

Cambridge NATIONALS LEVEL 1/2

Cambridge  
NATIONALS

# SPORT SCIENCE

Combined feedback on the June 2015 exam paper  
Unit R041 – Reducing the risk of sports injuries

Version 1

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## INTRODUCTION

This resource brings together the questions from the June 2015 examined unit (R041), the marking guidance, the examiners comments and the exemplar answers into one place for easy reference.

The marking guidance and the examiner's comments are taken straight from the Report to Centre for this question paper.

The Question Paper, Mark Scheme and the Report to Centre are available from:



<http://www.ocr.org.uk/qualifications/cambridge-nationals-sport-science-level-1-2-j802-j812/>

|  |   |
|--|---|
| <b>OCR</b><br><small>Oxford Cambridge and RSA</small>  |   |
| <b>Friday 15 May 2015 – Afternoon</b>  |   |
| <b>LEVEL 1/2 CAMBRIDGE NATIONAL IN SPORT SCIENCE</b>   |   |
| R041/01 Reducing the risk of sports injuries   |   |
| <b>Candidates answer on the Question Paper:</b>  | Duration: 1 hour  |
| OCR supplied materials:<br>None  |   |
| Other materials required:<br>None  |  |
| Candidates<br>forename   | Candidates<br>surname   |
| Centre number  | Candidate number  |
| <b>INSTRUCTIONS TO CANDIDATES</b>  |   |
| <ul style="list-style-type: none"> <li>Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.</li> <li>Use black ink. HB pencil may be used for graphs and diagrams only.</li> <li>Answer all the questions.</li> <li>Read each question carefully. Make sure you know what you have to do before starting your answer.</li> <li>Write your answer to each question in the space provided. If additional space is required, you should use the lined page at the end of this booklet. The question number(s) must be clearly shown.</li> <li>Do not write in the bar codes.</li> </ul> |   |
| <b>INFORMATION FOR CANDIDATES</b>  |   |
| <ul style="list-style-type: none"> <li>The number of marks is given in brackets [ ] at the end of each question or part question.</li> <li>The total number of marks for this paper is 60.</li> <li>The quality of your written communication will be taken into account in marking your answer to the question marked with an asterisk (*).</li> <li>This document consists of 12 pages. Any blank pages are indicated.</li> </ul>  |   |
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| <b>Sport Science</b>                                    |
| Unit <b>R041</b> : Reducing the risk of sports injuries |
| Level 1/Level 2   |
| <b>Mark Scheme for June 2015</b>                        |
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## GENERAL EXAMINER COMMENTS ON THE PAPER

|   |  |
|---|--|
|  <p>Oxford Cambridge and RSA</p>                               |  |
| <p><b>Friday 15 May 2015 – Afternoon</b></p>  |  |
| <p><b>LEVEL 1/2 CAMBRIDGE NATIONAL IN SPORT SCIENCE</b></p>   |  |
| <p><b>R041/01</b> Reducing the risk of sports injuries</p>  |  |
| <p>Candidates answer on the Question Paper.</p> <p><b>OCR supplied materials:</b><br/>None</p> <p><b>Other materials required:</b><br/>None</p> | <p><b>Duration: 1 hour</b></p>  |

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 awarded based on a rigorous standardised procedure. A 'levels' mark scheme relates to the final question (Q15). The mark scheme for this final question has a number of criteria separated into levels. Levels also include statements related to the quality of written communication. The levels mark scheme also includes indicative content that is expected in responses to the question and this content is taken into consideration when awarding marks.

Candidates are reminded that they must check near the end of the examination that they have answered all the questions set. Once again, candidates left questions unanswered especially Question 1 related to posture and question 11 related to Emergency Action Plans.

Generally, candidates showed that they had covered the specification well but a minority of the candidates' misread questions and simply wrote all they knew about the topic rather than responding directly to the requirements of the question. When a question is divided into sections, for example, Question 4, centres and their candidates are reminded to keep referring back to the stem of the question to check what is required.

Question 15, as in previous examination series demanded more extended writing from candidates and some wrote giving the appropriate level of detail about extrinsic factors influencing the risk of injury to sports performers. Some candidates were unable to access the full range of marks because the quality of their written communication was not appropriate for this level of examination. The poor standard of literacy for many candidates was particularly striking this year, with some candidates unable to give a fluent account in their answer. Centres and their candidates are reminded that spelling and the quality of their expression are taken into account when awarding marks for this question. Centres are again advised to continue to give help, advice and writing practice to their candidates.

Candidates should be familiar with the style of language used in the specification, because relevant technical language is often used in the examination questions. Candidates should be familiar with the command words used in examinations questions so that their written responses match the requirements of each question. For example, the command word 'describe' requires more than a one-word answer with the expectation that the candidate expands their response and addresses fully the requirements of the question. The command 'explain' is also often misunderstood. This command requires candidates to give reasons for their answer and may be linked to the requirement for sports' injury practical examples.

## Questions 1 and 2

Answer all questions.

1 Sports injuries can be related to poor posture. Name the condition for each of the following descriptions.

(a) A condition in which the spine in the lower back has an excessive curvature.

**Lordosis (1 mark)** ..... [1]

(b) An abnormal curving of the upper spine causing the back to appear slouched or hunched.

**Kyphosis (1 mark)** ..... [1]

(c) A back condition that causes the spine to curve to the side.

**Scoliosis (1 mark)** ..... [1]

(d) A condition where the hips are not level.

**Pelvic Tilt (1 mark)** ..... [1]

2 Describe how previous injuries can increase the risk of injury to a sports performer.

Performing again too soon (can cause injury) or you over-work the previously  
 ... injured part or it has not healed yet (1 mark). ..  
 The injury could cause (an inherent) weakness (leading to further injury) (1 mark). ..

**Alternative answers:** .....

The injury could cause the performer to perform differently or change to a poor  
 technique (1 mark). .....

Altered posture (resulting from the injury, leading to further injury) (1 mark). .....

Muscle imbalance (1 mark). .. [2]

Reduced decreased flexibility (1 mark). .. [2]

Can cause psychological issues / stress / anxiety (1 mark).

### Mark scheme guidance

2) Accept practical examples if descriptions show how risk of further injury can increase.

### Examiner comments

Many candidates scored few marks for these questions related to posture. The technical terms related to the descriptions in each part of the question were not well expressed and many candidates simply did not give any response to any part of this question. Candidates are reminded that all aspects of the specification can be examined in any one series and centres are reminded that all the theoretical elements of the specification must form part of the scheme of learning for each candidate.

## Question 3

**Question 3**

**3** Name a psychological factor and describe how it might cause injury.

Psychological factor

**Arousal / Motivation or high arousal level or over-arousal or (over) motivated (1 mark).**  
.....

**Alternative answers**

... **(Under) aroused/lack of control in arousal levels or (lack of) motivation or (high) stress/anxious or (lack) confidence or (lack of) self-esteem (1 mark).** .....

... **(Lack of) Focus (1 mark).** .. [1]

**(Too much) Aggression (1 mark).**

Description

... **You feel you don't care or you are reckless or you don't care or you are not safe or you lack focus or you cannot concentrate (1 mark).** .....

.. **Alternative answers** .....

.. **May lead to a performer being too nervous/scared or not ready to perform in a safe way or could cause injury by not going into a tackle properly or lack of focus or not concentrating enough (1 mark).** .....

.. **Performer is not in the right frame of mind and unable to concentrate on the performance ahead or distracted (1 mark).** .. [1]

**Can cause a performer to go into a tackle too hard and cause injury to someone/themselves or breaks the rules (1 mark).**

### Mark scheme guidance

One mark for psychological factor and one mark for description of how it might cause injury.

One mark max for the psychological factor (odd numbers) and one mark max for the description (even numbers) up to max of two marks.

If incorrect psychological factor then marks for description cannot be gained.

Do not accept nerves as a psychological factor.

### Examiner comments

The majority of candidates could name a psychological factor, although a minority of candidates mixed up the term psychological with physiological. The descriptions for some, however, that tried to link the psychological factor with how it might cause injury were often too vague or irrelevant. The better candidates clearly linked the factor with injury, for example aggression linked to careless tackling in a sport such as football.

## Question 4

**Question 4**

- 4 For each of the following benefits of a warm up, show whether they are physical or psychological and explain how they help a performer in a physical activity.

- (a) Heighten or control of arousal levels

Physical  Psychological (circle your answer)

Explanation .. Can psych you up or calm you down or can get you mentally prepared or  
 can control stress / anxiety or increase motivation / effort or more focused or can  
 concentrate or gets you 'in the zone' / get mind in the game. .... [2]

- (b) Increase in heart rate

Physical Psychological (circle your answer)

Explanation .. Increase in blood supply / to the muscles or increase / speeds up  
 blood flow or increase in oxygen supply (to the working muscles) or quicker  
 supply of oxygen. .... [2]

- (c) Increase in pliability of ligaments and tendons

Physical Psychological (circle your answer)

Explanation .. Increase in flexibility (of ligaments and tendons) or allows a greater  
 range of movement at a joint, or reducing injury occurrence at a joint / in a muscle  
 or less likely to injure ligament / tendon. .... [2]

- (d) Increase in motivation

Physical  Psychological (circle your answer)

Explanation .. The more prepared they will be or the more they will try harder / be more  
 determined / more committed or boost morale / confidence or increase in self-belief  
 or less anxious or more focused (on doing well and winning) or gets you 'in  
 the zone'. .... [2]



## Mark Scheme Guidance

8 marks with maximum of two marks for each benefit of warm-up.

One mark for identifying whether each benefit is psychological or physical.

One mark for each description:

For a) preparation on its own = vague.

For b) do not accept: gets the blood pumping (vg). Accept more blood pumping = 1 mark.

For c) do not accept increase in pliability (in question).

For d) do not accept increase in motivation (in question).

## Examiner comments

Candidates often forgot the question at the start of this series of sub-sections. The question deals with the benefits of a warm up and candidates often forgot this as they progressed through the sub-sections. Some candidates scored low marks because they simply repeated the phrases used in the question, for example for increase in heart rate, candidates wrote 'these increase the heart rate'. The better candidates would identify the increase in heart rate, for example, as a physical factor and then explained that this would result in more oxygen being available or more blood being transported to the working muscles.

## Question 5

**Question 5**

- 5 Plan a warm up specific to a sport of your choice using the five key components.

Sport: ..... **Football** .....

Pulse raiser: . **Exercises that slowly increase heart rate or body**  
 ..... **temperature or suitable example e.g. jogging, cycling,**  
 ..... **skipping, running** .....

Mobility exercise: .... **Exercises that take the joints through their full** .....  
 ..... **range of movement (ROM) or an example** .....  
 ..... **e.g. arm swings, hip circles, high knees** .....

Dynamic movements: ... **Change of speed and direction or an example** .....  
 ..... **e.g. shuttle runs** .....

Stretching: ..... **Development stretches, dynamic / static stretches** .....  
 ..... **or example e.g. 'open and close the gate' / groin** .....  
 ..... **walk** .....

Skill rehearsal: .. **Rehearsing common movement patterns and skills** ..  
 ..... **which will be used in the activity or an example eg** ..  
 ..... **dribbling skills for football; passing drills for netball** ..

[5]

**Mark scheme guidance**

5 marks maximum for 5.

Accept a suitable practical example as the description or a definition of the component.

Key components and plan must relate to the sport chosen.

For example slowly jogging around the football pitch (or football).

Do not accept stretching on its own for the stretching phrase – must give a description of type or method of stretching or which muscle group is being stretched for the mark to be awarded.

Stretching exercise for different parts of the body (for football) = 1 mark.

**Examiner comments**

Some candidates scored highly for this question because they used their identified sport to clearly show that they understood each element of a warm up. Many candidates scored lower marks because they left out a plan for mobility exercises and dynamic movements. These terms are clearly unfamiliar to many candidates.

## Question 6

**Question 6**

6 Name three specific needs that should be considered when planning a warm up and cool down.

- (i) **Characteristics of the individual / group or disability or motivation levels**  
.....
- (ii) **Size of group**  
.....
- (iii) **Age (of participants)**  
.....

[3]

**Alternative answers**

- **Gender or gender mix (of the group)**
- **Experience / ability level (of participants)**
- **Individual fitness levels or (previous) injuries**
- **Medical conditions eg those with asthma**
- **Suitability of warm-up activity (as preparation for a particular activity / sport or type of sport / activity)**
- **Time available**
- **Environmental factors / surface / space or space available / state of pitch**
- **Weather**
- **Temperature**
- **Available facilities / equipment / clothing.**

**Mark scheme guidance**

Three marks for three specific needs.

**Examiner comments**

The majority of candidates scored the full three marks for this question and could identify three specific needs that should be considered when planning a warm-up and cool down. Some candidates misread the question and described the elements of a warm up and/or cool down rather than the needs such as the age of the group or environmental aspects for example.

## Question 7

**Question 7**

7 Name a medical condition that uses the following as a response:

(a) Response: Inhaler

Condition: **Asthma** ..... [1]

(b) Response: Give insulin

Condition: **Diabetes** ..... [1]

(c) Response: Clear any danger away from the individual

Condition: **Epilepsy** ..... [1]

**Mark scheme guidance**

Do not accept broken leg / limbs as medical condition for 7c.

For 7c do not accept fits.

**Examiner comments**

Many candidates scored well, showing a good awareness of appropriate responses to those with asthma, diabetes and epilepsy.

## Questions 8 and 9

### Questions 8 and 9

- 8 Circle the answer true or false for the following statement:

You should give sugary sweets to treat someone having an epileptic seizure. True / **False** [1]

- 9 Describe why you might refer a performer to a medical professional during a sporting activity.

For a chronic medical condition or asthma attack / difficulty breathing / epileptic fit / seizures etc.) .. [2]

#### Alternative answers

- Severe / bad injury / concussion / head injury .. [2]
- Appropriate medical equipment not available .. [2]
- When a performer has a condition that is causing them severe distress and illness (during performance which cannot be resolved or diagnosed by the coach) .. [2]
- If you do not have the experience or appropriate level of knowledge or do not know the correct procedure or lack of expertise or not qualified or medical professional has more expertise
- You might put the player in danger or make things worse / prevent further damage
- To see whether they can continue (to participate) / carry on.

### Question 8 Mark Scheme Guidance

One mark for false.

### Question 8 Examiner comments

Most candidates scored the available mark and identified the statement as false.

### Question 9 Mark Scheme Guidance

Look for a description for two marks.

For a list of medical conditions = 1 mark maximum.

### Question 9 Examiner comments

This question asked for a description but some candidates gave very little information in their answer. To score the full two marks, each of the two points required a description.

## Questions 10 and 11

### Questions 10 and 11

10 The following are symptoms of which medical conditions?

(a) Symptom: Increased thirst

Condition: **Diabetes** ..... [1]

(b) Symptom: Wheezing

Condition: **Asthma** ..... [1]

(c) Symptom: Repeated visits to the toilet

Condition: **Diabetes** ..... [1]

11 Complete the following table which contains information on Emergency Action Plans.

| Area of emergency action plan                                | Description  |
|--|--|
| Emergency personnel  | (a) <b>First responder / first aider / coach or someone who knows what they are doing or a qualified person.</b> |
| (b) <b>(Emergency) communication or (emergency) contacts</b> | This includes telephone, emergency numbers, emergency services   |
| (c) <b>(Emergency) equipment</b>                             | (d) <b>First aid kits / evacuation chair or other emergency equipment examples</b>                               |

[4]

### Question 10 Mark Scheme Guidance

Do not accept dehydration as a medical condition for 10a.

Do not accept diarrhoea as a medical condition for 10c.

### Question 10 Examiner comments

This question was well answered, again showing generally a good awareness of symptoms for the medical conditions identified in the specification.

### Question 11 Examiner comments

The Emergency Action Plans are not well known by the majority of candidates, many of whom simply left this question unanswered. Candidates are reminded to fully revise all aspects of the specification and to be able to give practical examples where necessary. Some candidates showed a good awareness of these plans and gave an accurate response to each plan.

Questions 12 and 13

**Questions 12 and 13**

**12** 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: . **Swelling or bruising, redness or inflammation / hot or can't put pressure on it or loss of movement / function** ....

Treatment: . **R.I.C.E. or rest or ice / cold water or compression / bandage or elevation**

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

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

Symptom: . **Ache / hurt / tenderness / swelling (in shins / lower leg)** ....

Treatment: . **Swelling or bruising, redness or inflammation / hot or can't put pressure on it or loss of movement / function** .....

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

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

Symptom: . **Bone sticking through skin, bleeding, swelling** .....

Treatment: . **Taping / bandaging / splints / slings / pot / cast or rest or surgery or use of metal rods or emergency medical help** ....

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

(iv) Injury: Concussion ... **Ache in head / dizziness / nausea / blurred vision / unaware / unconscious / knocked out / (temporary) memory loss / loss of balance / swelling / unable to concentrate** .

Symptom: ..... **Rest or ice / cold compress or emergency medical help** .

Treatment: . **Rest or ice / cold compress or emergency medical help** .....

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

**13** Which stage of the SALTAPS on-field assessment routine does each of the following examples show?

(a) Checking whether the performer can move the injured limb.

**Active**

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

(b) Checking whether the performer can put weight on the injured limb.

**Strength**

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



**Question 12 Mark Scheme Guidance**

Twelve marks maximum.

One mark for symptom; one mark for treatment; one mark for correctly identifying chronic or acute per injury.

**Question 12 Examiner comments**

Many candidates found parts of this question too difficult and left some aspects unanswered. The symptoms and treatment of a sprained ankle was generally well-known but less so shin splints and an open fracture. A sizeable proportion of candidates were unable to differentiate between chronic and acute injuries.

**Question 13 Mark Scheme Guidance**

One mark for each for a) Active and b) Strength.

Do not accept A or S = vague.

Accept Action.

**Question 13 Examiner comments**

Although most candidates showed that they could recall each part of the acronym SALTAPS by making notes before answering the question, the practical application proved too difficult for many. Centres should bear in mind that this specification seeks to relate theory to practice throughout and candidates will be expected not just to have the knowledge of theories related to sports injuries, but also to be able to apply the theories and concepts to practical scenarios.



**Question 14 Mark Scheme Guidance**

Do not accept elevating or elevated (in the question).

Lifting someone up = vague.

**Question 14 Examiner comments**

The majority of candidates showed a good understanding of the term elevation, although those that did not gain the mark simply repeated the word elevation in their answer with little further information to show that they understood the term.

**Question 15 Mark Scheme Guidance**

In differentiating between levels look for:

MB1: simple description rather than explanation.

MB2: maybe one or more developed points with some explanation.

MB3: points are developed / expanded in more than one area of the answer (it is expected that each area is mentioned):

- Environmental factors, coaching and supervision, type of activity and equipment)
- Clear explanations
- Very few grammar, punctuation and spelling errors.

**Question 15 Examiner comments**

This question is marked using a levels mark scheme and the quality of written communication is taken into consideration. The level of written communication was strikingly poor this year, with many candidates unable to fluently express themselves on paper. Too many answers were illegible and many answers made little sense. Otherwise, this question was answered well with many candidates identifying several different extrinsic factors and then showing how these factors might directly influence injury. The better candidates also used practical examples to develop their answers. Those that scored less well had little idea of what extrinsic factors meant and wrote extensively about intrinsic factors and scored little if any marks. Those candidates who used short, clear and accurate sentences scored well.



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