

**GCE**

**Physical Education**

**H555/01: Physiological factors affecting performance**

Advanced GCE

**Mark Scheme for June 2019**

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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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Annotations used in the detailed Mark Scheme

Annotation	Description	Annotation	Description
	Tick	<b>KU</b>	Knowledge and understanding / indicates AO1 on Q9
	Cross	<b>EG</b>	Example/Reference / indicates AO2 on Q9
<b>BOD</b>	Benefit of doubt	<b>DEV</b>	Development / indicates AO3 on Q9
<b>TV</b>	Too vague	<b>L1</b>	Level 1 response on Q9
<b>REP</b>	Repeat	<b>L2</b>	Level 2 response on Q9
<b>S</b>	Indicates sub-max reached where relevant	<b>L3</b>	Level 3 response on Q9
<b>SEEN</b>	Noted but no credit given	<b>L4</b>	Level 4 response on Q9
<b>IRRL</b>	Significant amount of material which doesn't answer the question	<b>BP</b>	Blank page

- Sub-maxes are indicated with **S**; the guidance section of the mark scheme shows which questions these are relevant to.
- **KU/EG/DEV** used instead of ticks on the extended response question to indicate where knowledge or development points from the indicative content have been made.
- On this extended response question, one KU/EG/DEV does not necessarily equate to one mark being awarded; the marking is based on a levels of response mark scheme which awards a level and mark holistically based upon the quality of the response overall against the levels descriptors.

Section A																																
Question	Answer		Marks	Guidance																												
1	Two marks from: 1. Increased heart rate/ cardiovascular drift 2. (vaso)dilation of arteries/arterioles to skin <b>or increased</b> blood flow to skin 3. decreased blood volume/cardiac output <b>or</b> increased blood viscosity <b>or</b> reduced plasma volume 4. decreased stroke volume 5. decreased venous return 6. reduced oxygen/oxygenated blood to muscles		2 (AO1)	Mark 1 <sup>st</sup> 2 only																												
2	<table border="1"> <thead> <tr> <th colspan="2">Two marks from:</th> <th>Goniometry</th> <th>Sit and Reach</th> </tr> </thead> <tbody> <tr> <td>1. (Equipment)</td> <td>(360°) protractor</td> <td></td> <td>sit and reach uses box/bench and ruler</td> </tr> <tr> <td>2. (Method)</td> <td>measure joint angle/ degrees</td> <td></td> <td>Measures distance of reach/ cms</td> </tr> <tr> <td>3. (Where)</td> <td>any joint/ planes of movement</td> <td></td> <td>back/hamstring/leg/hip flexibility</td> </tr> <tr> <td>4. (Assistance)</td> <td>Requires assistance</td> <td></td> <td>Can be performed on own</td> </tr> <tr> <td>5. (Validity)</td> <td colspan="3">Goniometers <b>more</b> sport-specific/ accurate/ preferred/ require <b>more</b> training</td> </tr> <tr> <td>6. (Cost/time)</td> <td colspan="3">Both methods are cheap/quick</td> </tr> </tbody> </table>		Two marks from:		Goniometry	Sit and Reach	1. (Equipment)	(360°) protractor		sit and reach uses box/bench and ruler	2. (Method)	measure joint angle/ degrees		Measures distance of reach/ cms	3. (Where)	any joint/ planes of movement		back/hamstring/leg/hip flexibility	4. (Assistance)	Requires assistance		Can be performed on own	5. (Validity)	Goniometers <b>more</b> sport-specific/ accurate/ preferred/ require <b>more</b> training			6. (Cost/time)	Both methods are cheap/quick			2 (AO1)	Must compare tests for each mark or use comparative language for pt 5/6.  <b>Do not accept:</b> simple/easy (TV)
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3	Two marks from: 1. (100m swim) lactic acid system/ glycolytic system/ anaerobic glycolysis 2. (gym vault) ATP-PC/ PC system/ alactic system		2 (AO2)	<b>Do not accept:</b> ATP/ glycolysis																												
4	Two marks from: 1. (second class) e.g. calf raise or take-off phase of high jump at ankle 2. (third class) e.g. bicep curl or knee extension when kicking a ball		2 (AO2)	<b>Do not accept:</b> Whole body examples, e.g. javelin throw/ long jump take off Reference to a specific location/joint required for example																												
5	Two marks from: 1. wind tunnels 2. limb kinematics		2 (AO1)																													

Section B					
Question	Answer		Marks	Guidance	
6	(a)	<p>Three marks from:</p> <ol style="list-style-type: none"> <li>(Nerve) impulse/stimulus (from brain/spinal cord/CNS) travels <b>down</b> the axon/motor neuron</li> <li>Action potential</li> <li>Release of sodium/Na<sup>+</sup> (ions) causes depolarisation</li> <li>(at neuromuscular junction) neurotransmitter/acetylcholine/ACh <b>is</b> secreted/transmits impulse</li> <li>impulse crosses synaptic cleft/gap <b>to</b> muscle fibres/motor unit/motor end plate</li> <li>If the impulse/stimulus/charge/action potential is above <u>threshold</u></li> <li>all muscle fibres in motor unit will contract (or not at all) <b>or</b> 'all or none' law applies</li> </ol>	<p><b>3</b> (AO1)</p>	<p>Pt.5 accept 'synapse' for synaptic cleft/gap (<b>BOD</b>)</p>	
	(b)	<p>Five marks for:</p> <ol style="list-style-type: none"> <li>A – extension <b>or</b> no change/movement</li> <li>B – isometric/static <b>or</b> concentric (only if extension stated in A)</li> <li>C – hinge</li> <li>D – plantar flexion</li> <li>E – gastrocnemius/soleus</li> </ol>	<p><b>5</b> (AO2)</p>	<p>If A = no change If B = do not accept 'concentric' (X)</p>	
	(c)	(i)	<p>Five marks from:</p> <ol style="list-style-type: none"> <li>ATP-PC <b>or</b> alactic <b>or</b> PC system</li> <li>PC breakdown releases <u>energy</u> <b>or</b> high <u>energy</u> bond is broken <b>or</b> PC → P + C + <u>energy</u></li> <li>Energy used to resynthesize ATP/ energy + ADP + P → ATP</li> <li>Using coupled reaction/ exothermic <b>and</b> endothermic reactions</li> <li>(reaction) anaerobic/without oxygen</li> <li>(enzyme) creatine kinase</li> <li>(site) sarcoplasm or cytoplasm of <u>muscle</u> cell</li> <li>(yield) 1 ATP per PC/ 1:1 energy yield</li> </ol>	<p><b>5</b> (AO1)</p>	<p><b>Do not accept:</b> breakdown of ATP</p>
	(c)	(ii)	<p>Three marks from:</p> <ol style="list-style-type: none"> <li>Quick <b>or</b> simple reactions <b>or</b> PC breaks down easily <b>or</b> fast ATP resynthesis</li> <li>Provides energy for high-intensity activities/speed/power/explosive strength</li> </ol>	<p><b>3</b> (AO3)</p>	

Section A				
Question	Answer		Marks	Guidance
		3. <b>No delay</b> to wait for oxygen 4. No fatiguing by-products 5. Quick/fast muscle phosphagen/PC recovery <b>or only</b> 30s for 50%/ 2-3min for full recovery 6. limited stores of PC <b>or</b> stores are exhausted quickly <b>or only</b> lasts 8-10 seconds 7. <b>Only</b> 1ATP per PC <b>or low</b> yield <b>or</b> inefficient		
	<b>(d)</b>	Four marks from: 1. EPOC restores PC/phosphagen/ATP/oxy-myoglobin <b>and</b> removes lactic acid 2. Warm up <b>to</b> reduce oxygen deficit/increase blood flow/oxygen to muscles/delay OBLA 3. Cool down/active recovery <b>to</b> speed up removal of lactic acid/maintain elevated respiration/circulatory rates/maintain blood flow 4. (Reduce EPOC by) monitoring intensity of training <b>to</b> delay OBLA 5. Include breaks <b>to</b> allow 30s 50%/2-3mins (full) PC restoration <b>or</b> work:relief ratio of 1:3+/ full recovery <b>when</b> training ATP-PC system/during speed/sprint work 6. Active recovery between intervals/work:relief ratio of 1:2/partial recovery <b>when</b> training lactic acid/glycolytic system 7. Use of cooling aids/ice baths <b>to</b> speed up recovery/reduce EPOC	<b>4</b> (AO2)	<b>Do not accept:</b> WU/CD on own (TV)  Explanations of key points required

<b>7</b>	<b>(a)</b>	<b>(i)</b>	Four marks from: 1. Increase HR/SV/Q <b>to</b> increase O <sub>2</sub> /blood flow/ reduce O <sub>2</sub> deficit 2. Vascular shunt/vasodilation <b>to</b> increase blood flow to muscles	<b>4</b> (AO1)	<b>Do not accept:</b> <u>prevent</u> injury
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		<ol style="list-style-type: none"> <li>3. Increase RR/TV/VE <b>to</b> increase volume of O<sub>2</sub> in lungs/ for gaseous exchange</li> <li>4. Increase elasticity of muscles/connective tissue <b>to</b> reduce risk of injury/ DOMS/ increase speed/force of contraction</li> <li>5. Activate neural pathways/ speed up nerve transmission</li> <li>6. Increase enzyme activity</li> <li>7. Improve recruitment/synchronisation of motor units</li> <li>8. Improved O<sub>2</sub> utilisation/ haemoglobin release O<sub>2</sub> more easily</li> </ol>		
(a)	(ii)	<p>Four marks from: <b>(positives - sub-max 3)</b></p> <ol style="list-style-type: none"> <li>1. Reduce (core body) temperature/sweating/ delay overheating/ prevent dehydration/ early fatigue in hot environments/ heat stroke</li> <li>2. Reduce thermal strain</li> <li>3. Reduce cardiovascular drift</li> <li>4. Causes vasoconstriction <b>to</b> reduce blood flow</li> <li>5. Treat injuries to reduce pain/swelling/inflammation</li> <li>6. (after use) vasodilation/increases blood flow <b>to</b> aid healing/repair/removal of LA/speed recovery/reduce DOMS</li> </ol> <p><b>(negatives – sub-max 3)</b></p> <ol style="list-style-type: none"> <li>7. Hard to perceive exercise intensity/can lead to over-exertion</li> <li>8. Can mask/complicate injuries</li> <li>9. Can cause (ice) burns or nerve/tissue damage</li> <li>10. Can be dangerous for performers with heart conditions/angina/chest pain</li> </ol>	4 (AO3)	<p><b>Sub-max 3 for positives/negatives only.</b></p> <p><b>Do not accept:</b> prevent build-up of lactic acid</p>
(b)		<p>Four marks from:</p> <ol style="list-style-type: none"> <li>1. (static) <b>ROM</b> about a joint <b>without</b> movement</li> <li>2. (e.g.) <b>to be able to do</b> the splits/ to perform the splits <b>well/</b> gymnast will gain more marks if able to fully perform splits</li> <li>3. (dynamic) <b>ROM</b> about a joint with reference to <b>speed</b> of movement</li> <li>4. (e.g.) <b>to be able to</b> reach for an interception in netball/ kick boxer performing a high kick to head <b>well/</b> goalkeeper can reach <b>further</b></li> </ol>	4 (AO1 x 2, AO2 x 2)	<p>Example must highlight <b>benefit</b></p> <p>Example can be marked correct if definition is wrong</p> <p>2: e.g. splits in gymnastics (TV) 4: e.g. reaching for interception in netball (TV)</p>
(c)		Five marks from:	5 (AO2)	

			<p>1. <u>Protect</u> injury</p> <p>To prevent further damage <b>Or</b> by not attempting to run/walk/stretch injury off <b>or</b> support/carry athlete from jumping area</p>		
			<p>2. <u>Rest</u> injury</p> <p>To allow sufficient time to repair/recover <b>Or</b> prevent from having any further jumps/ remove from event</p>		
			<p>3. <u>Ice</u> injury</p> <p>To reduce swelling/inflammation/pain <b>Or</b> vasoconstrict/reduce blood flow (to the hamstring)</p>		
			<p>4. <u>Compress</u> injury</p> <p>To reduce swelling/inflammation/blood pooling <b>Or</b> use pressure/tape/bandage to reduce blood flow (to the hamstring)</p>		
			<p>5. <u>Elevate</u> injury</p> <p>To reduce blood flow (to the hamstring) <b>Or</b> raise the leg above heart level</p>		
	<b>(d)</b>	<p>Three marks from:</p> <p>1. (enzyme) increases efficiency of ATP-PC system/aerobic system <b>or</b> delays ATP-PC threshold</p> <p>2. (mitochondria) increased use of oxygen/aerobic energy production/aerobic respiration</p> <p>3. (buffering) increased tolerance to lactic acid <b>or</b> reduce effects of lactic acid <b>or</b> prevents the decrease in pH</p>		<b>3</b> (AO2)	<p><b>Do not accept:</b> Reduce fatigue TV work aerobically for longer/ increase pH/ faster removal of lactic acid</p> <p><b>Accept:</b> neutralize lactic acid/ blood acidity (point 3)</p>

8	(a)	(i)	Three marks for: 1. (A - B) at rest/no motion 2. (B - C) acceleration/increasing speed/ speeding up 3. (D - E) deceleration/decreasing speed/ slowing down	3 (AO3)	<b>BOD</b> point 1: no change in speed/ constant speed
	(a)	(ii)	Four marks for: 1. Line rises from 0 (x and y axes) 2. Positive gradient/ slopes up 3. Graph plateaus 4. Negative gradient/ slopes down	4 (AO3)	
	(b)		Three marks for: 1. (identify) <b>weight</b> and <b>reaction</b> (force)/ <b>W</b> and <b>R</b> (forces) 2. (handstand) $W = R$ 3. (Forces) Forces are equal (in size) <b>and</b> opposite (in direction) <b>or</b> <u>net force = 0</u> <b>or</b> forces are balanced <b>or</b> forces cancel each other out	3 (AO1 x 1, AO2 x 2)	<b>Accept</b> correctly labelled diagrams <b>Accept</b> ground reaction force/normal reaction for reaction <b>Do not accept:</b> equilibrium for balanced forces or 'balanced' if not clearly referring to the forces
	(c)	(i)	Two marks for: 1. movement of a body/part of body (in a circular path) about an axis of rotation <b>or</b> rotation of a body around an axis 2. force applied outside CoM/axis of rotation <b>or</b> eccentric force/torque/moment/off-centre force	2 (AO1)	
	(c)	(ii)	Two marks for: 1. <u>mass</u> 2. distance/distribution of mass from <u>axis of rotation/centre of mass</u>	2 (AO1)	<b>Do not accept:</b> weight for pt 1
	(d)	(i)	Three marks for: 1. (speed of release) greater speed/velocity/acceleration/force the greater the	3 (AO1)	

			<p>distance  <b>or</b> the greater the change in momentum the greater distance</p> <ol style="list-style-type: none"> <li>2. (angle of release) (just) less than <math>45^\circ</math> optimal angle</li> <li>3. (height of release) greater the <b>release height</b> the greater the distance travelled  <b>or release height</b> is greater than landing height</li> </ol>		
	<b>(d)</b>	<b>(ii)</b>	<p>Three marks for:</p> <ol style="list-style-type: none"> <li>1. (nearly) parabolic/symmetrical flight path</li> <li>2. weight is dominant force (as mass is high)/ <math>W &gt; AR</math></li> <li>3. air resistance is negligible/low (as speed is low)</li> </ol>	<b>3</b> (AO2)	<p><b>Do not accept:</b> inverted U for pt 1/ 'heavy' for pt 2  <b>Do not accept:</b> mass as an equivalent of weight</p>

<b>Section C</b>		
<b>Question</b>	<b>Level descriptors</b>	<b>Discriminators</b>
<b>9*</b>	<p><b>Level 4 (17–20 marks)</b></p> <ul style="list-style-type: none"> <li>• detailed knowledge and excellent understanding (AO1)</li> <li>• well-argued, independent opinion and judgements which are well supported by relevant practical examples (AO2)</li> <li>• detailed analysis and critical evaluation (AO3)</li> <li>• very accurate use of technical and specialist vocabulary</li> <li>• there is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</li> </ul>	<p><b>At Level 4 responses <u>are likely</u> to include:</b></p> <ul style="list-style-type: none"> <li>• detailed knowledge of mechanics of inspiration and expiration which has been applied to the changes of both during exercise</li> <li>• detailed description of contrast therapy and anti-inflammatory drugs, with positive and negative evaluations of both</li> <li>• Detailed knowledge of range of ankle injuries</li> <li>• AO1, AO2 and AO3 all covered well in this level</li> </ul>
	<p><b>Level 3 (12–16 marks)</b></p> <ul style="list-style-type: none"> <li>• good knowledge and clear understanding (AO1)</li> <li>• independent opinions and judgements will be present but may not always be supported by relevant practical examples (AO2)</li> <li>• good analysis and critical evaluation (AO3)</li> <li>• generally accurate use of technical and specialist vocabulary</li> <li>• there is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.</li> </ul>	<p><b>At Level 3 responses <u>are likely</u> to include:</b></p> <ul style="list-style-type: none"> <li>• good knowledge of mechanics of breathing that covers the changes to inspiration and expiration during exercise</li> <li>• good knowledge of ankle injuries, and of both contrast therapy and anti-inflammatory drugs is shown, with a good evaluation of both treatments</li> <li>• At the top of this level both parts of the question may have been addressed well</li> <li>• At the middle of this level one part of the question may be addressed better than the other</li> </ul>
	<p><b>Level 2 (7-11 marks)</b></p>	<p><b>At Level 2 responses <u>are likely</u> to include:</b></p>

Section C		
Question	Level descriptors	Discriminators
	<ul style="list-style-type: none"> <li>limited knowledge and understanding (AO1)</li> <li>opinion and judgement given but often unsupported by relevant practical examples (AO2)</li> <li>some evidence of analysis and critical evaluation (AO3)</li> <li>technical and specialist vocabulary used with limited success</li> <li>the information has some relevance and is presented with limited structure. The information is supported by limited evidence.</li> </ul>	<ul style="list-style-type: none"> <li>limited knowledge of mechanics of breathing that may cover some of the changes to inspiration and/or expiration during exercise</li> <li>Limited identification of ankle injuries, limited knowledge of treatments has been shown and at this level there may be limited evaluation</li> <li>At the top of this level there should be some knowledge of mechanics of breathing during exercise, together with some evaluation of one of the treatments</li> </ul>
	<p><b>Level 1 (1–6 marks)</b></p> <ul style="list-style-type: none"> <li>basic knowledge and little understanding (AO1)</li> <li>little or no attempt to give opinion or judgement (AO2)</li> <li>little relevant analysis or critical evaluation (AO3)</li> <li>little or no attempt to use technical and specialist vocabulary</li> <li>the information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.</li> </ul>	<p><b>At Level 1 responses <u>are likely</u> to include:</b></p> <ul style="list-style-type: none"> <li>basic knowledge of the mechanics of breathing that may not show the changes during exercise</li> <li>An ankle injury may be identified but treatments may be limited to a basic description, and one of the treatments may not be addressed</li> </ul>
	<p><b>(0 marks)</b> No response or no response worthy of credit.</p>	

Question	Indicative content	Marks	Guidance
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Question	Indicative content	Marks	Guidance
9*	<ol style="list-style-type: none"> <li>1. <b>(Inspiration)</b> Diaphragm <b>and external</b> intercostals contract (AO1) <ul style="list-style-type: none"> <li>• with <b>more</b> force/ and at <b>quicker</b> rate (AO2)</li> </ul> </li> <li>2. Additional muscles contract such as sternocleidomastoid/ scalenes/ Pectoralis <u>minor</u> (AO1)</li> <li>3. Ribs/sternum move upwards/outwards <b>further</b> (AO2) <ul style="list-style-type: none"> <li>• <b>Greater</b> volume in thoracic/chest cavity/lungs (than at rest) (AO2)</li> </ul> </li> <li>4. Decreasing pressure in the lungs <b>further</b> (AO2) <ul style="list-style-type: none"> <li>• Gases move from an area of high to low pressure <b>or</b> down pressure/concentration gradient (AO1)</li> <li>• Gradient <b>increases/steepens</b> during exercise (AO2)</li> </ul> </li> <li>5. <b>More air</b> enters lungs/is inspired/inhaled (AO2) <ul style="list-style-type: none"> <li>• <b>Decreasing</b> inspiratory reserve volume/ <b>increasing</b> TV (AO2)</li> </ul> </li> <li>6. <b>(expiration)</b> Diaphragm <b>and external</b> intercostals relax (AO1)</li> <li>7. Additional muscles contract such as <u>internal</u> intercostals/rectus abdominis/obliques (AO1) <ul style="list-style-type: none"> <li>• Expiration becomes active/active process (AO2)</li> </ul> </li> <li>8. Ribs/sternum move inwards/downwards <b>further</b> (AO2) <ul style="list-style-type: none"> <li>• <b>Greater</b> decrease in volume in thoracic/chest cavity/lungs (AO2)</li> </ul> </li> <li>9. Increasing pressure in lungs <b>further</b> (AO2)</li> <li>10. <b>More</b> air is breathed out/expired/exhaled (AO2) <ul style="list-style-type: none"> <li>• Air <b>forced</b> out during exercise (AO2)</li> <li>• Decreasing expiratory reserve volume (AO2)</li> </ul> </li> </ol>	<b>20</b> (7 x AO1, 7 x AO2, 6 x AO3)	<p>AO1 for knowledge and understanding '<b>KU</b>'</p> <p>AO2 when knowledge is applied to differences during exercise '<b>EG</b>'</p> <p>AO3 for evaluation and analysis of treatments '<b>DEV</b>'</p> <p>Acknowledge reference to the control of breathing as '<b>SEEN</b>'</p>
	<ol style="list-style-type: none"> <li>11. Fractures (AO1)</li> <li>12. Sprains (AO1)</li> <li>13. Strains (AO1)</li> <li>14. Dislocation/subluxation (AO1)</li> <li>15. Contusion/haematoma/bruise (AO1)</li> <li>16. Achilles tendonitis/tendonosis (AO1) <ul style="list-style-type: none"> <li>• Reference to acute or chronic injury/ soft and hard tissue injury (AO1)</li> </ul> </li> </ol>		

Question	Indicative content	Marks	Guidance
	<p>17. <b>(contrast therapy)</b> Use of heat <b>and</b> cold treatments (AO1)</p> <ul style="list-style-type: none"> <li>• 3-5 days after injury occurs (AO1)</li> <li>• After swelling/inflammation has reduced (AO1)</li> </ul> <p>18. Immerse <b>ankle</b> in cold water bath/ice (AO2)</p> <ul style="list-style-type: none"> <li>• Followed by warm water/heat pack/hot towels (AO2)</li> <li>• Use in conjunction with ankle mobilising exercises (AO2)</li> <li>• Cold:warm ratio of 1:3 or 1:4 minutes (AO2)</li> </ul> <p>19. Cold vasoconstricts blood vessels (AO1)</p> <ul style="list-style-type: none"> <li>• Heat vasodilates blood vessels (AO1)</li> <li>• Causing pumping action (AO1)</li> <li>• Increasing blood flow/oxygen/nutrients to damaged tissue (AO1)</li> </ul> <p>(evaluation) <b>(All AO3 unless indicated otherwise)</b></p> <p>20. Reduces swelling/inflammation (of ankle)</p> <ul style="list-style-type: none"> <li>• Reduces pain</li> <li>• Speeds recovery/repair/healing</li> </ul> <p>21. Use of incorrect timing/ cold:warm ratios can limit effectiveness</p> <p>22. Risks associated with heat</p> <ul style="list-style-type: none"> <li>• Apply heat too early/too long</li> <li>• can cause increased swelling/oedema</li> </ul> <p>23. Risks associated with ice</p> <ul style="list-style-type: none"> <li>• Ice burns/tissue damage</li> <li>• Nerve damage (if in contact too long)</li> <li>• Uncomfortable</li> </ul> <p>24. More effective than heat therapy on its own</p> <ul style="list-style-type: none"> <li>• Limited benefit over cold therapy on its own</li> <li>• Limited changes in tissue temperature</li> <li>• Limited effect on changes in blood flow in tissues</li> <li>• Not suitable for those who have negative reactions to cold treatment (AO3) e.g. Raynauds (AO2)</li> <li>• Not suitable for fractures/hard tissue injury</li> </ul>		

Question	Indicative content	Marks	Guidance
	<p><b>(anti-inflammatory drugs)</b></p> <p>25. Pills/medication (AO1)</p> <ul style="list-style-type: none"> <li>• Non-steroidal/NSAIDs</li> <li>• available over counter/from chemist</li> <li>• e.g. ibuprofen/aspirin/cortisone (AO2)</li> </ul> <p>(evaluation) <b>(All AO3 unless stated otherwise)</b></p> <p>26. Prescription not needed/ easily accessible/cheap</p> <ul style="list-style-type: none"> <li>• Can be used for acute and chronic injuries</li> </ul> <p>27. Reduce (ankle) swelling/temperature/pain</p> <ul style="list-style-type: none"> <li>• Inhibit cause of inflammation/hormone released</li> <li>• Speed up recovery/healing process</li> </ul> <p>28. Can cause side-effects, such as heartburn/nausea/diarrhoea/headaches</p> <ul style="list-style-type: none"> <li>• May result in further damage (to ankle if performer returns to training too early)</li> <li>• Potential pain/injury masking</li> <li>• Can have limited effectiveness</li> </ul> <p>29. Long-term use should be avoided</p> <ul style="list-style-type: none"> <li>• Monitored by doctor/health professional</li> <li>• Chronic health consequences</li> <li>• e.g. gastro-intestinal bleeding/anaemia/heart conditions (AO2)</li> </ul>		<p><b>Do not accept:</b> pain relief medication e.g. paracetamol</p>

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