



RESOURCES LINK LEVEL 3

VERSION 2

SPORT

Level 2 and Level 3

WELCOME

Resources Link is an e-resource, provided by OCR, for teachers of Cambridge Technicals in Sport. It provides descriptions of, and links to, a variety of teaching and learning resources that you may find helpful.

In Resources Link you will find details of OCR's own support materials along with information about publisher partner, endorsed and other independent resources.

Where appropriate, we have mapped the resources to the OCR specifications, and provided information about their cost and format.

If you know of other resources you would like to see included here, or discover broken links, please let us know. We would also like to hear from you if you have any feedback about your use of these, or other, OCR resources. Please contact us at resourcesfeedback@ocr.org.uk

Types of Resource

OCR Produced Resources

These are resources devised and produced directly by the Resources Development Team at OCR.

Publisher Partner Resources

For many subjects OCR works with a publisher partner to ensure that good quality resources such as textbooks are available for first teaching.

Whilst the publisher partner has access to our subject experts and we quality check and endorse these resources they are produced by, and remain the property of, the publisher partner. There is no financial link between OCR and its publisher partners and we do not pay for the development of, or receive any royalties from, these resources.

Endorsed Resources

These resources were produced entirely independently of OCR, but we have quality checked them for their suitability as a resource to support our qualifications.

Other Resources

Unless specifically stated these resources are completely independently produced and are not endorsed by OCR. We have looked at them though, and we think they could be useful in supporting our specifications.

We leave it to you, as a professional educator, to decide if any of these resources are right for you and your students, and how best to use them.

You can now [click here](#), if you want to see an index of all resources mapped to subject topics.



Resources Index

click on a resource to go to the appropriate page.

Unit 1 - Principles of anatomy and physiology in sport

- The skeletal system
- Movement analysis
- Muscles and movement
- Introduction to Sports Biomechanics
- Fast and slow twitch muscle fibres
- The respiratory system
- Respiratory system
- Energy systems
- Aerobic system
- The cardio-respiratory system and exercise

Unit 2 - Sports coaching

- Roles and responsibilities of sport coaches
- How a coach can affect sporting performance
- Sport Learning – Coaching Styles and Methods
- The principles of sports coaching
- Sportplan
- Planning a training session
- Football drills
- Sports Leaders UK
- Sports session ideas
- Session evaluation sheet

Unit 3 - Current issues in sport

- Sports development resources
- List of sports organisations
- The media and its influence on female sport
- The influence of the media on sport
- Technology in sport
- The impact of technology on sport
- Contemporary issues in youth sport
- Barriers to sport and physical activity participation
- Reasons and influences on participation
- Sports England - Participation

General

- Careers in sport
- Sports psychology

Unit 4 - The physiology of fitness

- The body's response to acute exercise
- The cardiovascular system's response to acute exercise
- The respiratory system's response to exercise
- The long term effects of exercise on the skeletal system
- The long term effects of exercise on the muscular system
- Long term effects of exercise on the cardiovascular system
- Energy systems for exercise
- Exercise and muscle directory
- Exercise database
- Physiology of Sport and Exercise – W. Larry Kenney



The skeletal system



This resource gives a comprehensive overview of the skeletal system, including structure of bones and joints and the range of movement possible at different joints.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

Format: Website

<http://healthpages.org/anatomy-function/musculoskeletal-system-bones-joints-cartilage-ligaments/>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Movement analysis

Analysis of jumping

The action in jumping is one that takes place in a sagittal plane about a transverse axis and involves the hip, knee and ankle joints.

The bones of the hip involved are the femur and pelvic girdle which form a ball and socket joint.

The bones of the knee involved are the femur and tibia which form a hinge joint.

The bones of the ankle involved are the tibia and calcaneus which form a modified joint.



Joints involved	Action	Agonist Muscle
Hip	Extension and hyperextension	Gluteal muscles (gluteus maximus and gluteus minimus) and Hamstrings (biceps femoris, semimembranosus, semitendinosus)
Knee	Extension	Quadriceps group of muscles (rectus femoris, vastus medialis, vastus lateralis and vastus intermedius)
Ankle	Plantar flexion	Gastrocnemius

This website provides analysis of skeletal movement for major sporting actions

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

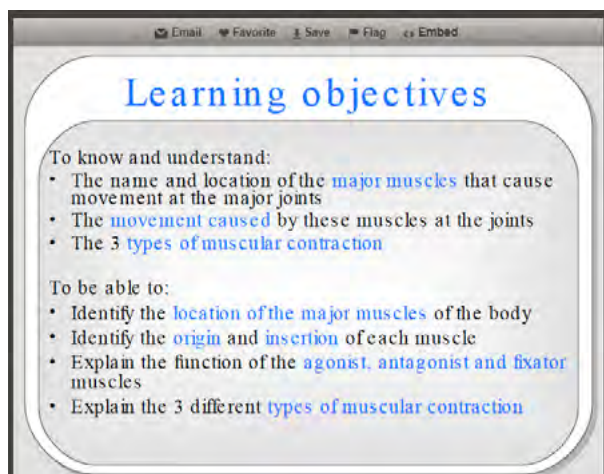
Format: Website

www.brianmac.co.uk/moveanal.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Muscles and movement



This PowerPoint presentation details the major muscles, how these muscles move at each joint and the different types of muscle contraction.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

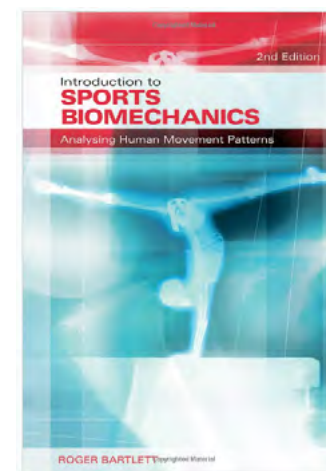
Format: PowerPoint

www.slideshare.net/hchapman28/muscles-and-movement-2

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Introduction to sports biomechanics



This book provides an accessible and comprehensive guide to biomechanics and is full of visual aids to support the text. Every chapter contains cross references to key terms and definitions from that chapter, learning objectives and summaries, study tasks to confirm and extend your understanding, and suggestions to further your reading.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Approx £30

Format: Book

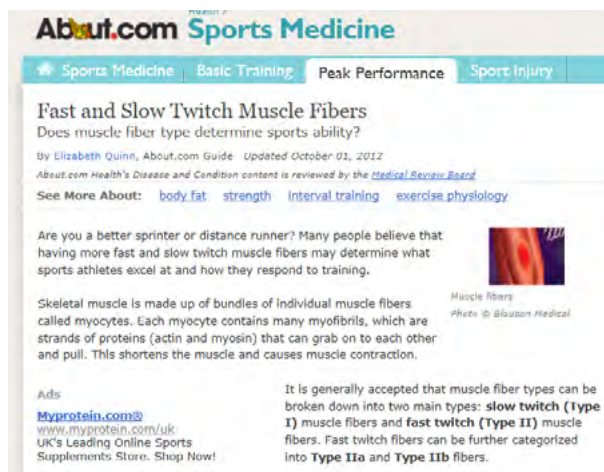
www.amazon.co.uk/dp/0415339944

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Fast and slow twitch muscle fibres



This webpage gives a detailed description of fast and slow twitch muscle fibre and provides links to additional reading on this subject.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

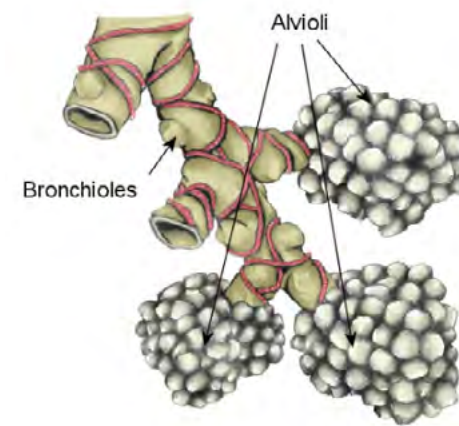
Format: Website

<http://sportsmedicine.about.com/od/anatomyandphysiology/a/MuscleFiberType.htm>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The respiratory system



This website includes clear diagrams and a detailed explanation of the respiratory system.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

Format: Website

www.teachpe.com/anatomy/respiratory_system.php

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk




Respiratory system

BIO 301
Human Physiology
Respiration

Respiratory System:

- Primary function is to obtain oxygen for use by body's cells & eliminate carbon dioxide that cells produce
- Includes respiratory airways leading into (& out of) lungs plus the lungs themselves
- Pathway of air: nasal cavities (or oral cavity) > pharynx > trachea > primary bronchi (right & left) > second exchange



This resource includes a detailed description of the respiratory process and various diagrams and video clips to reinforce understanding.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

Format: Website

<http://people.eku.edu/ritchisong/301notes6.htm>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Energy systems

THE SPORTS SCIENCE RESOURCE


Sports Medicine
Medicine > Anatomy & Physiology > ATP

ATP what?

the energy systems simply explained

It is important to understand the energy systems when setting training programs. Here they are explained in simple terms.

The food we eat, in the form of carbohydrates, fats and proteins, is used as fuel for reactions in the body that make us 'alive'. To utilise these fuels for muscle action, the body converts them to a common 'energy currency', called adenosine tri-phosphate (ATP). There are essentially two mechanisms for producing ATP, the aerobic and anaerobic pathways. 'Aerobic' means literally with oxygen, while 'anaerobic' means without oxygen.



For low intensity activities, for example sleeping, working and jogging, and more intense however sustained activities such as marathon running, the ATP required for muscle contraction is produced primarily by the aerobic pathway. The rate that ATP is supplied by the aerobic processes is relatively slow, and therefore the rate of work output is also slow. The by-products of aerobic metabolism are carbon dioxide, which is exhaled by normal respiration, and water. As long as there is a continual supply of fuel (eg. fats and

This resource explains the different energy systems clearly and simply.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

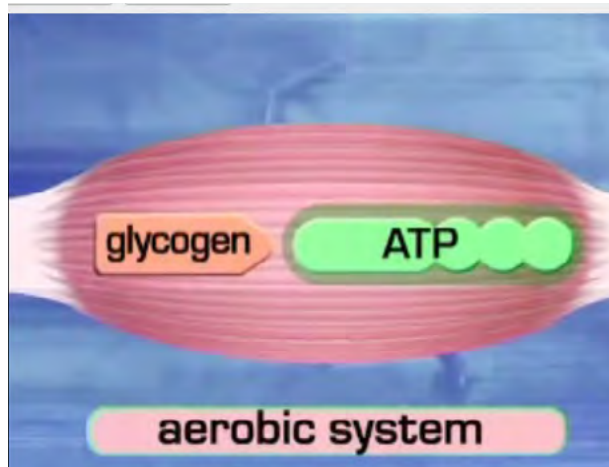
Format: Website

www.topendsports.com/medicine/systems.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Aerobic system



This informative clip clearly explains the aerobic system and the effect it has on physical activity. There is a sister clip that covers the anaerobic energy system.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

Format: Website

www.youtube.com/watch?v=PQMsJSme780

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The cardio-respiratory system and exercise

Muscle Mentors

Muscle Building Secrets

HOME ABOUT PRIVACY POLICY TERMS AND CONDITIONS

You Are Here: [Home](#) > [Anatomy & Physiology](#) > The Cardio-Respiratory System and Exercise

The Cardio-Respiratory System and Exercise

Written on September 9, 2009 by [L.S. Obaia](#) in [Anatomy & Physiology](#)

Introduction

- Immediate adjustments needed to meet metabolic demands of the body's cells to exercise as well as adaptations
- understand how the systems of energy and substrate delivery - the respiratory and cardiovascular systems - meet the increased demand that occurs while engaging in work, exercise or physical activity.
- Brief description of the anatomy of the respiratory and cardiovascular systems
- A description of the physiology of both systems and how they work together to supply the body with oxygen
- What happens at the onset of exercise - how the cardio-respiratory system meets the increased demand that occurs while engaging in exercise or physical activity. What happens when activity is stopped
- What training adaptations occur in both systems as well as how they occur in terms of

This comprehensive webpage explains the structure of the cardio-respiratory system and what happens to it during exercise.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 1: Principles of anatomy and physiology in sport

Cost: Free

Format: Website

www.musclementors.com/the-cardio-respiratory-system-and-exercise/

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Roles and responsibilities of sports coaches



This website looks at the roles and responsibilities of coaches of different sports, including football, golf and cricket.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

<http://coachesgiveadvice.blogspot.co.uk/2009/03/roles-and-responsibilities-of-sports.html>

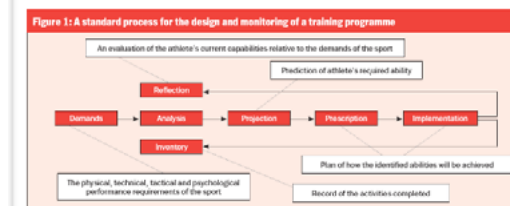
If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

How a coach can affect sporting performance

Assessing programme effectiveness

Figure 1 shows a standard process for the design and monitoring of a training programme. Central to any process is the necessity for the coach to assess the outcome of the programme and its effectiveness to provide the desired adaptive response.



When reflecting upon the effectiveness of a training intervention, the coach needs to consider the following four factors:

- What was planned;
- What was actually completed;

This resource looks in detail at the way a coach can improve sporting performance by using a well-planned training programme effectively.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

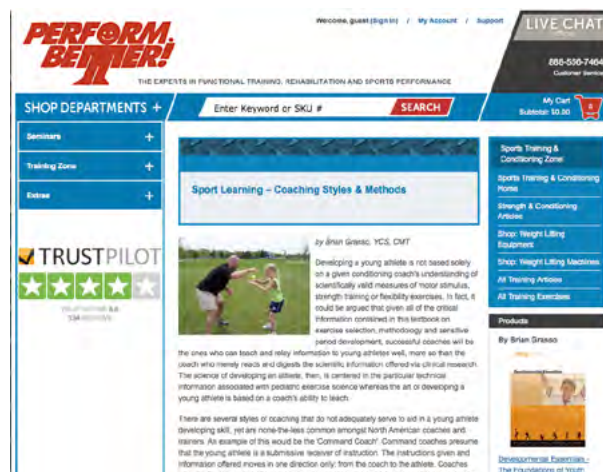
Format: Website

www.pponline.co.uk/encyc/sports-coaching-a-critical-assessment-of-how-an-athlete-can-improve-performance-40873

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Sport Learning – Coaching Styles and Methods



This website gives an overview of the different phases that someone being coached goes through in terms of their learning and development.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

<http://www.performbetter.com/webapp/wcs/stores/servlet/PBOnePieceView?storeId=10151&catalogId=10751&pagename=286>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The principles of sports coaching

The principles of sports coaching



This document looks in detail at sports coaching philosophy, different types of coaching styles and the skills that sports coaches need.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

www.playingforthefuture.co.uk/wp-content/uploads/2010/01/Coaching-principles.doc

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Sportplan



This website has thousands of drills and session plans in a range of different sports.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free (login required)

Format: Website

www.sportplan.net/drills/index.jsp

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Planning a training session



This resource sets out the basic parameters for planning successful coaching sessions.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

www.ausport.gov.au/participating/coaches/tools/the_training_session/Planning

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Football Drills



This website has lots of drills and coaching ideas for many different sports.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

www.youtube.com/watch?v=FoUKRGpqwYQ

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Sports Leaders UK



Sports Leaders UK run sports leadership qualifications for young people from the age of 13. This website gives information about these qualifications.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

www.sportsleaders.org

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Sports session ideas



This website gives lots of ideas for fun sports activities.

Session evaluation sheet

The form is titled 'Coaching Session Review Log' and features a decorative header with a red and blue curved line. Below the header, there are fields for 'Session date:', 'Venue:', and 'Group:'. A 'Details of session:' section includes a table with two columns and two rows. The first row asks 'What were the goals for the session - what were you trying to achieve?' and the second row asks 'How did the participants react to you/ the session?'. There is also a 'sports coach UK' logo in the top right corner.

This resource can be used by learners to review their coaching session.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: Website

www.sparkpe.org/after-school/curriculum/lesson-plans/

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 2: Sports coaching

Cost: Free

Format: PDF

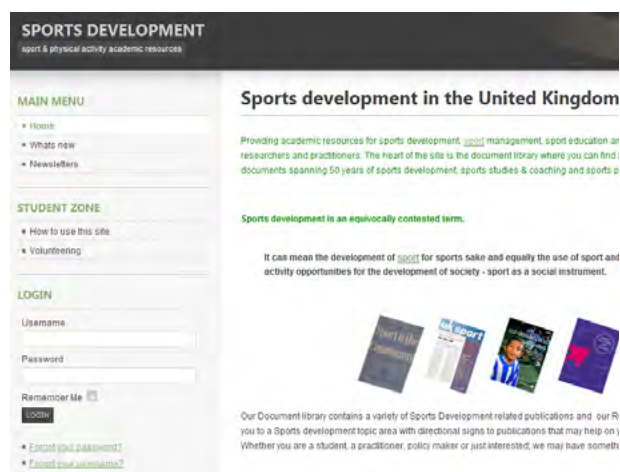
<http://sportscoachuk.org/resource/coach-manager-session-review-log>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Sports development resources



This website provides sports development related resources for teachers, coaches and students.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: From £9.99 for annual subscription

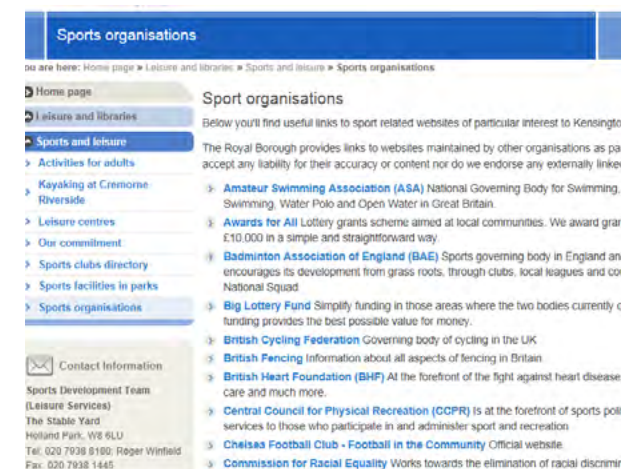
Format: Website

www.sportdevelopment.info/

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

List of sports organisations



This website lists and links to National Governing Bodies of Sport and other relevant sports organisations.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

Format: Website

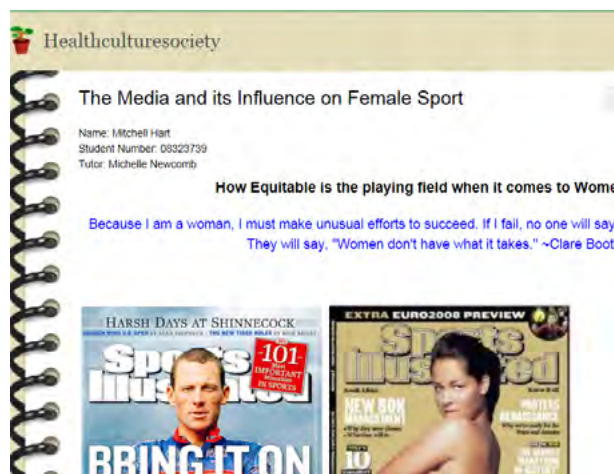
www.rbkc.gov.uk/leisureandlibraries/sportsandleisure/sportsorganisations.aspx

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



The media and its influence on female sport



This essay investigates the effect of the media on female sport.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

Format: Website

<http://healthculturesociety.wikispaces.com/The+Media+and+its+Influence+on+Female+Sport>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The influence of the media on sport

Benefits/ Disadvantages of Television for Sport

- ❑ Broadcasts instantaneous sporting action to a large audience.
- ❑ Cheap to film compared with dramas etc.
- ❑ Hence features heavily on TV schedules particularly at weekends.
- ❑ Has brought minority sports to the fore
- ❑ Helps participants reach superstar status
- ❑ Raised performers earnings
- ❑ Provides role models
- ❑ Developed academic qualifications, sports science, books, journals and videos.
- ❑ Places athletes under pressure to perform more regularly than is good for them
- ❑ Players become public figures where their every move is scrutinised
- ❑ Over dramatises problems in sports world. Sensationalism sells papers
- ❑ Focus is often on the critical element of sport e.g. a violent incident or a challenge to the ref
- ❑ Deals between sporting bodies and the media can favour certain sports e.g. Adidas and FIFA

This PowerPoint resource looks at the influence of the media on sport.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

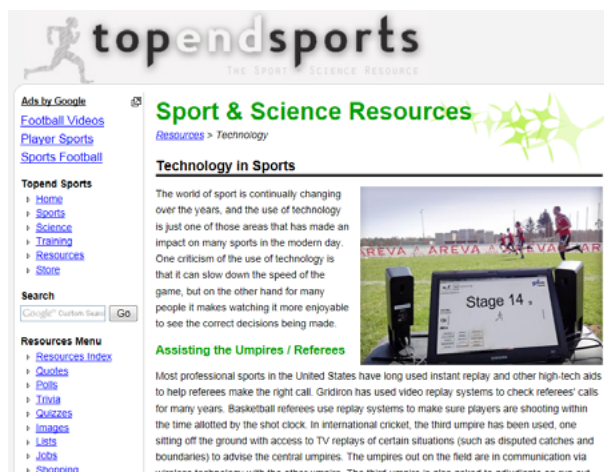
Format: PowerPoint

www.revisionworld.co.uk/files/Sport_and_the_media.ppt

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Technology in sport



This webpage looks at the different types of technology that are used in various sports and the effect that this has on the sport.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

Format: Website

www.topendsports.com/resources/technology.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The impact of technology on sport

Frequently Asked Questions

We receive many inquiries from students, journalists, other academics and the general public asking questions about technology. Given the broad context for the term technology, even as it applies to sport, the scope of the potential discussion is quite extensive. A distillation of the types of questions received and the responses to these queries. The focus is on new innovations; and, the future with reference to various target audiences (i.e., coaches, athletes, spectators, fans, parents, officials, media, industry, and

The most frequently asked questions with regard to sport and technology include:

- "Has science and technology improved sport?"
- "How does the Internet impact sport?"
- "How is technology used to aid decision making in sport?"
- "Will technology replace human judgements in sport: will we no longer need human referees and judges?"
- "What factors are influencing the development and use of technology in sport?"
- "What new research is being undertaken in sport technology?"

Has science and technology improved sport and physical education?

Martens (1997) has suggested that kinesiolgists and physical educators have been profoundly effected by technology which has radically altering how we practice our professions and live our personal lives. This amazing world of technology is dramatically quality in the manufacturing of products and the delivery of goods and services. It reduces drudgery and, contrary to early creativity because of the elimination of tedious tasks (p. 233).

The question that Martens asks his colleagues to address is "How do we avoid technology taking us for a wild ride in which we instead determine how we may optimally put technology to use..." (p. 232).

In his book When Things Bite Back, Tenner (1997) describes how the introduction of safety features such as boxing gloves for players has led to a greater incidence of injury. For example, the adoption of boxing gloves to make bare knuckled boxing safer punches to the head without breaking their hands, with the result that there were more incidents of brain injury and death after before.

Malone (2001) likewise outlines the unexpected and unpredicted consequences of computer and Internet use on individuals as researchers thought that the microprocessor would be an answer to the world's energy problems, since they used less energy / time no one expected that there would be billions of processors and controllers in the world so that the microchip would become ubiquitous and advanced technology may have handles for society but the unintended side effects can be quite devastating.

This resource tackles the most frequently asked questions with regard to sport and technology.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

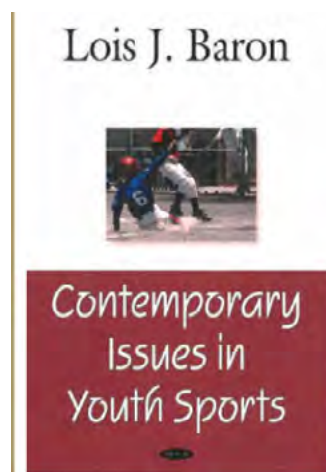
Format: Website

www.kin.ucalgary.ca/strc/8.htm

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Contemporary issues in youth sport



There is an ever-growing number of youth participating in sport, organised or otherwise. This book deals with the important issues of involvement of parents, issues of fair play, child abuse, life skill development through sport and the commercialisation of sport.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Approx £90

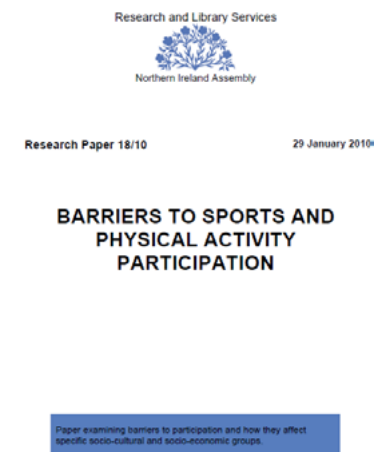
Format: Book

www.amazon.co.uk/dp/1600215386

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Barriers to sport and physical activity participation



This comprehensive research paper investigates the barriers to sports participation and includes useful statistics and quotes.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

Format: PDF

www.niassembly.gov.uk/Documents/RaSe/Publications/2010/Culture-Arts-Leisure/1810.pdf

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Reasons and influences on participation



This powerpoint resource gives a clear overview of the influences and barriers that effect sports participation.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

Format: PowerPoint

www.slideshare.net/MoodyNatalie/reasons-influences-on-participation

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Sport England - Participation



This website lists more than 40 different research papers and information sheets linked to sports participation, summarising each one for ease of reading and extraction of information.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 3: Current issues in sport

Cost: Free

Format: Website

www.sportengland.org/research/benefits-of-sport/the-value-of-sport-monitor/participation/

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



The body's response to acute exercise



This excellent powerpoint presentation covers the main aspects of the body's response to acute exercise and includes learner tasks.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

Format: Website - PowerPoint

<http://prezi.com/-pxkfjdrjsb>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The cardiovascular system's response to acute exercise

Immediate Response of the Cardiovascular System to Exercise

Heart Rate

Resting heart rate averages 60 to 80 beats/min in healthy adults. In sedentary, middle aged individuals it may be as high as 100 beats/min. In elite endurance athletes heart rates as low as 28 to 40 beats/min have been recorded (2).

Before exercise even begins heart rate increases in anticipation. This is known as the **anticipatory response**. It is mediated through the releases of neurotransmitters called **epinephrine** and **norepinephrine** also known as adrenaline and noradrenaline (1).

After the initial anticipatory response, heart rate increases in direct proportion to exercise intensity until a maximum heart rate is reached. Maximum heart rate is **estimated** with the formula **220-age**. But this is only an estimation, and not particularly accurate. The only direct method for determining maximum heart rate is to exercise at increasing intensities until a plateau in heart rate is found despite the increasing work rate.

Although heart rate increases rapidly with the onset of activity, providing exercise intensity remains constant, heart rate will level off. This is known as **steady-state heart rate** where the demands of the active tissues can be adequately met by the cardiovascular system. However, there is an exception to this

During prolonged steady-state exercise, particularly in a hot climate, a steady-state heart rate will gradually increase. This phenomenon is known as **cardiac drift** and is thought to occur due to increasing body temperature (3).

Stroke Volume

This resource explains in detail how the cardiovascular system responds to exercise.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

Format: Website

www.sport-fitness-advisor.com/cardiovascular-system-and-exercise.html

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



The respiratory system's response to exercise

Respiratory Responses to Exercise

This page covers everything you need to know about how the respiratory system's response intensities of exercises. Also covered are cool terms such as 'EPOC', VO2max and Oxygen c

Two of the major functions of the respiratory system (the lungs and the tubes through which air pass in and out of the body) are to:

1. Provide oxygen (O₂) to the tissues of body via the lungs
2. Eliminate carbon dioxide (CO₂) from the tissues of the body via the lungs

As with the cardiovascular system (heart, blood and blood vessels) greater demand is placed on these key functions with certain types of exercise.

As exercise commences pulmonary ventilation (breathing) increases in direct proportion to the intensity and metabolic needs of the exercise. This is shown on the adjacent graph. Note that pulmonary ventilation is expressed in terms of litres of air inhaled and exhaled per minute (L/min).

The graph shows pulmonary ventilation (L/min) on the y-axis (0 to 140) and time on the x-axis. It is divided into five stages: Start, Heavy, Moderate, Light, and Stop. The ventilation rate increases significantly during the 'Heavy' and 'Moderate' exercise phases and then gradually returns to baseline during the 'Light' and 'Stop' phases.

This webpage explains how the respiratory system responds to different types and intensities of exercise.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

Format: Website

<http://www.ptdirect.com/training-design/anatomy-and-physiology/acute-respiratory-responses>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

What are the effects of exercise on the skeletal system?

What Are the Effects of Exercise on the Skeletal System?

It's often easy to overlook the effect that exercise has on the skeletal system because the bones and other associated internal organs are very much out of sight and out of mind. The skeletal system consists of the bones, ligaments that connect bones to other bones and cartilage that protects the bones from wear and tear. Exercise has a number of effects on the skeletal system both in the short and the long term.

Increased Synovial Fluid Production

The bones and cartilage are avascular, that is, they have little or no blood supply. To keep joints healthy, the cartilage must stay moist and well-lubricated. Increased joint movement causes the joints to produce a fluid called synovial fluid. According to "Sports Injuries: Their Prevention and Treatment, Third Edition" by Dr. Frederick J. Lehmann, synovial fluid is produced by the synovial membrane within the joints and is a by-product of the response to exercise. This means that joints require regular exercise to stay lubricated, nourished and healthy.

This resource explains the long term effects of exercise on the skeletal system.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

Format: Website

<http://www.livestrong.com/article/131711-what-are-effects-exercise-skeletal-system/>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

The long terms effects of exercise on the muscular system



This resource explains the long term effects of exercise on the muscular system.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

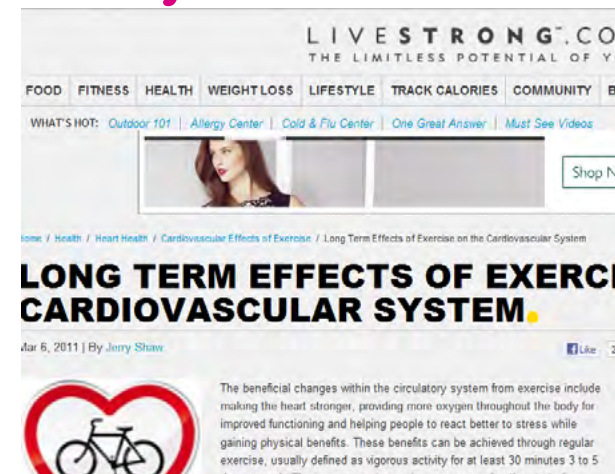
Format: Website

www.ehow.com/about_5379692_effects-exercise-muscular-system.html

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Long term effects of exercise on the cardiovascular system



This resource explains the long term effects of exercise on the cardiovascular system.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

Format: Website

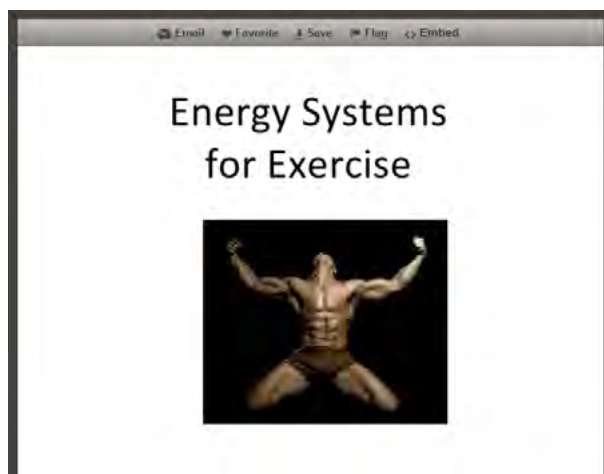
www.livestrong.com/article/22941-long-term-effects-exercise-cardiovascular/

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Energy systems for exercise



This detailed powerpoint looks at the way that the body creates, stores and uses energy and the implications this has for exercise.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

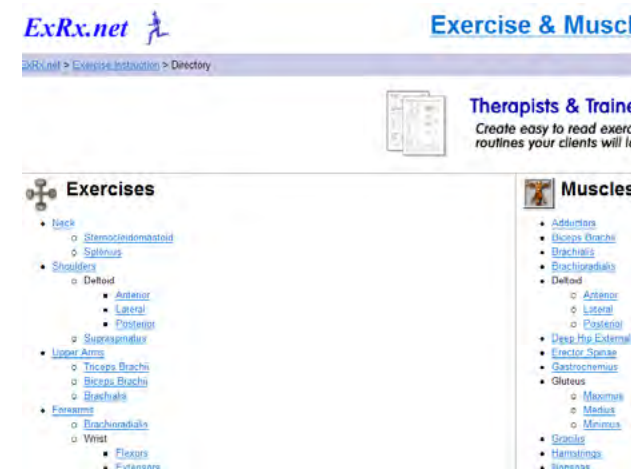
Format: PowerPoint

www.slideshare.net/guest30140e/lesson-111-st-dec-2008-presentation

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Exercise and muscle directory



This website has a muscle directory; click on the muscle you are interested in and it gives diagrams and other relevant information. The exercise directory lists exercises for each specific muscle or group of muscles.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness

Cost: Free

Format: Website

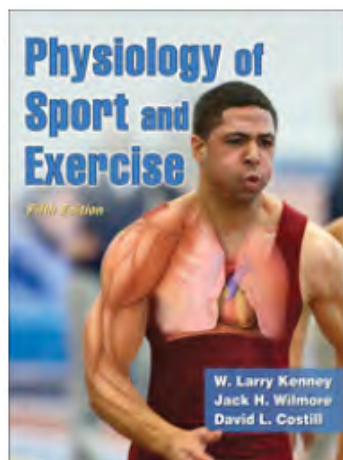
www.exrx.net/Lists/Directory.html

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Physiology of Sport and Exercise – W. Larry Kenney



Physiology of Sport and Exercise, Fifth Edition, offers comprehensive coverage of the relationship between human physiology and exercise. Updated in both content and design, this edition features revamped artwork that better illustrates how the body performs and responds to physical activity.

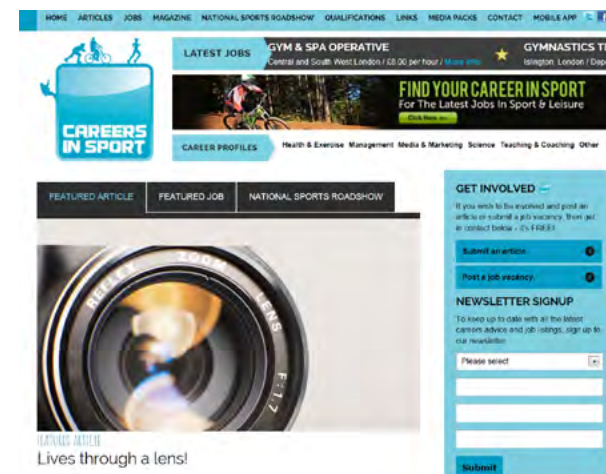
- Supports:** OCR Cambridge Technicals in Sport Level 3
Unit 4: The physiology of fitness
- Cost:** RRP approx. £50
- Format:** Book

www.amazon.co.uk/dp/0736094091

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk

Careers in sport



A website for 14 – 19 year olds considering a career in the sport and leisure industry or studying a sports related degree in Higher Education. Highlights the diversity of careers within the sports industry and aims to provide anyone who would like to find a job in sport and leisure with the information they need to establish their career. Experts working within each profession provide detailed descriptions of their typical day, the benefits and disadvantages of the profession, as well as provide helpful advice on the right qualifications and experience required.

- Supports:** OCR Cambridge Technicals in Sport Level 3
- Cost:** Free
- Format:** Website

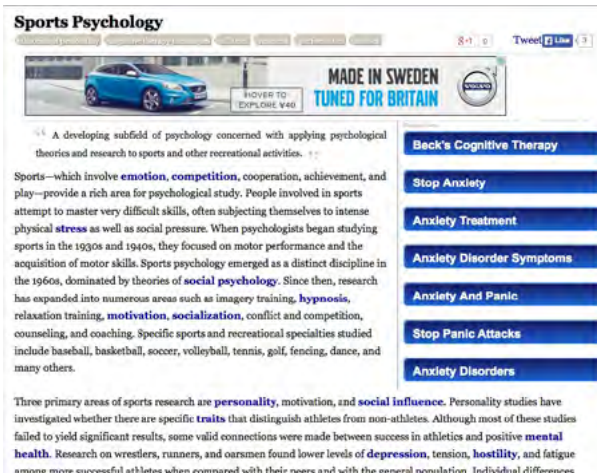
www.careers-in-sport.co.uk

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk



Sports Psychology



Sports Psychology

MADE IN SWEDEN
TUNED FOR BRITAIN

A developing subfield of psychology concerned with applying psychological theories and research to sports and other recreational activities.

Sports—which involve **emotion**, **competition**, cooperation, achievement, and play—provide a rich area for psychological study. People involved in sports attempt to master very difficult skills, often subjecting themselves to intense physical **stress** as well as social pressure. When psychologists began studying sports in the 1930s and 1940s, they focused on motor performance and the acquisition of motor skills. Sports psychology emerged as a distinct discipline in the 1960s, dominated by theories of **social psychology**. Since then, research has expanded into numerous areas such as imagery training, **hypnosis**, relaxation training, **motivation**, **socialization**, conflict and competition, counseling, and coaching. Specific sports and recreational specialties studied include baseball, basketball, soccer, volleyball, tennis, golf, fencing, dance, and many others.

Three primary areas of sports research are **personality**, motivation, and **social influence**. Personality studies have investigated whether there are specific **traits** that distinguish athletes from non-athletes. Although most of these studies failed to yield significant results, some valid connections were made between success in athletics and positive **mental health**. Research on wrestlers, runners, and oarsmen found lower levels of **depression**, tension, **hostility**, and fatigue among more successful athletes when compared with their peers and with the general population. Individual differences

- Beck's Cognitive Therapy
- Stop Anxiety
- Anxiety Treatment
- Anxiety Disorder Symptoms
- Anxiety And Panic
- Stop Panic Attacks
- Anxiety Disorders

This website gives a brief history of how Sports Psychology has developed over time and offers detailed descriptions specific areas of psychological study that are focused on within sport.

Supports: OCR Cambridge Technicals in Sport Level 3
Unit 6: Psychology for Sports Performance

Cost: Free

Format: Website

<http://psychology.jrank.org/pages/608/Sports-Psychology.html>

If you know of any resources that you think should appear here, or if you identify broken links please let us know. We would also like to hear from you with your feedback about your use of any of the resources listed here. Please contact us at

resources.feedback@ocr.org.uk





CONTACT US

Staff at the OCR Customer Contact Centre are available to take your call between 8am and 5.30pm, Monday to Friday.

We're always delighted to answer questions and give advice.

Telephone 02476 851509

Email cambridgetechnicals@ocr.org.uk

www.ocr.org.uk