



Cambridge National

Sport Science

Unit **R041**: Reducing the risk of sports injuries

Level 1/Level 2

Mark Scheme for June 2014

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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1. These are the annotations, (including abbreviations), including those used in scoris, which are used when marking

Annotation	Meaning of annotation
BP	Blank Page – this annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.

Question		Answer/Indicative content	Mark	Guidance
1	(a)	<p>Three marks from:</p> <ol style="list-style-type: none"> 1. Cycling / BMX 2. Boxing 3. Skiing 4. Cricket 5. Roller skating/blading 	3	<p>Mark first 3 answers only</p> <p>Allow other suitable examples Accept rugby (skull cap); motor sport; motor bike racing; hockey; baseball; American football</p>
2		<p>Four marks from:</p> <ol style="list-style-type: none"> 1. Rules regarding the number of players on a pitch are there to stop overcrowding and injuries occurring due to people bumping into each other etc. 2. Fighting/violence/contact not permitted in certain sports e.g. punching opponent in rugby. 3. Rules related to dangerous or foul play e.g. high tackle in rugby. 4. Using equipment dangerously against others - raising the hockey stick in the air – might hit another player in the face and cause injury. 5. Rules regarding key/right (protective) equipment that must be worn e.g. gum shield to prevent damage to teeth or shin pads to prevent bruising and fractures to lower leg in football. 6. Rules related to age groups e.g. adults cannot play children at rugby. 7. Rules or regulations related to safe use of equipment / apparatus such as weights in weightlifting – for the user. 8. Rules or regulations related to supervision e.g. must have lifeguards at swim meets. 	4	<p>Accept practical examples which show a description as equivalent answers.</p> <p>Do not accept single word answers as description.</p>

Question	Answer/Indicative content	Mark	Guidance
3	<p>Three marks from answers including:</p> <ol style="list-style-type: none"> 1. Ensure correct footwear/clothing is worn. 2. Proper protective equipment needed. 3. Equipment needs checking to ensure it is safe/not broken. 4. Jewellery removed. 5. Check that there is enough space for the number of people and the type of session. 6. Ensure that there is no discarded litter that may cause harm. 7. Ensure that the surface is safe for playing (e.g. not too wet or icy). 8. Check that those taking part in the session are capable/fit enough to perform at the required level/have previous injuries or health/medical issues. 9. Provision of first aid equipment/material. 10. Weather conditions e.g. thunderstorms. 	3	<p>Award marks for appropriate alternative answers not listed Accept single word answers (question asks for a list) e.g. equipment; first aid; playing surface = 3 marks.</p> <p>Do not accept risk assessment on its own without reference to specific safety checks. Check the area = too vague</p>

Question	Answer/Indicative content	Mark	Guidance
4	<p>Three marks from:</p> <ol style="list-style-type: none"> 1. Uneven/slippy playing surface – if the surface has pot holes on it there is a higher risk of a performer falling over or causing ankle sprains. 2. Hard or unforgiving playing surface – can cause injury when someone falls onto the ground e.g. in a rugby match the ground needs to be soft enough for a player to dive onto the ground without injury. 3. Weather – too hot can lead to heat stroke/exhaustion or too cold can lead to such symptoms as hypothermia. 4. Visibility/sunlight/fog – can affect visibility which could result in a person not catching a ball properly in cricket and breaking fingers or getting hit in the face. 5. Other people/animals or area too small – can get in the way and cause people to bump into each other. 6. Other activities taking place – chance of being hit by a ball from another group or bumping into another person. 7. Litter/glass/debris/animal faeces /wet leaves– all can cause cuts and injury/illness to a performer. 8. Goal/corner posts or equipment or wrong equipment – if not padded in rugby, for example, a player can easily run into a post and suffer from concussion. 9. Jewellery - Check that jewellery has been removed. 10. Surrounding environment such as trees/fencing/advertising hoardings. 	3	<p>Ensure a description is given rather than just single words. Look for hazard not consequence</p>

Question	Answer/Indicative content	Mark	Guidance
5	<p>Three marks for the following:</p> <p><u>a) Sitting Position</u> If a person is slumping or slouching; Sitting for too long; Sitting on a soft/unsuitable chair/sofa rather than sitting up straight it can lead to back pain / shoulder pain / poor posture; Or when you sit, you round your spine, which eliminates the curves. This creates an unequal distribution of pressure along your spine and back.</p> <p><u>b) Fatigue</u> Tired and tight muscles cannot support the skeleton as they are designed to do; Or you cannot sit or stand correctly/tendency to slouch.</p> <p><u>c) Lack of Confidence</u> Leads to stress / poor awareness of posture; Or leads to lack of motivation/not caring to sit/stand properly.</p>	<p>1</p> <p>1</p> <p>1</p>	<p>An explanation is required for each mark.</p>
6	<p>Three marks for the following:</p> <ol style="list-style-type: none"> 1. Weather 2. Temperature 3. Available facilities 4. Available space / suitable area 5. State of the playing surface 6. Surrounding Area e.g. fencing 	<p>3</p>	<p>Other people = vague Accept: Other people make the area crowded (environment)</p>

Question	Answer/Indicative content	Mark	Guidance
7	<p>One mark for each correct answer as follows:</p> <p>A – jogging (for a minimum of three minutes). B – (slowly) increase heart rate or increase breathing rate and body temperature/helps to avoid immediate stress on the body systems or pumping faster/more blood/oxygen (to working muscles). C – carrying out a range of static stretches to stretch major muscle groups or opening up joints e.g. hamstring stretch, also can include doing dynamic, ballistic and passive stretches. D – helps to prevent injuries to muscles (during the session to follow) / increases range of movement or increases flexibility. E – dribbling drills for football; passing drills for football or other suitable example. F – starts to prepare the body / gets you ready/practise for the following exercise / game / movement patterns to be done / further warming up the body / focusses the mind.</p>	6	<p>Max of one mark per answer box</p> <p>B – ‘Pumping blood’ = too vague. C - Do not accept ‘stretching’ on its own. D - Do not accept ‘mobility’ exercises on its own. Accept examples of exercises such as arm circles. D - ‘Loosen joints = too vague. E - Do not accept rehearsing skills (repeat of question). F – Do not accept ‘practise’ on its own.</p>

Question	Answer/Indicative content	Mark	Guidance
8	<p>One mark for each correct answer:</p> <p>(a) False (b) True (c) False (d) True</p>	<p>1 1 1 1</p>	
9	<p>Four marks, one for each description and one for each example:</p> <p>(a) <u>Improve focus</u> – 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. <u>Example:</u> Thinking about and imagining the kicking of the conversion - over the bar in rugby, time and again.</p> <p>(b) <u>Increase motivation</u> - 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. <u>Example:</u> 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 1 1 1</p>	<p>One mark for each description. One mark for each relevant example.</p> <p>Helps you get ready/think about the game = vague.</p> <p>b)Makes you want to do it = too vague</p>

Question	Answer/Indicative content	Mark	Guidance
10	<p>One mark for each:</p> <p>(a) Asthma – coughing / wheezing / shortness of breath/ heavy breathing / tightness in the chest.</p> <p>(b) Epilepsy – seizures/shaking or fitting or losing consciousness / collapsing or losing awareness.</p> <p>(c) Diabetes - increased thirst / going to the toilet much more often / extreme tiredness / sickness / weight loss/loss of consciousness / dizziness or high/low blood sugar (measurements) / bad breath.</p>	<p>1</p> <p>1</p> <p>1</p>	
11	<p>One mark for each explained difference (max 2):</p> <p>Type 1 – occurs independently of the person’s lifestyle / usually is diagnosed early on in a person’s life / there is a genetic predisposition or is reliant on insulin (injections).</p> <p>Type 2 – usually occurs in later in life with aging / can often occur due to a poor lifestyle / (In most cases) it is preventable or not always reliant on insulin (injections) or can be controlled through diet.</p>	<p>1</p> <p>1</p>	
12	<p>Three marks. One for each action:</p> <ul style="list-style-type: none"> - Reassurance / calm them down. - Use of an inhaler / medication. - Contact the emergency services. 	<p>1</p> <p>1</p> <p>1</p>	Do not accept use emergency action plan (specific actions must be identified).

Question	Answer/Indicative content	Mark	Guidance
13	<p>One mark for each of the following. 8 marks in total:</p> <p>(a) Tennis elbow: <u>Cause</u> = result of continuous stress/movement on an area or too much activity or overuse. <u>Treatment</u> = rest / ice / stretching / massage / taping / bandaging.</p> <p>(b) Blisters: <u>Cause</u> = too much friction / rubbing or ill-fitting footwear or clothing e.g. wearing a new pair of trainers to do a long run, without breaking them in gently first / letting your feet adapt to them. Or repetitive activity (blood blisters) friction or force <u>Treatment</u> = with plasters to cushion the blister / rest the affected area until the skin has healed / cream/medication.</p> <p>(c) Fracture: <u>Cause</u> = mistimed tackle / two-footed tackle by another player in football or impact/contact or falling. <u>Treatment</u> = keep the fractured bone still and stable until medical help arrive. (Medical treatment includes) pinning / splint or use of plaster (cast)/pot/immobilising.</p> <p>(d) Abrasions: <u>Cause</u> = falling (off a bike during a cycle training session)/ falling over or being hit by something/impact. <u>Treatment</u> = involves sterilising /cleaning the wound / (and) covering with a dressing plaster / stitching. Or elevation/compression (if a cut)</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>Accept mark for treatment even if cause is incorrect. Accept mark for cause even if treatment is incorrect.</p> <p>For a) R.I.C.E (abbreviation) = too vague but accept rest or icing etc.</p> <p>For b) 'Incorrect footwear' = vague. For c) do not accept popping the blister or use of needle (contraindicative) . For c) do not accept sling as treatment = too vague.</p>

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14	<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>
15	<p>Levels of response:</p> <p>0 = nil response or response not worthy of credit</p> <p>MB1 (1 – 3 marks)</p> <p>The response shows a limited understanding of the SALTAPS on-field assessment routine – struggling to list or describe the meaning of the letters that make up the acronym. Candidates provide simple descriptions of a few points from the indicative content. No attempt is made at evaluation and there may be some irrelevant material in the answer. There is little or no use of technical vocabulary and sentences have limited coherence and structure. Errors in grammar, punctuation and spelling may be noticeable and intrusive.</p> <p>MB2 (4 – 6 marks)</p> <p>The response shows an understanding of the different areas that make up the SALTAPS assessment/treatment procedure. Some attempt at evaluation is made, which may include the use of one or more of the developed points in order to show understanding of the assessment procedure and why it is beneficial in the area of sports injuries and their treatment. There is some use of technical vocabulary and sentences for the most part are relevant and are coherent. There are occasional errors in grammar, punctuation and spelling.</p>	8	<p><i>In differentiating between levels look for:</i></p> <p>SEE/ASK/LOOK/TOUCH/ACTIVE/PASSIVE/STRENGTH</p> <p><i>MB1:</i> -Simple description rather than explanation</p> <ul style="list-style-type: none"> - Not all elements are recognised and there are some inaccuracies. - Not much reference to sports context. <p><i>MB2:</i> - May be one or more developed points</p> <ul style="list-style-type: none"> - At the top end (5+ marks) all elements are described. - Some explanation. - some valid references to sports context. <p><i>MB3:</i> - All elements are explained well and in a sports context.</p> <ul style="list-style-type: none"> - Most Points are developed / expanded in more than one area of the answer - Clear explanations

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	<p>MB3 (7 - 8 marks) The response shows a detailed understanding with detailed discussion. Candidates make many points from the indicative content, several of which may be developed, leading to an evaluation being clearly made. The answer is well structured and uses appropriate terminology and technical vocabulary. There are few if any errors in grammar, punctuation and spelling.</p> <p>Indicative Content</p> <p>SEE/ASK/LOOK/TOUCH/ACTIVE/PASSIVE/STRENGTH</p> <p>1) S – See injury occur. If you didn't see what happened, ask someone who did. This will help you to establish the severity of the injury and to categorise it.</p> <p>2) A – Ask player questions about the injury. What happened, where does it hurt, how badly does it hurt, is it getting easier, have you done this before. At this point do not touch the injury or move the player</p> <p>3) L – Look at injury. Is it swelling, is it red or discoloured. How does it look compared to the other limb. Again at this stage point do not touch the injury or move the player</p> <p>4) T – Touch - very gently palpate the injured part. You are trying to establish if there is any palpable pain or tenderness and where it is located. You are feeling for any swelling or loss of skin sensation or feeling. You should feel for any obvious deformity of the leg with regards to the other leg and if there are any feeling of pins and needles</p> <p>5) A – Active movements from player. If you are happy that it is not a major injury, you can ask the player if they can very gently and in a none weigh bearing situation, carry out all the major movements associated with the nearest</p>		<p>- Very few QWC errors</p> <p>Examiners: Indicate the level at the end of the response</p>

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	<p>joint or joints. For example, with an ankle injury, can they gently flex the ankle backwards and forwards and to rotate. While they are carrying out these purely active movements, you should note the range of movement gained in each direction and again checks the injured player's facial expression, looking out for signs of discomfort or pain whilst they are attempting these movements. In grade one (minor) injuries, the player will achieve a good range of active movement. However, with grade two (moderate) injuries, the amount of movement will be severely affected, particularly in directions where stretching injured ligaments or muscles will cause pain. In grade three injuries (severe) the player will be in pain and will be able to perform little or no active movement. Through earlier checking (see, ask, look, touch), the therapist will probably have already found that a severe injury has been sustained and so further checking by movements would be pointless and could in fact injure the player further. In minor injuries, particularly where the player is likely to resume playing, the range of movement will be almost full and you can progress to the next phase of the assessment.</p> <p>6) P – Passive movement testing by the physio or coach. The players injured part must never be moved unless they have already demonstrated a good range of pain free active movement. An example of passive movement testing might be where the coach might take the players ankle and gently test the range of movement of the ankle by testing the movement, backwards and forwards and rotating the ankle, without the player taking any active part in this testing. Ideally you should move the part through the range the player has already established via their own active movement and if possible taking the movement a degree or two further, all the time checking for facial</p>		

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	<p>reactions of the player for pain or discomfort.. If this passive movement testing causes no negative reactions or problems, then you can move on to strength testing.</p> <p>7) S – Strength - player's movements resisted and tested by a third party. If it is decided that the player is unable, as a result of the injury, to continue the game or training there is no need for strength testing. But if everything has progressed will via the SALTAPS method, then the last aspect should now be tested. Namely, strength testing of the injury. For example, with the ankle injury, you should provide a degree of resistance while the player tries to move the ankle. You might provide resistance and hold the foot down while asking the player to pull the floor backwards them. You should check for any signs of pain or discomfort through facial expression and questioning.</p>		

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