

# Unit 18: Sports Injuries

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|-------------------------------|----------------------|
| <b>Unit code:</b>             | <b>R/502/5746</b>    |
| <b>QCF Level 3:</b>           | <b>BTEC National</b> |
| <b>Credit value:</b>          | <b>10</b>            |
| <b>Guided learning hours:</b> | <b>60</b>            |

## ● Aim and purpose

The aim of this unit is to provide learners with an overview of injury prevention, identification and basic treatment. The unit also explores differing rehabilitatory interventions for common sports injuries.

## ● Unit introduction

Injuries are often a common occurrence for those participating in sport. It is therefore important that those involved in sport gain an appreciation of the main factors that can cause injuries, as well as those that can play a part in preventing them, and how effective treatment and rehabilitation can reduce the amount of time spent out of normal participation.

Some risk factors are integral to participation and cannot be removed, so learners need to appreciate both the physiological and psychological mechanisms of injury, in terms of its occurrence, treatment and subsequent rehabilitation.

Whilst this unit is not designed to make learners into accomplished therapists, it does provide a basic understanding of how injury occurs, and what can be done to help promote recovery.

The first part of this unit concentrates on the importance of injury prevention, and looks at the main factors that can lead to injuries occurring, or to a performer being predisposed to suffering an injury. Having identified these risk factors, learners will then look at the different methods used to minimise risk.

Learners who enter the sports industry will undoubtedly encounter the issue of sports injuries in some capacity, from maintaining safety within a sporting environment to suffering some form of injury themselves. The second part of this unit will help provide learners with a greater understanding of the problems associated with injury prevention, and build on existing knowledge of how to recognise the onset of injury.

## ● Learning outcomes

**On completion of this unit a learner should:**

- 1 Know how common sports injuries can be prevented by the correct identification of risk factors
- 2 Know about a range of sports injuries and their symptoms
- 3 Know how to apply methods of treating sports injuries
- 4 Be able to plan and construct treatment and rehabilitation programmes for two common sports injuries.

## Unit content

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### 1 Know how common sports injuries can be prevented by the correct identification of risk factors

*Extrinsic risk factors:* coaching, eg poor coaching/leadership, communication, ensuring adherence to rules and governing body guidelines; incorrect technique, eg lifting and handling equipment; environmental factors, eg weather effects on surfaces; clothing and footwear, eg protective, sport-specific, specific to surface; safety hazards, eg the importance of safety checks, environment safety checks, equipment safety checks, misuse of equipment, first-aid provision, safety checklists, risk assessments

*Intrinsic risk factors:* training effects, eg muscle imbalance, poor preparation, level of fitness, overuse; individual variables, eg age, fitness level, growth development, previous injury history, flexibility, nutrition, sleep; postural defects, eg lordosis, kyphosis, scoliosis, overuse

*Preventative measures:* role of the coach, eg up-to-date knowledge of sport/performer, qualifications, adapt coaching style to performers ability/age/fitness level, communication; equipment and environment, eg checking equipment, risk assessments, protective equipment, appropriate usage

### 2 Know about a range of sports injuries and their symptoms

*Physiological responses:* damaged tissue, eg primary damage response, healing response, the clotting mechanism; the importance of scar tissue control in the re-modelling process; specific to injury, eg sprain/strain (signs and symptoms of first, second and third degree), haematomas (inter/intra)

*Psychological responses:* response to injury, eg anger, anxiety, depression, frustration, isolated from team mates; response to treatment and rehabilitation, eg anxiety, frustration, need for motivation, use of goal setting

### 3 Know how to apply methods of treating sports injuries

*Types of sports injury:* hard tissue damage, eg fracture, dislocation, stress fracture, shin splints; soft tissue damage, eg haematoma, abrasion, sprain, strain, concussion, tendonitis (achilles, shoulder), tendon rupture, blister, cramp, tennis elbow, back pain, cartilage damage, friction burns

*First aid:* emergency/immediate treatment, eg priorities, resuscitation, shock, bleeding, unconscious casualty, fractures, prevention of infection, summon qualified assistance, accident report forms

*Common treatments:* eg PRICED – protect, rest, ice, compression, elevation, diagnosis by professional, SALTAPS – (stop, ask, look, touch, active, passive strength), taping, bandaging, tubigrip, splints, hot/cold treatments, pain sprays limb supports, electrotherapy; medical referrals for specialist help as appropriate

#### 4 Be able to plan and construct treatment and rehabilitation programmes for two common sports injuries

*Treatment:* based on accurate diagnosis, eg immediate and long term, use of specialist help and advice

*Rehabilitation:* identification of stages of rehabilitation, eg stages 1-5, acute stage to re-establishing functional activity, strengthening exercises, on-going treatments, gradual increase in activity

*Programme:* methods to improve the lost range of motion, eg flexibility stretching (passive, active, proprioceptive neuromuscular facilitation – PNF); strengthening and co-ordination exercises; psychological considerations during rehabilitation, eg goal setting (short-term, long-term); the need for a careful structured approach to rehabilitation, eg motivation and anxiety within the rehabilitation programme; recording documentation and tracking of treatment, eg medical conditions, allergies, injury history, up-to-date and accurate information, appropriate forms, timescales and review dates, measurable objectives

## Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

| Assessment and grading criteria   |  |   |
|---|--|---|
| To achieve a pass grade the evidence must show that the learner is able to:   | To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:              | To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:               |
| <b>P1</b> describe extrinsic and intrinsic risk factors in relation to sports injuries  | <b>M1</b> explain how risk factors can be minimised by utilisation of preventative measures                                  |   |
| <b>P2</b> describe preventative measures that can be taken in order to prevent sports injuries occurring  |  |   |
| <b>P3</b> describe the physiological responses common to most sports injuries   | <b>M2</b> explain the physiological and psychological responses common to most sports injuries                               | <b>D1</b> analyse the physiological and psychological responses common to most sports injuries  |
| <b>P4</b> describe the psychological responses common to sports injuries  |  |   |
| <b>P5</b> describe first aid and common treatments used for four different types of sports injury   |  |   |
| <b>P6</b> design a safe and appropriate treatment and rehabilitation programme for two common sports injuries, with tutor support.<br>[IE1, IE2, IE4, TW1, TW4, EP4, RL5] | <b>M3</b> independently design a safe and appropriate treatment and rehabilitation programme for two common sports injuries. | <b>D2</b> evaluate the treatment and rehabilitation programme designed, justifying the choices and suggesting alternatives where appropriate. |

**PLTS:** This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

|            |  |   |  |
|------------|--|---|--|
| <b>Key</b> | IE – independent enquirers<br>CT – creative thinkers | RL – reflective learners<br>TW – team workers | SM – self-managers<br>EP – effective participators |
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# Essential guidance for tutors

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## Delivery

Tutors delivering this unit should use as wide a range of techniques as possible, such as lectures, discussions, seminar presentations, practical workshops, video/live practical sessions/performances, external visits and visiting speakers. Delivery should stimulate, motivate, educate and enthuse learners. Whichever delivery methods are used, it is essential that tutors stress the importance of injury prevention being the first and foremost priority and that treatment and subsequent rehabilitation programmes are ultimately a necessity for those injuries that are not preventable by nature. It should be emphasised that learners will not become qualified sports injury specialists or qualified first-aiders without additional study outside of, and in addition, to this unit.

Risk assessment is vital to any sports environment and ultimately to any person involved within the sports industry. This should be reinforced throughout the delivery of this unit, as it is envisaged that learners undertaking this qualification will be involved in some capacity with sport already, and are considering progressing further within the industry. Tutors should consider timing the delivery of this unit with related units within this and/or other qualifications. As the content of the unit shows, there is scope for good contextualised linkage to other areas such as anatomy, physiology, coaching, equipment and facilities, health and safety, instructing, leadership/leading, organising, practical sport, psychology, work experience, biomechanics, training and fitness and sports massage. The *Unit content* areas on the relationship between identification of risk factors and prevention of sports injuries are closely linked. Delivery techniques should look to incorporate theory with practice as much as possible. Learners should have the opportunity to undertake risk assessments of sports facilities/environments, and watch coaching sessions or competitive performances in order to identify issues relating to both learning outcomes. It is expected that formal lectures, discussions and presentations by learners will form part of the delivery of the unit.

The content covering the treatment of injury will require formal delivery and, wherever possible, learners should be encouraged to put theory into practice, using role play and practical workshops. Although it is not a requirement for this unit, it is possible that treatment of injury may be covered by undertaking a recognised first aid qualification. The *Unit content* covering the planning and construction of treatment and rehabilitation programmes aims to build upon the knowledge gained in the three previous outcomes and to look further into injury management and recovery to full fitness. Much of the delivery should take place via formal lectures, and would enable learners to research into the advancement of treatment and rehabilitation techniques, via primary sources wherever possible. The use of visiting speakers such as sports therapists, physiotherapists, sports coaches and performers who have experienced injury should highlight the importance of the *Unit content* in relation to the 'real world' of sport, and help bring the unit to a rounded conclusion.

Visits to appropriate environments (a sports injury clinic based in the NHS, local sports facilities or professional sports grounds) could also support the unit. Tutors should guide learners to select two different injuries as the focus for the treatment and rehabilitation programmes, in order to maximise their potential to achieve the higher grading criteria.

## Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan demonstrates one way in planning the delivery and assessment of this unit.

| Topic and suggested assignments/activities and/assessment  |
|--|
| Introduction and overview of the unit.   |
| <b>Assignment 1: Prevention of Sports Injuries (P1, P2, M1).</b> Tutor introduces the assignment brief.  |
| Identification of the different types of risk factors and their associated preventative measures using formal input combined with practical activities to possibly include risk assessment, role plays, etc.                           |
| <b>Assignment 2: Common Sports Injuries – Symptoms and Treatment (P3, P4, P5, M2, D1).</b> Tutor introduces the assignment brief.  |
| Physiological response to injury: tissue response in general and related to common sports injuries – using group discussion, film footage in conjunction with formal input.  |
| Identification of common injury treatment for physiological responses: emergency first aid and basic first aid techniques to help with the physiological response to injury – learner practical activities, techniques, and role play. |
| Psychological response to injury: participants' response to treatment and rehabilitation of sustained injury – consideration of a range of techniques to help participants deal with these issues.                                     |
| Identification of techniques when dealing with common psychological responses to injury treatment and rehabilitation – group discussion and individual research.   |
| <b>Assignment 3: Injury Rehabilitation Programmes (P6, M3, D2).</b> Tutor introduces the assignment brief.   |
| Treatment and rehabilitation: identification of acknowledged procedures with opportunities for learners to engage in practical activities to increase range of movement.   |
| Recording injury and treatment through to full recovery: group discussion as to importance and methods of how to manage successfully.  |
| Treatment and rehabilitation programmes: opportunity for formal input, group work and individual research providing learners with sufficient information to develop two different programmes.  |
| Review of reflective practice of unit and assessment.  |

## Assessment

For P1, learners will be expected to be able to describe extrinsic and intrinsic risk factors as listed in the *Unit content*. For P2, learners will be expected to correctly describe sports injury prevention methods as identified in the *Unit content*. It is possible that criteria P1 and P2 could be assessed via a booklet produced by learners describing risk factors and the related preventative methods for them. The depth of information given in the booklet would indicate whether or not learners had sufficient coverage to meet grading criterion M1, which requires explanation of how risk factors can be minimised by adopting preventative measures. The content would need to explain the relationship rather than purely describe the issues related to criteria P1 and P2.

Criteria P3 and P4 aim to address the issue of occurrence of sports injuries and the resulting symptoms, both physiologically and psychologically, as identified within the related content of the unit. If an explanation of both issues is detailed and contextualised sufficiently to the concept of sports injury then it is possible that grading criterion M2 and D1 (analysis) may also be achieved. It may be possible to assess this via the booklet mentioned previously, or for learners to give a presentation on the issues, supported by a tutor witness statement/observation record to confirm achievement.

For P5, learners must describe first aid and common treatments used for four different types of sports injury. For P6, learners must select two specific sports injuries and plan safe and appropriate treatment and rehabilitation programmes accordingly, with tutor support. Tutors may provide advice and guidance on selection of injuries to be covered by learners. The injuries selected should be done so with care and reasoned thought, as appropriate selection will provide scope for learners to cover the range of criteria P6, M3 and D2. A poor selection, for example a simple bruise, which needs little treatment and hardly any rehabilitation, limits the research available to learners. However, a fracture of the tibia and fibula or the rupture of the anterior cruciate ligament allows for depth of evidence and the use of primary sources.

The treatment and rehabilitation programme designed can be presented in any format. However, as specified in the *Unit content*, it should clearly state the treatment and rehabilitation, methods to improve the lost range of motion, strengthening and coordination exercises, psychological considerations, the need for a carefully structured approach to rehabilitation and relevant documentation and tracking of the treatment and rehabilitation programme.

## Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the assessment and grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

| Criteria covered   | Assignment title                                | Scenario   | Assessment method  |
|--------------------|---|--|--|
| P1, P2, M1         | Prevention of Sports Injuries                   | Having gained a work placement with a sports physiotherapist, you identify risk factors relating to sports performance and their associated preventative measures.                       | Presentation and witness statement, or booklet.                                  |
| P3, P4, P5, M2, D1 | Common Sports Injuries – Symptoms and Treatment | Research common sports injuries with practical exploration of basic sports injury treatment.   | Practical observations and assessment.<br>Observation record.<br>Written report. |
| P6, M3, D2         | Injury Rehabilitation Programmes                | You have had opportunity to observe a number of treatments and rehabilitation programmes in progress. Plan a rehabilitation programme for two different types of common sports injuries. | Written report.  |

## Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Sport sector suite and the BTEC Sport and Exercise Sciences sector suite. This unit has particular links with the following unit titles in the BTEC Sport suite and the BTEC Sport and Exercise Sciences suite:

| Level 2 Sport                              | Level 3 Sport   | Level 3 Sport and Exercise Sciences        |
|--|---|--|
| Anatomy and Physiology for Sport           | Principles of Anatomy and Physiology in Sport                   | Anatomy for Sport and Exercise             |
| Effects of Exercise on the Body Systems    | The Physiology of Fitness                                       | Sport and Exercise Physiology              |
| Planning and Leading Sports Activities     | Fitness Testing for Sport and Exercise                          | Fitness Testing for Sport and Exercise     |
| Practical Sport                            | Assessing Risk in Sport   | Fitness Training and Programming           |
| Outdoor and Adventurous Activities         | Fitness Training and Programming                                | Instructing Physical Activity and Exercise |
| Exercise and Fitness Instruction           | Sports Coaching   | Sports Injuries                            |
| Sport and Leisure Facility Operations      | Outdoor and Adventurous Activities                              | Sports Coaching                            |
| Leading Outdoor and Adventurous Activities | Instructing Physical Activity and Exercise                      | Outdoor and Adventurous Activities         |
| Expedition Experience                      | Exercise for Specific Groups                                    | Exercise for Specific Groups               |
| Work Experience in the Sports Industry     | Sports Injuries   | Work Experience in Sport                   |
|  | Organising Sports Events  | Sport and Exercise Massage                 |
|  | Equipment and Facilities for Outdoor and Adventurous Activities |  |
|  | Skills for Land-based Outdoor and Adventurous Activities        |  |
|  | Skills for Water-based Outdoor and Adventurous Activities       |  |
|  | Work Experience in Sport  |  |
|  | Sport and Exercise Massage                                      |  |

This unit links with the National Occupational Standards (NOS) for:

- Achieving Excellence in Sports Performance at Level 3
- Coaching, Teaching and Instructing at Level 3
- Instructing Physical Activity and Exercise at Level 3.

## Essential resources

Learners will need access to information on current sports injury research and issues, including treatment and rehabilitation strategies.

## Employer engagement and vocational contexts

This unit focuses on the practical aspects of sports injury prevention, identification and rehabilitation and will give learners the background knowledge and some important skills needed to work in a sports environment. Centres are encouraged to develop links with sports therapists, physiotherapists and coaches. This could be via talks, first aid courses, practical treatment workshops, or visits to sports facilities to look at risk assessment and preventative measures.

## Indicative reading for learners

### Textbooks

Anderson M K – *Fundamentals of Sports Injury Management* (Lippincott Williams and Wilkins, 2003) ISBN 9780781732727

Dalgleish J et al – *The Health and Fitness Handbook* (Longman, 2001) ISBN 9780582418790

Flegel M J – *Sport First Aid* (Human Kinetics Europe Ltd, 2008) ISBN 9780736076012

Gill W – *Practical Guide to Sports First Aid* (Lotus Publishing, 2004) ISBN 9780954318864

Shamus E – *Sport Injury Prevention and Rehabilitation* (McGraw-Hill Education, 2001) ISBN 9780071354752

### Journals

*American College of Sport Medicine's Health and Fitness Journal*

*British Journal of Sports Medicine*

*British Medical Journal*

*Exercise and Sport Sciences Reviews*

*International Journal of Sports Science and Coaching*

*Journal of Athletic Training*

*Medicine and Science in Sports and Exercise*

*Peak Performance*

*Research Quarterly for Exercise and Sport*

*Sports Injury Bulletin*

## Websites

Coachwise

[www.1st4sport.com](http://www.1st4sport.com)

E-Podiatry

[www.epodiatry.com](http://www.epodiatry.com)

Peak Performance

[www.pponline.co.uk](http://www.pponline.co.uk)

Sports Coach UK

[www.sportscoachuk.org](http://www.sportscoachuk.org)

Sports Coach

[www.brianmac.co.uk](http://www.brianmac.co.uk)

Sports Injury Clinic

[www.sportsinjuryclinic.net](http://www.sportsinjuryclinic.net)

Sports Medicine

[sportsmedicine.about.com](http://sportsmedicine.about.com)

Top End Sports

[www.topendsports.com](http://www.topendsports.com)

## Delivery of personal, learning and thinking skills

The table below identifies the opportunities for personal, learning and thinking skills (PLTS) that have been included within the pass assessment criteria of this unit.

| Skill                          | When learners are ...   |
|--------------------------------|---|
| <b>Independent enquirers</b>   | designing a safe and appropriate treatment and rehabilitation programme for two common sports injuries, with tutor support  |
| <b>Reflective learners</b>     | designing a safe and appropriate treatment and rehabilitation programme for two common sports injuries, with tutor support  |
| <b>Team workers</b>            | designing a safe and appropriate treatment and rehabilitation programme for two common sports injuries, with tutor support  |
| <b>Effective participators</b> | designing a safe and appropriate treatment and rehabilitation programme for two common sports injuries, with tutor support. |

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

| Skill                          | When learners are ...  |
|--------------------------------|--|
| <b>Independent enquirers</b>   | researching different risk factors and preventative measures<br>researching physiological and psychological responses to injury<br>researching common types of injury and methods of treatment<br>researching rehabilitation techniques and programmes |
| <b>Creative thinkers</b>       | presenting research findings relating to injury prevention<br>producing two rehabilitation programmes  |
| <b>Reflective learners</b>     | evaluating the rehabilitation programmes devised<br>analysing the responses to common injuries   |
| <b>Team workers</b>            | discussing the treatment of sports injuries via role play  |
| <b>Effective participators</b> | discussing the treatment of sports injuries via role play.   |

## ● Functional Skills – Level 2

| Skill  | When learners are ...  |
|--|--|
| <b>ICT – Use ICT systems</b>   |  |
| Select, interact with and use ICT systems independently for a complex task to meet a variety of needs  | researching preventative measures, common sports injuries and their associated responses, rehabilitation programmes and techniques and identifying appropriate treatment for common injuries |
| Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used   | planning a presentation on the prevention of sports injuries<br>planning two programmes for differing sports injuries  |
| <b>ICT – Find and select information</b>   |  |
| Select and use a variety of sources of information independently for a complex task  | researching preventative measures, common sports injuries and their associated responses, rehabilitation programmes and techniques and identifying appropriate treatment for common injuries |
| <b>ICT – Develop, present and communicate information</b>  |  |
| Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> <li>• text and tables</li> <li>• images</li> <li>• numbers</li> <li>• records</li> </ul> | planning a presentation on the prevention of sports injuries<br>planning two programmes for differing sports injuries  |
| Present information in ways that are fit for purpose and audience  | designing an appropriate presentation method for presenting research findings on the prevention of injury  |
| <b>English</b>   |  |
| Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts   | assessing a casualty and giving appropriate instruction during treatment of injury<br>presenting findings on prevention of sports injuries   |
| Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions   | researching preventative measures, common sports injuries and their associated responses, rehabilitation programmes and techniques and identifying appropriate treatment for common injuries |
| Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively  | preparing a presentation on sports prevention<br>producing a report on responses to injury and two rehabilitation programmes.  |