

CAMBRIDGE NATIONALS

Examiners' report



SPORT SCIENCE

J802, J812

R041 Summer 2018 series

Version 1

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Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates. The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report. A full copy of the question paper can be downloaded from OCR.

Paper R041 series overview

R041: Reducing the risk of sports injuries is the mandatory examination component for the OCR Level 1/2 Cambridge National Award (J802) and Cambridge National Certificate (J803) in Sport Science.

This component prepares candidates on how to reduce the risk of injuries occurring when participating in physical activity, how to react to common sports injuries and how to recognise the symptoms of some common medical conditions.

To do well on this paper, candidates need to apply knowledge and understanding using practical examples from sport and physical activity. Candidates need to be prepared for a range of different question types so that they can respond equally well to true/false, multi-choice, completion of tables and extended answer questions.

Centres are reminded that marking schemes are used as a basis for judgements and each examiner's professional judgement is used in finally deciding the marks credited based on a rigorous standardised procedure.

Examiners use ticks to indicate the number of marks given for questions 1 – 14.

R041 includes one extended response question that is always question 15. This is assessed against the 'levels' part of the mark scheme. The mark scheme for this final question has a number of criteria separated into levels. These levels also include statements related to the quality of written communication. The levels scheme also includes indicative content that is expected in the question and this content is taken into consideration when awarding marks.

Candidate performance overview

Candidates who did well on this paper generally did the following:

- Produced clear and concise responses
- Applied knowledge and understanding using examples from a practical activity, when this was a requirement of the question: Q9a
- Answered both parts of the question, when this was a requirement of the question: Q3, Q9a, Q11a
- Matched the amount of knowledge to the number of marks in the question: Q9b, Q10a, Q11a and c, Q12ai and ii
- Produced clear responses when answering questions that required knowledge of differences: Q5, Q7aii

Candidates who did less well on this paper generally did the following:

- Produced responses that lacked depth: Q3, Q11 a and c, Q12ai and ii
- Did not attempt a number of different questions, even those that were true/false and multi-choice questions. This is indicated by the annotation NR (No Response)
- Did not have sufficient knowledge to give more than one different response: Q2, Q7c, Q9b, Q10a and b, Q11b
- Lacked an understanding of the extended response: Q15
- Found difficulty in differentiating between the different warm up components: Q13a
- Did not read questions properly and repeated answers already given in the question: Q2, Q3, Q5, Q6, Q10b, Q11b, Q12b
- Did not understand technical terms taken directly from specification

<i>Most successful topic/question/set texts</i>	<i>Least successful topic/question/set texts</i>
<ul style="list-style-type: none"> • Q1a-d: True/false • Q2: Symptoms of asthma • Q4: Types of injuries • Q6: Shin splints – type, symptom and treatment • Q7ai: Intrinsic factors • Q7bi, ii and iii: Medical conditions • Q7c: Treatment of epilepsy • Q8a and b: Protective and performance equipment • Q11b: Sports injuries linked with poor posture • Q12b: Specific needs • Q13bi, ii and iii: Warm up and cool down • Q14: Cool down components 	<ul style="list-style-type: none"> • Q3: Psychological benefits • Q7aii: Difference between 'active' and 'passive' within SALTAPS • Q11a: Lordosis • Q11c: Lack of exercise and poor posture • Q12ai: Size of group • Q12aii: Experience of group • Q13a: Warm up components and examples

Question 1(a)

1 Circle your chosen option to indicate which of the following are true or false.

(a) Type 2 diabetes is a medical condition that is insulin-dependent.

True / False

[1]

Question 1(b)

(b) Stretching and pulse raising exercises are key components of a cool down.

True / False

[1]

Question 1(c)

(c) Acute injuries are the result of a sudden trauma to the body.

True / False

[1]

Question 1(d)

(d) Gender and flexibility are individual variables that can influence the risk of injury.

True / False

[1]

Many candidates scored the single marks available for question 1a-d. Some candidates confused components of a warm up with a cool down in Q1b. Other candidates did not have the knowledge of individual variables in Q1d. A small minority did not attempt some of these questions.

Question 2

2 In a resource 'Asthma and My Child' produced by Asthma UK, some of the common symptoms of asthma which are identified include wheezing and coughing.

Identify **two** other symptoms of asthma.

1 [1]

2 [1]

Some candidates did not read the question carefully enough and simply repeated the symptoms of wheezing and coughing. Such responses could not be credited as they were already given in the stem of the question. The most common symptoms that candidates referred to were breathing difficulties and a tight chest. Candidates that responded with different symptoms usually scored maximum marks. Some candidates repeated their first response but in a slightly different way. For example, a candidate that gave breathing difficulties as their first response and struggling to breathe as their second response would only score one mark.

Question 3

- 3 A rugby team employed a sports psychologist to help reduce the number of injuries as a result of players not being fully focused before each match.

Before a training session the sports psychologist explained the psychological importance of a warm up.

Other than focus, describe psychological benefits that the sports psychologist could have included in their talk to the players and how they would reduce chances of injury.

.....

.....

.....

..... [2]

Candidates generally did not score maximum marks on this question. The question asks candidates to describe psychological benefits (other than focus) and how they would reduce chances of injury. A number of candidates repeated the benefits of focus or concentration (an equivalent). Other errors made by candidates included a lack of detail in answers. Answers that simply mentioned the psychological terms such as motivation or aggression were too vague. The benefits needed to be specific so an increase in motivation or control of aggression was needed. Simply writing motivation could refer to a low level of motivation which would in fact be a negative for the performer. Some candidates referred to being aggressive which could actually cause injury rather than reduce the chances of injury. Many candidates did not answer the second part of the question or were too vague in their response.

Exemplar 1

..make them more motivated to take
 ..part in the sport.

 [2]


This response gained one mark for describing that they could be more motivated to take part in sport.

This response could be improved by describing how the increase in motivation would then reduce their chances of injury. This could be achieved by the performer being fully committed in a tackle when playing rugby.

Question 4

- 4 One example of an overuse injury is tendonitis.

Draw a line from each of the other types of injury to a suitable example of that injury in the table below.

Types of injury		Example of injury
Overuse		Bruise
(a) Abrasion		Graze
(b) Contusion		Tendonitis
(c) Soft tissue injury		Sprain

[3]

A good number of candidates scored maximum marks on this question but others were making the incorrect association of an abrasion with a sprain and/or a soft tissue injury with a graze or a bruise. The specification clearly puts the different types of injury with appropriate examples.

Question 5

- 5 Insulin dependency is one difference between Type 1 and Type 2 diabetes.

Describe **two** other differences between Type 1 and Type 2 diabetes.

.....

.....

.....

..... [2]

Candidates who scored on this question demonstrated good knowledge of the differences between Type 1 and Type 2 diabetes. Some candidates merely repeated what was in the question and gave responses linked to insulin. Others got the two types mixed up and referred to Type 1 diabetes as being a result of lifestyle or occurring in adulthood and vice versa.

Exemplar 2

Type 1 is where not enough insulin goes into your blood cells. Type 2 is if you have a poor diet or you are obesity. [2]

This response gained one mark for describing that Type 2 can occur through a poor diet. The candidate then makes a second reference to a correct description of Type 2 being linked with obesity. No additional mark is credited as the candidate needs to make a correct point linked to Type 1.

This response could be improved by describing one of the points in the mark scheme such as Type 1 can be inherited. Instead the candidate made reference to insulin which is too vague for a mark to be credited. As insulin dependency is already mentioned in the stem of the question then any responses made towards insulin will be marked as too vague.

Question 6

- 6 Shin splints is a common sports injury for marathon runners.

Complete the table below to show the type of injury it is, one symptom of it and the recommended treatment.

Type of injury	Symptom	Recommended treatment

[3]

Generally this question was well answered. Some candidates confused acute injuries with chronic injuries. In these cases, candidates were still getting marks for appropriate symptoms and treatment despite them getting the type of injury incorrect. Another common error made by candidates was simply writing the injury 'shin splints' as the type of injury but the response required needed to refer to chronic or overuse.

Question 7(a)(i)

7 (a) (i) Which **one** of the statements below is false?

A	Rest, ice, compression and elevation is a method used to rehabilitate soft tissue injuries
B	SALTAPS is an on-field assessment that stands for: See, ask, look, touch, active, passive and strength
C	Emergency action plans consist of personnel, communication and equipment
D	Fitness levels and wearing the correct protective equipment are both intrinsic factors that can influence the risk of injury

..... [1]

Most candidates scored the mark and correctly identified 'D' as the statement that was false. It is clear to see in some candidate responses an element of thought processing. Candidates sometimes use annotations to identify responses that are true. These candidates then get to the correct answer through a process of elimination.

Question 7(a)(ii)

(ii) Explain the difference between 'active' and 'passive' for the on-field assessment of SALTAPS.

.....

 [2]

Many candidates lacked sufficient enough detail when answering this question and were not clear who was actually moving the injured limb. Other errors included getting 'active' and 'passive' the wrong way around or simply not referring to the movement of an injured limb and simply writing 'moving it themselves'.

Exemplar 3

Active is if the injured person can stand up
 and walk VG but passive is if the person
 can move the injured area VG

..... [2]

This response did not score any marks. The candidate has mixed up the 'strength' aspect in SALTAPS with 'active'. The candidate has not made it clear on who is actually moving the injured area for 'passive'.

This response could be improved by making it clear that 'active' is when the injured player attempts to move the injury themselves and 'passive' is when someone else (first aider) moves the injury.

Question 7(b)(i)

(b)	Increased thirst	Seizure	Call 999	Cramp
	Give a sugary drink	Going to the toilet lots	Extreme tiredness	Hypoglycaemia
	Emergency care plan	Breathing difficulties	Inhaler	Dizziness

- (i) Which **one** of the above could be a possible symptom of asthma, diabetes and concussion?

..... [1]

Question 7(b)(ii)

- (ii) Which **one** of the above is the condition that describes low blood sugar?

..... [1]

Question 7(b)(iii)

- (iii) Which **one** of the above is the best treatment for an asthma attack that is **not** severe?

..... [1]

Many candidates scored maximum marks on these questions. Candidates that did not score on one or of these questions gave their own symptoms as they had not read the question properly. Other candidates simply included a long list of answers. As the question asks for **one** of the above the first response was the only one that was marked.

A small number of candidates gave 'Call 999' for Q7 (b) (iii) as they misread the question and had not read the information correctly. In these cases candidates were then giving responses for a severe asthma attack.

Question 7(c)

- (c) Describe how a netball coach should deal with a player who they suspect is having an epileptic fit.

.....

.....

.....

[2]

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The most common answers included making the area safe and calling 999.

Many candidates stated that those having a seizure should be put in the recovery position. It is accepted medical practice to let the person continue with the seizure within a safe environment and then, if appropriate, once the seizure is finished the recovery position can be used. Some candidates only scored one mark as they repeated a similar response when looking after the person and making them safe from further injury by removing hazards and then repeating the same point in the mark scheme by preventing them from further injury by placing a cushion under their head.

Exemplar 4

move things out of the way so they don't
 bang their head and put them on their
 side in the recovery position so they don't
 swallow their tongue. [VG] [2]

This response scored one mark for correctly stating that things should be moved out of the way so they don't bang their head. The candidate then made a vague response to putting them into the recovery position.

This response could be improved by making it clear that when treating someone who is having an epileptic fit that they should be placed into the recovery position after the fit is over.

Question 8(a)

- 8 (a) Name **one** sport in which performers may wear both a gumshield and protective headgear.

..... [1]

Question 8(b)

- (b) Name **one** item of performance equipment that may cause injury to another performer.

..... [1]

The majority of candidates scored one mark for question 8 (a) with the most common responses being rugby, cricket and boxing.

The majority of candidates scored one mark for question 8 (b) with the most common response being a hockey stick. A number of candidates gave descriptions of footwear and or clothing, which was marked too vague. Performance equipment is defined as a piece of equipment required for the activity to take place. Football can be played without football boots. Some candidates simply stated the names of sports rather than the piece of equipment required so responses such as hockey were too vague.

Question 9(a)


- 9 (a) Using a practical example, describe an acute sporting injury where it would be suitable to use a bandage.

.....

 [2]

This was generally well answered although some candidates did not use a practical example and scored one mark only for their description of an acute sporting injury. The most common answers included cuts and sprains. Some candidates gave the reasons why a bandage would be used such as preventing blood loss and infection. These responses were too vague and do not answer the question. Any responses linked to benefits are suited to question 9 (b).

Exemplar 5

A Fracture  would be suitable to use a bandage because it ~~can~~ can help keep the bone in the body; instead of it sticking out. [2]

This response scored one mark for correctly saying that a bandage could be used when treating a fracture. As stated in the mark scheme guidance, bandaging may be used to secure fracture limbs or to hold dressings in place.

This response could be improved by giving a practical example of how the injury occurred. For example, a two footed tackle in football or landing awkwardly after a vault in gymnastics.

Question 9(b)

- (b) Applying a bandage can help ease the pain of an injury.

Explain other benefits to the performer of bandaging an injury.

.....

.....

.....

..... [2]

Most candidates correctly stated that a bandage can reduce swelling, stops blood loss or prevents infection. Some candidates only gave one of these points. This could be due to a lack of knowledge or examination technique and not making at least the same number of knowledge points to the number of marks available.

Exemplar 6

other benefits of bandaging an injury is
 stopping infection ✓ and stopping it from
 getting worse (eg opening it up again) REP
 [2]

This response scored one mark for correctly saying that a bandage can stop infection. The candidate then makes a repeated point on the mark scheme saying that a bandage can stop the injury from getting worse.

This response could be improved by giving two different points from the mark scheme. In this case, a response linked to bandaging can reduce swelling, prevent blood loss or gives support would have scored an additional mark.

Question 10(a)

- 10 Massage is one technique a sports therapist may use to treat injuries.

- (a) Describe the benefits to a performer of receiving a massage as a response to an injury.

.....

.....

.....

..... [2]

Many candidates demonstrated good understanding of the benefits of a massage. The most common responses linked to either relaxation of muscles and helping to relieve pain.

Question 10(b)

- (b) Identify **two** other techniques a sports therapist may use when responding to a soft tissue injury the day after the injury has occurred.

1 [1]

2 [1]

Some candidates repeated the treatment of massage. Other candidates who did not score maximum marks could only think of one other technique that could be used and left the second part of the question as a no response.

Question 11(a)

- 11 (a) Describe lordosis and the impact it can have on a sports performer.

.....

 [2]

Candidates scored less well on this question. Some candidates were too vague on their description of lordosis. As in previous years there was a need to state the location and direction of the curvature. Some did not score the second mark about the impact it can have on the performer. This is because they either did not know the answer or they were too vague.

Question 11(b)

- (b) Other than lordosis, identify **two** other sports injuries that are associated with poor posture.

1 [1]

2 [1]

The majority of candidates were able to identify other sports injuries that are associated with poor posture showing good recall knowledge for this part of the specification. Credit was given to any responses that were incorrectly spelt but had the correct phonetic spellings.

Question 11(c)

- (c) Explain how a lack of exercise can cause poor posture.

.....

.....

.....

..... [2]

Many candidates did not give more than one explanation or were too vague in their responses and scored one or no marks. The response required candidates to explain that a lack of exercise can cause a lack of muscle strength and/or becoming overweight which in turn gives the performer less support and/or strain on the back causing poor posture.

Question 12(a)(i)

- 12 John is following a sports leader course and for one of the units he must complete a safe warm up for a group of sports performers.

- (a) Explain why each of the following characteristics of the group should be considered by John before starting the warm up.

- (i) Size of the group

.....

.....

.....

..... [2]

Some candidates gave an excellent explanation of why the size of the group needs to be considered before starting a warm up. The most common response was linked to big groups causing injuries through collisions. Many candidates did not give more than one explanation or were too vague in their responses and scored one or no marks. Candidates who scored maximum marks generally gave the fact that large groups can result in more collisions and create communication/organisation issues.

Exemplar 7

If there are too many people in one group, the area could get cramped and this can cause injuries as the performers could collide with each other. [2]

This response scored one mark for correctly stating that too many people can cause collisions.

This response could be improved by the candidate making two suggestions on why the size of a group needs to be considered before a warm up. Other points in the mark scheme relate to larger groups can cause communication/organisation issues and may require additional staffing.

Question 12(a)(ii)

(ii) Experience of the group

.....

.....

.....

..... [2]

Some candidates gave an excellent explanation of why the experience of the group needs to be considered before starting a warm up. As in question 12 (a) (i) many candidates did not give more than one explanation or were too vague in their responses and scored one or no marks.

Question 12(b)

(b) Identify **one** other specific need that should be taken into consideration before starting a warm up.

..... [1]

A common error by candidates was putting gender as a specific need. Warm ups can be delivered without taking into account gender.

Question 13(a)

13 (a) Complete the table below identifying the components and examples of a suitable warm up for a hockey player.

Warm up component	Examples of warm up component
(i)	Hip circles taking the joint through its full range of movement
(ii)	Agility runs that change speed and direction
Skill rehearsal phase	(iii)

[3]

Some candidates scored well on this question with a good knowledge of warm up components and examples. Other candidates simply gave examples as the warm up component or got confused between mobility and dynamic movements. Some candidates were too vague with their response for dynamic movement and gave just the term 'dynamic'. Generally, candidates were better at giving an example for skill rehearsal phase than identifying the components. Some candidates did not read the question properly and gave examples for other sports. In the case where candidates gave a relevant example to hockey but related it to another sport they were given the mark. For example, dribbling in football. In the cases where candidates gave an example that could not be used in hockey then no marks were credited such as kicking, throwing and heading. A number of candidates also offered no response for any part of the table.

Question 13(b)

(b) For each of the following, circle the most appropriate words in **bold** to complete each statement.

(i) A warm up **increases** / **decreases** heart rate [1]

Question 13(b)(ii)

(ii) A cool down **increases** / **decreases** / **gradually increases** / **gradually decreases** heart rate [1]

Question 13(b)(iii)

(iii) A cool down **slows down** / **speeds up** the removal of lactic acid [1]

Most candidates scored well on these three questions.

In question 13 (b) (ii) some candidates did miss the key word 'gradually' and opted for 'decreases' instead. As stated in the question, candidates were required to circle the most appropriate words.

In question 13 (b) (iii) more candidates did not score this mark compared to Q13 (i) and (ii). Candidates incorrectly circled a cool down 'slows down' the removal of lactic acid.

Question 14

14 Which one of the following is **not** an example of a cool down component that physically benefits a 100m runner?

- (a) Light running to circulate blood and oxygen
- (b) Static stretches to help the body's transition back to a resting state
- (c) Sprints to reduce the risk of muscle soreness and stiffness
- (d) Maintenance stretches to gradually lower body temperature [1]

This was well answered by the majority of candidates who correctly identified that sprints were not an example of a cool down component.

Question 15

- 15*** Angarika has recently completed a football refereeing course. One of the elements she studied on the course was ensuring player safety.

Explain what extrinsic factors Angarika needs to be aware of both before and during a football match to reduce the risk of injury to players.

.....

.....

.....

.....

.....

.....

.....

..... **[8]**

This question is marked using a levels mark scheme and the quality of written communication is taken into consideration. Most candidates showed a fluent and well-planned response, others less so and showed a lack of overall structure and grammatical / spelling accuracy.

The good candidates made good points about extrinsic factors and then went on to detail those points. Those that covered most extrinsic factors of the question scored well – covering before and during the game.

Many candidates impressed through their knowledge and understanding of this part of the specification.

The lower scoring candidates got confused between extrinsic and intrinsic factors. These candidates were also too vague in their responses and rarely developed their points or focused on one extrinsic factor such as the environment.

It is important for candidates to carefully read the question and identify exactly what is required by the question and for them to highlight or underline the variables that must be addressed in their responses.

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