

STRENGTH AND CONDITIONING

Andrew Adams MDipFTST,ASCC

Module Overview

1. 1. An introduction to Strength and Conditioning and the athlete “needs analysis”.
2. 2. Assessing the foundations, the static musculo skeletal screening.
3. 3. Movement Screening and the importance of the core.
4. 4. Sport specific testing and use of data.
5. 5. Planning and implementation.
6. 6. Speed, Agility and Plyometrics 1 (An overview of the subject)
7. 7. Speed, Agility and Plyometrics 2 (Drills for specific sports)
8. 8. Weight lifting 1 (The squat, Deadlift and variations)
9. 9. Olympic lifting 1. Practice and Coaching
10. 10. Olympic lifting 2. Practice and Coaching
11. 11. Weight lifting revision and coaching practice.

1. An introduction to Strength and Conditioning and
the “Athlete Needs Analysis”

Strength & Conditioning in the UK

In recent years the UKSCA have become the standard setters for Strength & Conditioning education in the United Kingdom.



For most higher education institutions who deliver S&C services to athletes the UKSCA Accreditation is the benchmark qualification required to work in the industry.

There are currently 395 Accredited members in the UK and 1594 Associate members (as of January 2012)

What is Strength and Conditioning?



- Strength and Conditioning can be defined as:
“The application of research driven and holistic training methodologies to both enhance performance and promote health and sporting longevity”.



Copyright © 2010 Wolters Kluwer Health | Lippincott Williams & Wilkins



Copyright © 2010 Wolters Kluwer Health | Lippincott Williams & Wilkins

So is Strength and Conditioning basically the same as Personal training?

Take 5 minutes to list 3 things that both disciplines have in common and 3 things that are unique to each.

What is the difference between S&C and PT?



S&C Coaches

primarily work with athletes engaged in sport

- Work with well motivated and focussed individuals
- Work with athletes who have good health & lifestyle



- Target sporting longevity
- Focus on maximising potential
- Unconcerned with aesthetics



What is the difference between S&C and PT?

Personal Trainers



- Often work with people with low motivation
- Generally work with de-conditioned clients
 - Balance favours aesthetics rather than performance
 - Primarily focussed on short term gains



Is it just the guys who do weights?



No!!!



- **Weight-lifting: The power clean**
- The most important lift for us is the power clean, because it's the closest to a rowing stroke. When you address the bar, you're in a position very similar to the beginning of a rowing stroke sequence - squatting down with straight arms, keeping the chest upright and your posture neutral. The same is true of the drive phase, where you're using the big muscles in your back and bottom to get the oar moving.
- (Jessica Eddy GB Rowing)

Jessica Ennis (Taken from her S&C Coach)

- She has then gone into a 9 week period split into a 4 week block and a 5 week block of hard work to make up for any taper into the commonwealth games.
- Strength build has continued and she weight trains twice a week during the 4 week block she has lifted at 4 x 5 @ 80% of max. Exercises include **Hang cleans, Hang snatch, half squat, bench press and incline bench press, single leg squats** being the major lifts and then additional weights for all round conditioning.
- The next block will be split in the weights room to 2 weeks at 4 x 4 @ 85% and 4 x 3 @ 90% the last week will be tapered into a 5th week of testing strength levels in preparation for the season. During the season just looking at a maintenance programme

When working with an athlete what should your first task be?

Gather as much information as possible about the sport in question, design a periodised training program, teach your athletes the Olympic lifts or conduct Speed agility sessions?

A light blue circle is centered on a white background. Inside the circle, the text "What do you think?" is written in a black, sans-serif font. The text is arranged in three lines: "What do" on the top line, "you" on the middle line, and "think?" on the bottom line.

What do
you
think?

The Athlete Needs Analysis

“The strength and conditioning professional’s initial task is to perform a needs analysis, a two stage process that includes an evaluation of the requirements and characteristics of the sport and an assessment of the athlete (Baechle/Earle et al 2008).”

How do we do this?



Copyright © 2010 Wolters Kluwer Health | Lippincott Williams & Wilkins

How do we do this?

FIRST UNDERSTAND THE SPORT!

Talk to athletes

Video footage

Talk to sport specific coaches

Watch athlete in action

THEN TEST

The needs analysis is one element that will drive the training itself. If you were to build a house one of the first things you would do would be to have a survey done on the location you want to build on. You would also need to know how big the house is likely to be along with some ideas of the specification and time frame that it will need to be built in. From this you would be able to go away and draw up your plans.

Things we need to consider



Things we need to consider

- What type of sport is it?
- Individual or team sport
- Collision orientated
- Combat oriented
- Skill dependant
- Activity timings e.g sprint, marathon, intermittent, explosive, rounds, half/full times.
- Planes of motion
- Positional demands
- Work to rest ratio
- Environmental demands
- Athlete qualities
- Psychological demands
- Common injuries
- Season duration/time
- Competitive cycle e.g Yearly/Olympic

PRACTICAL TASK

RUGBY UNION

HOCKEY

BASKETBALL

ROWING

TOUR CYCLIST

You have 15 minutes to complete a needs analysis for one of these sports.

Questions?