Improved concentration means reaction time is speeded up and decisions are made quicker making it less likely that injuries will occur.

### Increasing motivation

Thinking about the task ahead will increase the drive to perform well. Lack of motivation may lead to performer going into a skill half hearted and result in injury.

### Giving time for mental rehearsal and imagery

Mental rehearsal involves visualising or imagining each aspect of the activity. This increases confidence and helps to avoid distractions. Some performers will use imagery to picture what a routine or skill will look like in their head to help focus.

1. Identify **four** physical increases in the body systems as a result of a warm up.

(a) .....

(b) .....

(c) .....

(d) .....[4]

2. Describe the purpose of skill rehearsal in a warm up.

.....

.....

.....

.....[2]

3. Using examples, describe the following two psychological benefits of a warm up:

(a) Improved focus

.....

.....

Example

.....

.....[2]

(a) Increased motivation

.....

.....

Example

.....

.....[2]

4. Plan a warm up specific to a sport of your choice using the five key components. [5 marks]

Sport: .....

Pulse raiser: .....

.....

.....

Mobility exercise: .....

.....

.....

Dynamic movements: .....

.....

.....

Stretching: .....

.....

.....

Skill rehearsal: .....

.....

1

<p>One mark for:</p> <ol style="list-style-type: none"><li>1. (Body) temperature / get hotter</li><li>2. Heart rate / pulse / heart pumping</li><li>3. Flexibility (of muscles / joints) / mobility/muscle length or range of movement (at the joint)</li><li>4. Pliability of ligaments / tendons / muscles</li><li>5. Blood flow / blood pressure</li><li>6. Oxygen <u>to muscles</u></li><li>7. Speed of muscle contraction</li><li>8. Breathing (rate/quicker/heavier)</li><li>9. Sweating</li></ol>	<p>[4]</p>	<p>Mark first four only Only one mark to be allocated for each answer line</p> <p>Gets body to right temperature = Vg pt1</p> <p>Movement = vg pt3</p> <p>Sends signals = vg</p> <p>(More) blood pumping / blood = vg pt5 Oxygen in blood = vg pt6 Oxygen intake = Vg pt6</p>
--	------------	---

2

<p>Two marks for descriptions:</p> <ol style="list-style-type: none"><li>1. improve performance in (specific) skills (that will be developed during the session)</li><li>2. improve technique (in the sport/activity that will be carried out)</li><li>3. allows recap or practice (of a specific activity before the session begins) or to know what you are doing or to focus/concentrate on what you need to do</li><li>4. improve reaction/response time (in skills to be performed)</li><li>5. improve confidence</li><li>6. replicates (muscle) movement to be used</li></ol>	<p>2</p>	<p>Do not accept: rehearsing skills (in question) or repeating the skill or get you ready/prepared for the game or head in/on game or visualise actions or increased motivation = Vg</p>
---	----------	--

<p>Four marks, one for each description and one for each example:</p> <p>(a) Improve focus – performer begins to get into the right frame of mind – beginning to concentrate on the performance ahead / mental rehearsal get in the zone / mentally prepare or improve reactions.</p> <p>Example: Thinking about and imagining the kicking of the conversion - over the bar in rugby, time and again.</p> <p>(b) Increase motivation - thinking about the task ahead or thinking about the goal of winning / performing well or raising your confidence / getting in the zone / getting you up for it or not giving up or want to play the game more.</p> <p>Example: Knowing that putting in a good performance in the match will enable the team to win or gaining promotion at the end of the season or coach giving direction / motivational talk or wanting to win the game or achieve personal best.</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>One mark for each description. One mark for each relevant example. Helps you get ready/think about the game = vague. b)Makes you want to do it = too vague</p>
--	-------------------------------------	---

<p>5 marks max for 5 from :</p> <ol style="list-style-type: none"> <li>1. pulse raising <ul style="list-style-type: none"> <li>- exercises that slowly increase heart rate or body temperature or suitable example (e.g. jogging, cycling, skipping, running)</li> </ul> </li> <li>2. mobility <ul style="list-style-type: none"> <li>- exercises that take the joints through their full range of movement (ROM) or an example e.g. arm swings, hip circles, high knees</li> </ul> </li> <li>3. dynamic movements <ul style="list-style-type: none"> <li>- change of speed and direction or an example e.g. shuttle runs</li> </ul> </li> <li>4. stretching <ul style="list-style-type: none"> <li>- developmental stretches, dynamic / static stretches or example e.g. 'open and close the gate' / groin walk</li> </ul> </li> <li>5. skill rehearsal <ul style="list-style-type: none"> <li>- rehearsing common movement patterns and skills which will be used in the activity or an example e.g. dribbling drills for football; passing drills for netball)</li> </ul> </li> </ol>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>Accept a suitable practical example as the description or a definition of the component.</p> <p>Key components and plan must relate to the sport chosen.</p> <p>Eg slowly jogging around the football pitch (for football)</p> <p>Do not accept stretching on its own for the stretching phase – must give a description of type or method of stretching or which muscle group is being stretched for the mark to be awarded</p> <p>Eg stretching = 0 marks</p> <p>Stretching exercise for different parts of the body (for football) = 1 mark</p>
--	--	---

# LO2- Understand how warm-up and cool down routines can help prevent injury

## What is a Cool Down?

A cool down is a series of gentle exercises carried out after exercise.

There are 2 key components of a cool down:

**Pulse lowering exercises** such as jogging or walking which will gradually lower the heart rate and reduces the body temperature back to normal.

**Stretching** muscles that have been used during the activity, mainly static stretching, to return muscles back to their normal length and help to remove lactic acid.

## Benefits of a cool down

A cool down helps to transition the body back to a resting state by gradually lowering:

Heart rate

Blood pressure

Body temperature

Breathing rate

By gradually slowing these functions will stop you feeling dizzy or nauseous.

Other benefits include:

Helps to prevent blood pooling in the legs and removes waste products such as lactic acid. This reduces the risk of muscle soreness (DOMS).

Helps with recovery of muscles by stretching them which decreases the risk of pulled muscle injuries.



## Specific needs which a warm up and cool down must consider

### Characteristics of the individual or group

The organiser must consider:

- Participant age – young children require a less intense and shorter warm up than adults
- Experience – more experienced participants need a more intense, longer and higher level of skill in their warm-ups
- Strengths and weaknesses
- Fitness levels – are participants recovering from injury or illness, are they complete beginners
- Motivation levels
- Medical conditions – previous injuries or health conditions need to be considered
- Disabilities
- The size of the group – is there enough space for the group to safely warm-up/cool down



### Suitability

A warm-up should reflect the movements are activities that will be part of the sport. E.g. A warm up that takes place on the side of the swimming pool is probably not suitable for an activity that is going to be based in the pool.

### Environmental factors

Weather

- too hot might cause heatstroke, difficult to cool down in hot weather. Warm-up/cool down in shade
- too cold It might be difficult to get the body warm.
- Muscles will be tighter in a cold environment meaning more chance of injury.
- A longer warm-up/cool down may be needed in cold temperatures.



Facilities

- is there sufficient space to avoid overcrowding.
- is the surface available appropriate for the activity.
- If surface/facilities are poor the risk of injury is increased.



1. Circle your chosen option to indicate whether each of the following is true or false

- |   |            |     |
|---|------------|-----|
| (a) A cool down increases muscle soreness               | True/False | [1] |
| (b) A cool down speeds up the removal of waste products | True/False | [1] |
| (c) A cool down improves concentration                  | True/False | [1] |
| (d) A cool down gradually reduces breathing rate        | True/False | [1] |

2. Name **two** elements of a cool down, giving an example for each.

1 .....

Example .....

2 .....

Example .....[2]



5. Identify **three** environmental factors to consider when planning a cool down.

1 .....  
..... [1]

2 .....  
..... [1]

3 .....  
..... [1]

1	One mark for each correct answer:	
	(a) False	1
	(b) True	1
	(c) False	1
	(d) True	1

2	One mark for example from the following: A pulse lowering exercise such as exercises which gradually lower the heart rate Jogging Stretching	1	Maximum of one mark for example  Do NOT accept relax muscles/prevents injury
	Two marks for explanation from the following or similar: Helping the body's transition back to a resting state <u>Gradually</u> lower heart rate <u>Gradually</u> lower temperature	2	Two marks for the explanation. The word 'gradually' must be present when the candidates mention the lowering of heart rate or temperature or breathing in your answer.
	- (Maintain) circulation of blood / oxygen		
	- <u>Gradually</u> reduce breathing rate		
	- Remove waste products / lactic acid		
	- Reduce the risk of (muscle) soreness / stiffness		
	- Aids recovery (by stretching muscles, i.e. lengthening and strengthening muscles for next work-out/use)		

3	<p>Three marks for three from:</p> <ol style="list-style-type: none"> <li>1. increases venous return or prevents blood pooling</li> <li>2. (speeds up) removal of lactic acid or CO<sub>2</sub> or waste products</li> <li>3. <u>gradually</u> lower heart rate</li> <li>4. <u>gradually</u> lower temperature</li> <li>5. <u>gradually</u> slows down breathing (rate)</li> <li>6. (aid recovery by) stretching muscles or lengthening and strengthening muscles for next work-out</li> <li>7. Reduces soreness / stiffness / pain or reduces DOMS</li> </ol>	<p>3</p> <p>Do not accept: cools your body down or relieves aches or decreases risk of injury = Vg          Continues to circulate blood / oxygen = vg          Recovers faster = vg (in Q)          Accept 'slowing down' for 'gradual'.</p>
---	--	---

4	<p>Three marks for three from:</p> <ol style="list-style-type: none"> <li>1. characteristics of the individual/group or disability or motivation levels</li> <li>2. size of group</li> <li>3. age (of participants)</li> <li>4. gender or gender mix (of the group)</li> <li>5. Experience / ability level (of participants)</li> <li>6. individual fitness levels or (previous) injuries</li> <li>7. medical conditions eg those with asthma</li> <li>8. suitability of warm-up activity (as preparation for a particular activity/sport or type of sport/activity)</li> <li>9. time available</li> <li>10. environmental factors / surface / space or space available / state of the pitch</li> <li>11. weather</li> <li>12. temperature</li> <li>13. available facilities / equipment / clothing</li> </ol>	<p>3</p>
---	--	----------

5

<p>Three marks for the following:</p> <ol style="list-style-type: none"><li>1. Weather</li><li>2. Temperature</li><li>3. Available facilities</li><li>4. Available space / suitable area</li><li>5. State of the playing surface</li><li>6. Surrounding Area e.g. fencing</li></ol>	<p>3</p>	<p>Other people = vague Accept: Other people make the area crowded (environment)</p>
---	----------	--

# LO3 – know how to respond to injuries within a sporting context

## Acute and Chronic Injuries

**Acute Injuries** are caused as a result of a sudden trauma to the body, such as impacts or collisions. E.g; Rugby tackle, being hit by a ball. They result in immediate pain and usually result in some swelling and loss of function. E.g; Swelling in the ankle may make it hard to walk. Common acute injuries are sprains, strains, bruises and fractures.



**Chronic Injuries** are caused by repeated stress on an area of the body, such as a bone or muscle. They are also known as overuse injuries and develop over a period of time.

Common chronic injuries are shin splints, tendonitis and tennis elbow.

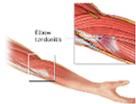


## Soft Tissue Injuries - these are to do with muscles, tendons and ligaments.

Injury	What is it and how is it caused?	How is it treated?
Strains 	Trauma or overuse occurring in the tendon or muscle. Caused by sudden uncontrolled movement or overstretching. Tears occur to the fibres of the muscles or tendons and in severe cases it can detach from the bone.	Using the RICE method. R - rest, I - ice, C - compression, E - elevation Taping and bandage
Sprains 	Trauma or overuse occurring in the ligaments around a joint. Caused by sudden uncontrolled movement, overstretching or twisting of the joint. Tears occur to the fibres of the ligaments.	Using the RICE method. R - rest, I - ice, C - compression, E - elevation Taping and bandage

## Overuse Injuries

These are chronic injuries that gradually occur over time due to constant stress and repetitive damage to tendons, bones and joints.

Tendonitis 	An overuse injury causing pain and restricted movements around tendons. This is caused by repetitive movements. There is often inflammation and swelling around the affected area.	RICE treatment, stretching, massage, support bandages. Ultrasound and anti-inflammatory medicine in severe cases.
Tennis and golfer's elbow 	An overuse injury causing pain in the tendons and restricted movements around the elbow joint. This is caused by the repetitive swinging movements used in tennis and golf. There is often inflammation and swelling around the affected area.	RICE treatment, stretching, massage, support bandages. Ultrasound and anti-inflammatory medicine in severe cases.
Shin splints 	An overuse injury causing pain in the shins, or the front of the lower legs. Caused by exercise involving a lot of running, repeatedly putting weight on the legs or increasing the intensity of training. Aching and pain is felt in the shins of the lower leg.	Rest and ice involved in the RICE treatment.

# LO3 – know how to respond to injuries within a sporting context

**Fractures** A fracture is a partial or complete break in a bone. It is an acute injury. There are 2 types of fracture.

<p>Open fracture</p> 	<p>A break in the bone where there has been considerable damage to the surrounding tissues and the bone has broken through the skin. These are caused by sudden trauma, awkward landing, hard impact of an object or opponent. These are common in contact sports.</p>	<p>Hospital treatment, X-ray, plaster casts, splints and possible support bandages and slings.</p>
<p>Closed fracture</p> 	<p>A break in the bone where there is little damage to the surrounding tissues because the bone has hardly moved. These are caused by sudden trauma, awkward landing, hard impact of an object or opponent. These are common in contact sports.</p>	<p>Hospital treatment, X-ray, plaster casts, splints and possible support bandages and slings.</p>

**Concussion** This injury is very common in contact sports such as rugby.

<p>Concussion</p> 	<p>An acute injury where the brain is shaken inside the skull. Caused by direct impact to the head from either a collision with the ground, a player or a piece of equipment. This can cause loss of consciousness, dizziness, nausea, loss of memory and headaches.</p>	<p>Medical assistance and hospital treatment, cold compress, rest and 24 hour supervision.</p>
---	--	--

**Cramp** Cramp is common in sport where athletes work excessively hard so muscles become fatigued.

<p>Cramp</p> 	<p>This is an involuntary painful contraction of muscles caused by a lack of water and/or salt in the muscles. It is often caused by excessive exercise, overuse of the muscles and poor hydration.</p>	<p>Stretching and massaging the affected muscles.</p>
--	---	---

**Abrasions** These are acute injuries involving damage to the surface of the skin.

<p>Abrasion (cut)</p> 	<p>An acute injury where the surface of the skin has been pierced and cut. These are often caused by being hit with a sharp object, tripping or falling or being kicked, punched or tackled in a game such as rugby or boxing.</p>	<p>Cleaned with water, or a sterile substance, covered with plasters or bandages.</p>
<p>Abrasion (graze)</p> 	<p>An acute injury where the surface of the skin has been scraped away. These are often caused by slipping and falling on rough surfaces or the skin being rubbed against equipment or clothing.</p>	<p>Compression to stop the bleeding, cleaned with water, or a sterile substance, covered with plasters or bandages.</p>

# L03 – know how to respond to injuries within a sporting context

## Contusions (Bruises) A contusion is another name for a bruise.

Contusion  
(bruise)



An acute injury where capillaries under the surface of the skin have been damaged causing bleeding under the skin surface to occur. These are caused by trauma to the skin from a direct impact of a player, piece of equipment or the ground. The skin discolors due to the bleeding.

RICE if it is a serious bruise, but often no treatment is given.

## Blister Blisters are common in sports and usually caused by ill fitting clothing or footwear rubbing against the skin surface.

Blister



Is a defence mechanism to help repair skin damage caused by friction. Small bags of fluid develop under the skin surface to protect underlying tissue. Blisters are caused by skin rubbing against something, often clothing, footwear or equipment.

Cleaned with water, or a sterile substance, covered with plasters or bandages.

## Injuries related to children

Sever's disease



This is an inflammation of the growth plate in the heel. It is caused by repetitive stress and common in physically active children.

Stretching and RICE

Osgood-Schlatters disease



This is a pain in the knee caused by growth spurts then the bones in the knee grow too quickly for the surrounding tendons. It can also be caused by overuse.

Seek medical advice and RICE

1. Give **two** symptoms of an acute injury.

Symptom 1 .....

Symptom 2 .....[2]

2. Give **two** examples of chronic injury.

Example 1 .....

Example 2 ..... [2]

3. A sports performer is suffering from shin splints.

(a) Is this an acute or chronic injury?

..... [1]

(a) Describe a possible cause of this injury.

.....

..... [1]

(a) Identify a sports activity in which this is likely to occur.

..... [1]

4. Maggie has been asked to complete a risk assessment in preparation for a school sports event. Complete the blank areas of the grid below.

[8]

Injury type	How this might happen	Chronic or Acute
Soft tissue injury	Going over on the ankle when running to catch the ball	Acute
Fractures		
Concussion		
Abrasions		
Tendonitis		

1	<p>Two marks for two from:</p> <ol style="list-style-type: none"> <li>1. (Immediate) pain</li> <li>2. Swelling or redness</li> <li>3. Contusion / bruising</li> <li>4. Loss of function or can't run / walk</li> <li>5. Deformity/ disfigurement or bone out of place or broken bone/limb</li> <li>6. Loss of consciousness</li> <li>7. Abrasion / bleeding or cut</li> </ol>	[2]	<p>Mark first response only on each answer line</p> <p>Sudden trauma = vg pt5</p> <p>Fracture / concussion = vg pt5 / pt6</p>
---	---	-----	---

2	<p>Two marks for two examples from:  Examples – shin splints/golfer's elbow/tennis elbow/(Patella) tendonitis/(Achilles) tendonitis/Severs / Osgood Sclatter's</p> <p>Two marks for two from:</p> <ol style="list-style-type: none"> <li>1. (Damage to a bone, muscle, ligament, or tendon) due to repetitive stress/movement or overuse/not enough rest</li> <li>2. (These injuries) develop gradually / over a (long) period of time or happen over time or long term injury</li> <li>3. Pain in the affected area (during/after physical activity)</li> </ol>	2  2	<p>(a) Accept: tennis wrist / jumper's knee / golfer's knee / runner's knee</p> <p>Do not accept a repeat of a named joint or tendon e.g.</p> <p>- jumper's knee and golfer's knee = 1 mark only</p>
---	--	------------	--

3	<p>One mark for each of the following:</p> <p>(a) Chronic</p> <p>(b) Increasing training intensity / overuse or changing the surface they train on - like shifting from grass to tarmac or ground too hard/unforgiving or inadequate footwear.</p> <p>(c) Running/dancing.</p>	<p>1</p> <p>1</p> <p>1</p>	<p>For b and c other relevant causes and examples can be accepted.</p> <p>For c) do not accept a name of a sport – must be an activity within the sport e.g. running in football.</p> <p>Accept marathon or cross country running.</p>
---	--	----------------------------	--

4	<p>One mark for each example of how it might occur and one mark for acute or chronic correctly identified:</p>			<p>For Fracture - Accept 'chronic' if stress fracture given as answer</p> <p>Accept:</p> <ul style="list-style-type: none"> <li>- Fracture – Running and falling on a stone</li> <li>- Concussion - Climbing and falling</li> <li>- Abrasion – fall over and graze your leg</li> <li>- Tendonitis – too much running</li> </ul> <p>Do not accept:</p> <ul style="list-style-type: none"> <li>- Concussion – bad tackle = vg</li> <li>- Abrasions – falling over / jumping and cutting themselves</li> <li>- Tendonitis – stress = vg</li> </ul>
Injury type	How?	Chronic or acute		
Fracture	being kicked/(poorly) tackled/falling awkwardly	Acute		
Concussion	Bang to the head (from an opponent's elbow, head or foot/colliding with a post)/falling over and hitting the head on the ground	Acute		
Abrasions	Falling over onto a hard/rough surface/object	Acute		
Tendonitis	(Achilles/elbow/shoulder/hip) – poor technique or overuse	Chronic		
			8	

# LO3 – know how to respond to injuries within a sporting context

## Responding to injuries and medical conditions

Due to the range of different sports and physical activities a variety of possible injuries can occur. Some can be serious, even life threatening and need to be treated in hospital, while others are minor and can be treated at home.

### SALTAPS on-field assessment routine

This is an assessment carried out by an experienced and qualified individual to see if a player can continue to play or train. Each step would be carried out and if the assessment needed to be stopped due to the injury being serious then the player should seek appropriate medical treatment.

**See** - ask if anyone saw what happened, stop the activity, check the person's facial expressions, posture and behaviour.

**Ask** - the injured player what happened and how they feel, where it hurts, what type of pain they feel.

**Look** - for signs of bleeding, bruising, swelling, deformity, compare the injured limb to the opposite one to see if it looks different.

**Touch** - the injured part for signs of pain and tenderness, can you feel any abnormalities.

**Active** - can the performer move the limb themselves, does it hurt to move, can they manage and non-weight bearing movements.

**Passive** - move the limb/joint through its range of movement to see the person's reaction to the movement.

**Strength** - can the performer support their own weight, are they able to get up to their feet and play on.



### Hot and cold treatments



**Ice therapy** is where an ice pack is applied to the affected area for 15-20 minutes every couple of hours. Ice should be wrapped in a cloth to prevent ice burn. Ice therapy is commonly used for contusions (bruises), sprains and strains.

**Heat treatment** is used for many musculoskeletal injuries. Benefits of this treatment include; reducing pain, reducing stiffness, decreased muscle spasm and increased blood flow to the affected area. Treatment can include running hot water on the injured part, heat lamps, reusable gel packs.

### RICE

For acute but less serious injuries to soft tissue, the initial treatment is often the RICE procedure. Soft tissue injuries often involve inflammation to this treatment helps to reduce swelling and prevent further damage.

**Rest** - stop the activity, take the weight off and rest the injured part to avoid further damage.

**Ice** - apply an ice pack to the affected area for 10-30 minutes to reduce the swelling and pain.

**Compression** - bandage the injured part to reduce swelling and help to support the injured area.

**Elevation** - raise the injured part above the level of the heart to reduce the blood flow to the injured part to help reduce the swelling.

### Stretching and massage



Stretching and massage will manipulate soft tissues to:  
Increase blood flow to the affected body part to increase flexibility.  
Help to relax muscles and relieve tension.  
Help to manage pain and DOMS.

### Taping, bandaging, splints, slings



**Splints** are commonly used for injuries to limbs such as fractures or sprains. These help to immobilise and protect the injured limb allowing it time to rest and heal.

**Slings** support joints and help to hold the injured part in the correct place. They reduce stress, reduce swelling, relieve pain and prevent further injury through impact.

**Taping and strapping** are often used to support weak or injured muscles and joints and help to reduce pain.

**Bandaging** helps to prevent swelling and decrease blood flow to the injured area. It can give support, immobilise the injured area, stop bleeding, prevent infection and help to prevent pain.

1. Give a cause and treatment for each of the following injuries and medical conditions:

(a) Fracture

Cause: .....

Treatment: .....[2]

(b) Concussion

Cause: .....

Treatment: .....[2]

(c) Abrasion

Cause: .....

Treatment: .....[2]

(d) Contusion

Cause: .....

Treatment: .....[2]

(e) Osgood Schlatter's disease

Cause: .....

Treatment: .....[2]

2. For the following **four** different types of injuries, give a symptom (other than pain) and treatment for each. Circle whether it is a chronic or an acute injury.

**(i)** Injury: Sprained ankle .....

Symptom: .....

Treatment: .....

Chronic/Acute (circle your answer) **[3]**

**(ii)** Injury: Shin splints .....

Symptom: .....

Treatment: .....

Chronic/Acute (circle your answer) **[3]**

**(iii)** Injury: Open fracture .....

Symptom: .....

Treatment: .....

Chronic/Acute (circle your answer) **[3]**

**(iv)** Injury: Concussion .....

Symptom: .....

Treatment: .....

Chronic/Acute (circle your answer) **[3]**

<p>Two marks for two from:</p> <ol style="list-style-type: none"> <li>1. (Fracture) – bad or land or fall (awkward) / tackled / trauma / impact (by an opponent) / collision</li> <li>2. (Treatment) – Splint / sling / 999 or medical assistance / <u>put in</u> plaster / cast / pot</li> <li>3. (Concussion) – (hard) impact <u>to head</u> (by a piece of sports equipment or another player or with the ground) or banged head</li> <li>4. (Treatment) – apply cold compress / ice / rest or medical assistance or 999</li> <li>5. (Abrasion) – falling or tripping over onto (hard/rough) ground / hit by a piece of equipment / broken equipment / rubbing (against equipment) or sliding on ground/AstroTurf or being kicked / hit / punched / scraped / tackling / friction</li> <li>1. (Treatment) - bandage / plaster / compression / elevate / rest or clean / sterilise (area)</li> <li>2. (Contusion) – colliding with a player or piece of equipment or falling or tackling or tripping</li> <li>3. (Treatment) – rest / elevate / ice /R.I.C.E</li> <li>4. (Osgood Schlatter’s) – during a growth spurt as a child or (bone) growing too quickly or bone growing faster than tendons or repeated stress or overuse or too much running/jumping or play too much</li> <li>5. (Treatment) - R.I.C.E. / rest or bandage or seek medical advice</li> </ol>	<p>[10]</p>	<p>One mark for each correct description One mark for each correct treatment</p> <p>Caused by sudden force on bone – BOD pt 1 Collision (on its own) = vg pt 1</p> <p>Rest / RICE / Taping – vg pt2 Just plaster = vg pt2</p> <p>Head injury = vg pt 3 Sudden (violent) movement of head = BOD Pt3</p> <p>Wet tissue – vg pt4</p> <p>Cut = vg pt 5 hitting hard ground = BOD pt5 Trip/fall (on own) = vg pt5 Dangerous surface = vg pt5</p> <p>Hitting yourself hard = BOD pt7</p> <p>Physiotherapy = BOD pt10</p> <p>Give mark for treatment of named injury on QP even if description is incorrect</p>
--	-------------	--

<p>Twelve marks max</p> <p>One mark for symptom; one mark for treatment; one mark for correctly identifying chronic or acute per injury.</p> <p>i. (Sprained Ankle)</p> <p>Symptom – swelling or bruising, redness or inflammation / hot or can't put pressure on it or loss of movement / function</p> <p>Treatment – R.I.C.E. or rest or ice/cold water or compression/bandage or elevation</p> <p>Acute</p>	3
<p>ii. (Shin splints)</p> <p>Symptom –ache / hurt / tenderness / swelling (in shins/lower leg)</p> <p>Treatment – R.I.C.E or rest or ice/cold water or compression / bandage / taping or elevation</p> <p>Chronic</p>	3
<p>iii. (Fractures) (open)</p> <p>Symptom –bone sticking through skin, bleeding, swelling</p> <p>Treatment – taping / bandaging / splints/ slings / pot / cast or rest or surgery or use of metal rods or emergency medical help</p> <p>Acute</p>	3
<p>iv. (Concussion)</p> <p>Symptom – ache in head / dizziness / nausea / blurred vision / unaware/ unconscious / knocked out / (temporary) memory loss / loss of balance / swelling / unable to concentrate</p> <p>Treatment – Rest or ice / cold compress or emergency medical help</p> <p>Acute</p>	3

## Asthma



Is a common, long-term lung condition that causes occasional breathing difficulties. It affects people of all ages and often starts in childhood, although it can develop in adulthood.

### Symptoms:

Coughing (especially during exercise), shortness of breath, a feeling of tightness in the chest, wheezing.

### Treatment:

There is no cure for asthma but there are simple treatments that can help to keep the symptoms under control, such as an inhaler.

### Responding to an attack

- Provide reassurance and calm them down.
- Locate inhaler and use it as necessary.
- Contact emergency services if it is a serious attack.

## Medical Conditions

### Diabetes

A serious condition that causes the body's blood sugar level to be too high. There are 2 types of diabetes:

Type 1 - people with type 1 diabetes are unable to make any insulin to lower blood sugar levels and have to rely on insulin injections, known as insulin-dependant diabetes.

Type 2 - people with type 2 diabetes cannot produce enough insulin or their insulin does not work effectively, known as insulin-resistant diabetes. This insulin is regulated through careful diet, although sometimes insulin may need to be taken.

**Symptoms of someone with hyperglycaemia (blood sugar levels are too high)** are; frequent urination, very thirsty, feeling very tired, loss of weight, prone to infections, cuts and wounds take longer to heal, long term damage of heart, kidneys, eyes and feet.

**Symptoms of someone with hypoglycaemia (blood sugar levels are too low)** are; shakiness, dizziness, sweating, hunger, irritability, if left untreated it can lead to drowsiness, slurred speech, confusion, and unconsciousness.

### Responding to an episode

Type 1 (insulin-dependant):

Check blood sugar levels regularly.

If sugar levels too high (hyperglycaemic), inject insulin.

If sugar levels too low (hypoglycaemic), have simple sweet food or liquid like sweets or fruit juice.

Type 2 (insulin-resistant):

Control blood sugar levels through diet.

Take medicines to control blood sugar levels.



## Epilepsy

Is a condition of the nervous system in which the brain activity becomes abnormal causing periods of unusual behaviour and sensations and sometimes loss of awareness. Anyone can develop epilepsy.

### Symptoms:

Symptoms can vary, they can include; staring blankly, shaking of arms and legs, falling unconscious, losing control of bowel or bladder, falling down suddenly or muscles becoming stiff.



### Responding to a seizure

Seizures can vary from momentary loss of awareness to a loss of consciousness and convulsions.

Someone suffering from **partial (or focal) seizure** can become unaware of their surroundings or what they are doing. So treatment should be:

Guide them away from danger and keep calm.

Call emergency services if first seizure or seizure last more than 5 minutes.

Tonic-clonic seizures are when the person goes stiff, loses consciousness, falls to the floor and begins to convulse or jerk. These seizures should be treated by; Protect from injury by removing harmful objects and cushion head.

Record how long the convulsions last for.

Place in the recovery position to help with their breathing once they have stopped jerking.

Stay with them and calm and reassure them.

Call emergency services if first seizure, seizure last more than 5 minutes or they have a second tonic-clonic seizure without regaining consciousness.

## Action plan to respond to injuries and medical conditions in a sporting context

Organisers of sport and physical activities need to have action plans in place to respond to injuries and medical conditions that arise, to ensure that people taking part in the activity are kept safe. The action plan is there so people in charge know what to do in the event of an emergency. Having an action plan helps to reduce the risk of injury and allows minor injuries to be dealt with before they become more serious.

### Emergency Action Plan (EAP)

All sports clubs have a responsibility to create a safe environment so must have a EAP that outlines the actions and procedures that need to be fulfilled in the event of an emergency. An EAP has 3 main components:

**Emergency personnel** - people identified as responsible in the event of an emergency, such as first aiders and coaches.

**Emergency communication** - knowledge of how to contact emergency services by knowing where the nearest phone and relevant contact numbers are kept.

**Emergency equipment** - details of where first aid kits, stretchers, defibrillators etc.. are kept and other emergency equipment necessary.

Having an EAP in place can make a big difference to the outcome of an emergency. It should be made available to all staff and visitors.

### Recovery Position

1 Open the casualty's airway by gently tilting their head back and lifting their chin.

2 Straighten the casualty's limbs

3 Put the casualty's arm nearest to you out at right angles to their body, with the elbow bent and the palm facing up.



4 Take hold of the casualty's other hand and put the back of it against their opposite cheek - hold it there.

5 With your other hand, take hold of the casualty's far leg, just above the knee, and pull it up until the foot is flat on the floor.

6 Keeping their hand pressed against their cheek, gently roll the casualty towards you onto their side, using the knee as leverage.

**Figure 1.33** The recovery position helps to keep the airway clear and prevent choking

### When to call a medical professional for a performer

If an injury cannot be treated by the most qualified person present the performer should be referred to a medical professional, this could be when;

- The performer loses consciousness or has an obvious concussion.
- The performer has potential or suspected fractures.
- The performer has a recurring injury.
- The injury is severe or the performer is in considerable pain.
- The performer is struggling to breathe.
- The coach or person in charge is unqualified to deal with the injury.



Performers with known conditions should be referred to a medical professional if;

They continue to show severe signs of asthma.

A type 1 diabetic does not have access to their insulin or they lapse into diabetic coma.

They suffer an epileptic fit for the first time, if it lasts more than 5 minutes or is repeated.

Professional help can be contacted by dialling 999 and asking for an ambulance. Or if quicker taking the performer to an accident and emergency (A&E) unit. Less serious cases can be referred to a local NHS walk in centre or contacting their doctor or physiotherapist.