



## **Cambridge National**

## **Sport Science**

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

Level 1/Level 2

## **Mark Scheme for January 2016**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

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.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Annotation	Meaning of annotation
	Blank Page – this annotation <b>must</b> be used on all <b>blank</b> pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
	Tick – correct answer
	Cross – incorrect answer
DEV	Development of point (for use with levels question)
	Level 1 (for use with levels question)
	Level 2 (for use with levels question)
	Level 3 (for use with levels question)
	Benefit of doubt - but still tick
K	Knowledge mark (for use with levels question)
VG	Too vague
	Repeat
	Noted but no credit given / zero mark response
EG	A practical example given that is worth credit
S	Sub max reached

**ADDITIONAL OBJECTS:** You **must** annotate responses on any additional objects, as above. ('additional objects' are continuation sheets at the end.) If no credit is to be awarded for the answer written on the additional object, please use the annotation 'seen'. If the page is blank use 'BP'.

Question		Answer/Indicative content	Mark	Guidance
1	(a)	<p><b>One mark for each correct answer.</b></p> <p><b>a) &amp; b) any <u>two</u> from:</b></p> <ol style="list-style-type: none"> <li>1. Coughing / choking</li> <li>2. wheezing</li> <li>3. shortness of breath or breathlessness or difficulty breathing or heavy breathing</li> <li>4. difficulty speaking</li> <li>5. tightness in the chest or chest pain</li> <li>6. pale skin</li> <li>7. clammy skin</li> <li>8. grey/blue lips (if attack severe).</li> <li>9. dizziness</li> </ol> <p><b>c) any one from:</b></p> <ol style="list-style-type: none"> <li>1. reassurance</li> <li>2. stay calm</li> <li>3. make light conversation</li> <li>4. sit them down or upright</li> <li>5. encourage them to take slow and steady breaths</li> <li>6. use of inhaler / (asthma) pump</li> <li>7. contact emergency services (if needed) or call 999 or emergency care</li> <li>8. -steroid tablets.</li> </ol> <p><b>d) any one from:</b></p> <ol style="list-style-type: none"> <li>1. epilepsy</li> <li>2. diabetes</li> <li>3. stroke</li> <li>4. fever</li> </ol>	<p>2</p> <p>1</p> <p>1</p>	<p>a) and b): Do not accept: 'change colour' = Vg. Blocked airways = vg (not symptom)</p> <p>c) hospital = vg</p> <p>(Other conditions would be legitimate answers here – diabetes can cause seizures, as can autism, cerebral palsy, etc...)</p>



Question	Answer/Indicative content	Mark	Guidance
2	<p><b>Four marks for:</b>  <b>Two marks: One mark for example - One mark for cause</b>  <b>(Acute)</b></p> <ol style="list-style-type: none"> <li>1. (examples) – broken limb / soft tissue injury / fracture / abrasions / cuts / bruises / sprains / strains / concussion</li> <li>2. (caused by) - sudden trauma / impact to the body (e.g. (hard rugby) tackle, being hit by a ball) or twisting ankle / slipping / falling or banging into another player</li> </ol> <p><b>Two marks: One mark for example - One mark for cause</b>  <b>(Chronic)</b></p> <ol style="list-style-type: none"> <li>1. (examples) - (Achilles) tendonitis/shin splints/ tennis elbow/ golfers' elbow / swimmers' shoulder / Osgood Schlatter's / Sever's disease</li> <li>2. (caused by) overuse injuries or a result of continuous stress on an area or repetitive movements</li> </ol>	<p></p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p>If example is incorrect then cause is incorrect (must have correct example for cause)</p> <p>Accept practical examples for causes Eg acute injury caused by a (bad) tackle = pt 2</p> <p>Hurt your arm on solid object = vg</p> <p>Landing awkwardly = BOD Landing funny = vg</p> <p>Accept other named chronic injuries</p>



Question	Answer/Indicative content	Mark	Guidance
5	<p><b>Two marks from:</b></p> <ol style="list-style-type: none"> <li>1. might increase the risk of infection</li> <li>2. would not address the injury/e.g. not stopping blood loss</li> <li>3. cause too much pain / further injury / do more harm</li> <li>4. wasting time when the injured person should be taken directly to the hospital or should call 999 instead</li> </ol>	2	<p>Accept: unsuitable for a break or fracture = pt2 Or accept (for one mark) any example when RICE would not be appropriate eg bruises / grazes / cuts etc</p> <p>Do not accept: 'if injury does not need it'= Vg (must be an example as part of the explanation (pt 2) 'not used in long term injuries = vg 'Make it worse' = vg Too serious = vg Need to be treated instantly = vg</p>
6	<p><b>a)</b></p> <p><b>Three marks for:</b></p> <p><b>A</b> – Active</p> <p><b>P</b> – Passive</p> <p><b>S</b> - Strength</p>	<p>1</p> <p>1</p> <p>1</p>	<p>One mark for correct word Do not accept: Act or Action</p>
	<p><b>b)</b></p> <p><b>Two marks for:</b></p> <ol style="list-style-type: none"> <li>1. <b>(Look)</b> – (at injured limbs) for obvious signs of injury (bleeding, bruising, swelling, deformity) or compare to other limbs or to see how bad it is</li> <li>2. <b>(Touch)</b> – the injured site if the player will let you or gently palpate to find source of pain or feeling for tenderness or see where there is pain or to see if they can feel it or to see if it hurts or to see if it is broken / any deformities</li> </ol>	<p>1</p> <p>1</p>	<p>One mark for each correctly described word to a maximum of two marks.</p> <p>Look at injured area = vg (Touch) Do not accept: 'to see if it is bad' = Vg</p>







Question	Answer/Indicative content	Mark	Guidance
11	<p><b>Three marks for three from:</b></p> <ol style="list-style-type: none"> <li>1. poor coaching techniques or poor warm up</li> <li>2. ineffective communication skills</li> <li>3. (not) adhering to rules / regulations</li> <li>4. requirements beyond performers capabilities or pushing you too much</li> <li>5. over-arousal caused by coaching or coaching aggression</li> <li>6. unqualified or incorrect supervision (eg by parents) or inadequate supervision or coach not paying attention or no-one to help or not checking or giving wrong equipment/environment</li> </ol>	3	<p>Accept opposites – e.g. benefits of teaching correct techniques</p> <p>Accept: check health and safety or check for safe environment /equipment</p> <p>Do not accept 'overworking' or 'too hard on you' = vg (need a description)</p> <p>Tell you what to do = vg</p>

Question	Answer/Indicative content	Mark	Guidance
12	<p><b>Three marks max</b>  <b>One mark for each type of equipment:</b></p> <p><b>(Protective equipment)</b></p> <ol style="list-style-type: none"> <li>1. could be injured by another player's helmet/shoulder pad</li> <li>2. not wearing the <u>correct</u> protective equipment will or broken/damaged ill-fitting equipment or wearing it incorrectly or choking on gum shield</li> </ol> <p><b>(Performance equipment)</b></p> <ol style="list-style-type: none"> <li>1. a performer could run into a piece of equipment (e.g. goal posts)</li> <li>2. could get hit on the body by another player's equipment (e.g. hockey stick)</li> <li>3. faulty / damaged / broken equipment (but not if given before)</li> </ol> <p><b>(Clothing/footwear)</b></p> <ol style="list-style-type: none"> <li>1. (could slip and get injured) due to <u>inappropriate / incorrect</u> footwear</li> <li>2. (could be injured by) another player's studs / boots</li> <li>3. (could get blisters if) footwear does not fit properly</li> <li>4. clothing could snag / get in the way / restrict movement or clothing is too loose or too tight</li> <li>5. not wearing the right clothing (but not if given before)</li> </ol>	<p>1</p> <p>1</p> <p>1</p>	<p>Examples will be credited if appropriate part of the description.</p> <p>Only accept: 'not wearing equipment' <b>once</b> under the three factors.</p> <p>Accept any other relevant causes of injury under each heading</p> <p>Wearing skin tight jeans = Vg</p>
13	<p><b>One mark for the correct answer:</b></p> <p><b>(d) Sleep</b></p>	1	

Question	Answer/Indicative content	Mark	Guidance
14	<p><b>Two marks for two from:</b> <b>(Gender)</b></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 or males (can be) stronger than females or females more flexible than males</li> <li>2. e.g. in contact sports such as football or rugby</li> </ol> <p><b>Two marks for two from:</b> <b>(Age)</b></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> <p><b>Two marks for two from:</b> <b>(Previous/recurring injuries)</b></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>	<p>2</p> <p>2</p> <p>2</p>	<ul style="list-style-type: none"> <li>• One mark for an explanation</li> <li>• One for an appropriate example - <b><u>annotate with EG</u></b></li> </ul> <p>Accept example that has context / sport / activity</p> <p>(Age) Do not accept: levels of fitness or older is weaker = Vg</p>

Question	Answer/Indicative content	Mark	Guidance
15	<p><b>0 = nil response or response not worthy of credit</b></p> <p><b>MB1 (1 – 3 marks)</b></p> <ul style="list-style-type: none"> <li>• The response shows a limited understanding of how poor posture is caused and injuries.</li> <li>• Candidates provide simple (bullet) points and limited descriptions.</li> <li>• There may be some irrelevant material in the answer.</li> <li>• There is little or no use of technical vocabulary and sentences have limited coherence and structure.</li> <li>• Errors in grammar, punctuation and spelling may be noticeable and intrusive.</li> </ul> <p><b>MB2 (4 – 6 marks)</b></p> <ul style="list-style-type: none"> <li>• The response shows an understanding of how poor posture is caused and the injuries that arise.</li> <li>• Includes two or more developed points.</li> <li>• There is some use of technical vocabulary and sentences for the most part are relevant and coherent.</li> <li>• There are occasional errors in grammar, punctuation and spelling.</li> </ul> <p><b>MB3 (7 - 8 marks)</b></p> <ul style="list-style-type: none"> <li>• The response shows a detailed understanding with detailed discussion.</li> <li>• Candidates make many points from the indicative content, several of which may be developed.</li> <li>• The answer is well structured and uses appropriate terminology and technical vocabulary.</li> <li>• There are few if any errors in grammar, punctuation and spelling.</li> </ul>	8	<p><b><i>In differentiating between levels look for:</i></b></p> <p><b><i>MB1:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Simple description rather than explanation</i></li> <li>• <i>most of response on causes rather than on how it affects performance e.g. giving pelvic tilt but not linking to effect.</i></li> <li>• <i>One mark for one cause identified or one injury</i></li> <li>• <i>At the top of this level more than two causes or more than two examples</i></li> </ul> <p><b><i>MB2:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Some explanation rather than description</i></li> <li>• <i>May be two or more developed points for a range of causes</i></li> <li>• <i>At least one explanation (cause and effect) of how poor posture affects sports performance</i></li> <li>• <i>At the top of this level at least two causes and at least two ways these may affect sports performance</i></li> </ul> <p><b><i>MB3:</i></b></p> <ul style="list-style-type: none"> <li>• <i>Most explained points are clearly developed</i></li> <li>• <i>At the top of this level injuries are named and most causes are linked to how each might affect sports performance</i></li> <li>• <i>Very few QWC errors</i></li> </ul> <p><i>Indicate the level at the end of the response</i></p>

Question	Answer/Indicative content	Mark	Guidance
	<p><b>Indicative Content</b></p> <p><i>(Poor posture caused by):</i></p> <ol style="list-style-type: none"> <li>1. poor stance/gait (e.g. bending your knees or hunching your shoulders when stood up)</li> <li>2. sitting positions (e.g. slumping/slouching on the sofa rather than sitting upright)</li> <li>3. sleeping position (e.g. awkward sleeping position can injure spine)</li> <li>4. physical defects or previous injuries (e.g. muscles weaken around an injured area)</li> <li>5. lack of exercise (e.g. lack of core muscle strength means less support; being overweight puts strain on posture)</li> <li>6. fatigue (e.g. tired muscles will be unable to support the skeleton properly)</li> <li>7. emotional factors (e.g. having low self-esteem/lack of confidence can influence posture)</li> <li>8. clothing/footwear (e.g. wearing shoes with high heels can affect posture)</li> <li>9. Genetics (eg back condition/ weakness that you are born with)</li> </ol>		

Question	Answer/Indicative content	Mark	Guidance
	<p><b><i>(Effects on sports performance):</i></b></p> <ol style="list-style-type: none"> <li>1. greater risk of injury</li> <li>2. longer rehabilitation/recovery time for some injuries</li> <li>3. some skills/techniques become more difficult or impossible to perform</li> <li>4. stress placed on certain areas of the body (e.g. muscles/ joints)</li> <li>5. negative impact on balance and/or co-ordination</li> <li>6. pain/discomfort during and/or after sports performance</li> <li>7. lack of strength and/or muscular endurance in some activities</li> <li>8. decreased flexibility / mobility</li> </ol> <p><b><i>Sports Injuries <u>related to poor posture</u>):</i></b></p> <ol style="list-style-type: none"> <li>9. -pelvic tilt</li> <li>10. -lordosis</li> <li>11. -kyphosis</li> <li>12. -round shoulder</li> <li>13. -scoliosis</li> <li>14. -many of the above can be both/either a cause of poor posture or an effect of poor posture</li> </ol>		



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