



Information Gathering

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Introduction

As a sports conditioning coach, you must adhere to all of the usual precautions with your clients. You must also devise an appropriate session for the client in front of you; not a generic session based on assumptions of what you think it should include. In order to individualise your session, you must therefore obtain objective information about both the client and the sport. This includes:

- PARQ/Informed consent
- Consultation
- Needs analysis of the sport
- Screening/fitness testing of the client

Pre Activity Readiness Questionnaire

A PARQ is used as a check for injury, illness or a medical condition that may affect the participant's ability to exercise. This is a screening form recognised throughout the fitness industry and represents the minimum that should be done. It may be relevant to ask more detailed questions than the basic PARQ and many sports conditioning coaches use their own screening procedure for this purpose.

Informed consent

An informed consent form tell the client in writing what they can expect from their training programme. It should include a description of the activities they will do and a list of the benefits and risks of those activities. This allows the client to ask questions about the programme. The client then signs to say that they understand the programme and consent to it's application. The signature can be witnessed if necessary.

Informed consent is not a disclaimer. The coach still needs to act responsibly and has the usual duty of care required by law. It does however offer the trainer a legal defence if something goes wrong.

Consultation

The simplest way to find out about your client is to talk to them. Use this time to find out relevant information about them including:

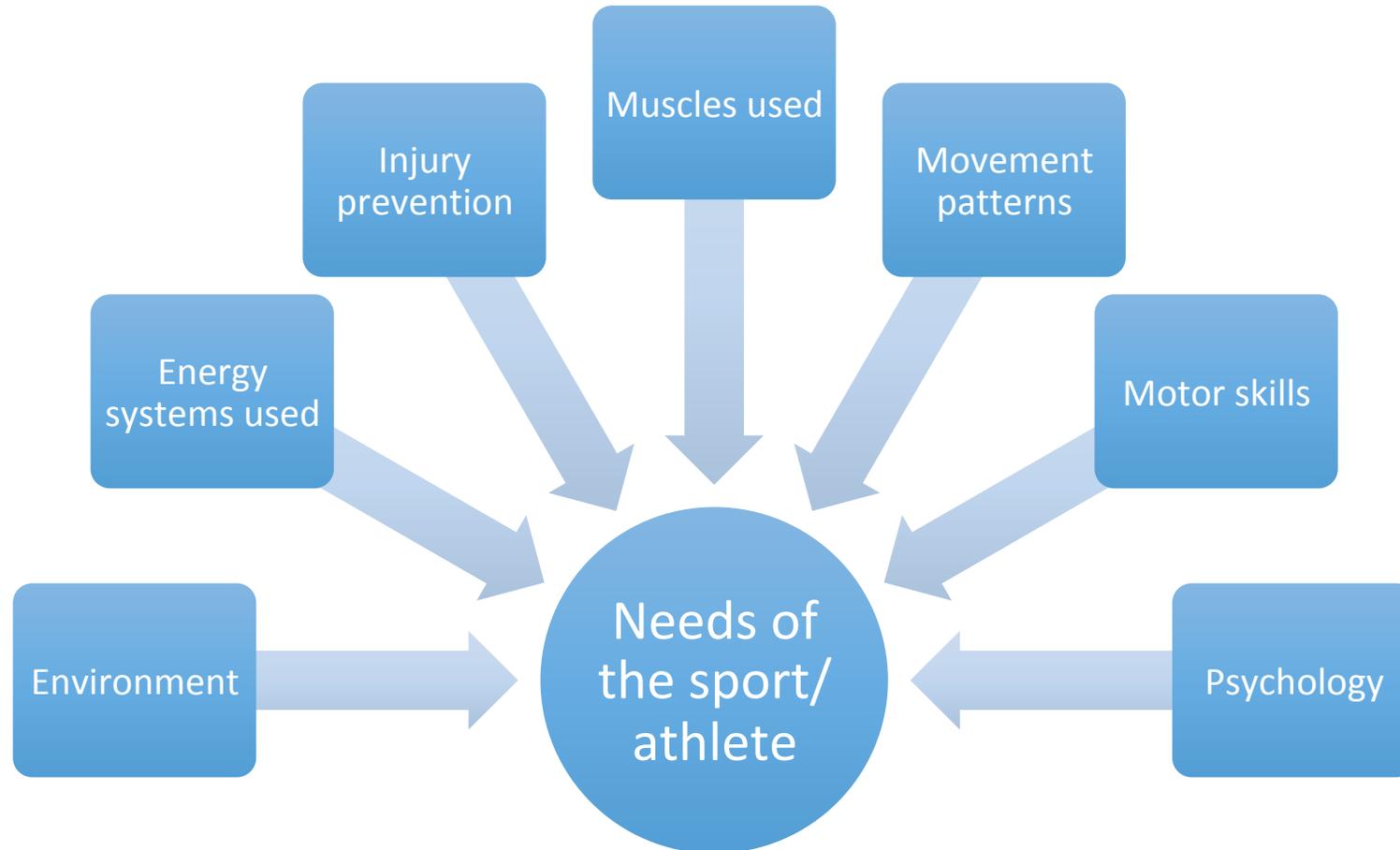
- Time available
- Barriers to training
- Previous performances
- Training history
- Injury history
- Like and dislikes
- Goals
- Other professional involved

Needs analysis

A needs analysis means gathering all of the information we can about an athlete and their sport, so that we can design an individualised exercise programme that will help the athlete achieve their best performance.

By completing sports-specific exercises, we can make the body adapt and improve performance in specific ways. This is based on SAID – Specific Adaptation to Imposed Demand

Performing a sport needs analysis



Environment

- Weather
- Sporting surface
- Terrain
- Altitude

Visit a number of venues at different times of the sporting season to see how environmental conditions change

Energy systems used

- Absolute physiological requirements for success
- Percentage contribution from each energy system
- Typical work:rest ratios
- Total duration of match/race/event

To understand energy demands of a sport better, technology such as heart rate monitors, and power meters can be used to measure and record intensity.

To measure your athlete's fitness in these areas, laboratory tests of energy system fitness include: VO_2 Max and blood lactate testing. Field testing of an athlete could include: Cooper run, Bleep test and Functional Threshold Power (FTP)

Injury prevention

- Common sites of injury in the sport
- Reasons for injury in the sport

Information including statistical analysis of injury in sport may be available from clubs/governing bodies/professional sports coaches and physiotherapists

If your athlete is injured, specific tests should be used by a qualified therapist or physio to ascertain the issue. They can then prescribe a rehab programme which either they or you can deliver depending upon knowledge and experience. NB, unless you have a specific qualification, you are not qualified to diagnose injuries etc

Muscles used

- Specific muscles utilised
- Contraction types (concentric, eccentric, isometric)
- Fixation and core stability demands
- Loading and speed of contraction
- Typical repetitions/duration of contractions

Video analysis, force plates, force transducers, and electromyography techniques can be used to understand muscle action and recruitment

The same equipment can be used to measure your client's fitness in this area. Field testing could also be appropriate and may involve repetition maximum testing on specific exercises or movements. Please see Joint Action module for an insight into what to look for

Movement patterns

- Common movement patterns
- Joint angles and ranges of movement
- Fixation and core stability demands
- Forces at all points of movement
- Purpose of the movement
- Whether the movement pattern requires release of an object

Video analysis can help understand a sport's movement patterns and is also a suitable way to measure your athlete's movement

Motor skills

- Balance
- Reaction time
- Agility
- Coordination
- Speed

Video analysis and timing gates can be used to help understand a sport's motor skill requirements

Video analysis and timing gates can also be used alongside agility tests (eg, Illinois agility, T-Test), reaction tests (eg, Batak wall) and coordination tests (eg, Wall Toss Test) to measure an athlete's performance in this area

Psychology

- Team or individual sport
- Control of anxiety

Psychometric testing and questionnaires can help understand the psychology requirements of sports and your athlete

Athlete considerations

Physical	Physiological	Biomechanical	Psychological	Environmental
Muscular strength	Muscle mass	Lever length	Response to pressure	Playing surface
Muscular hypertrophy	Fibre type distribution	Opposing muscle bulk	Attitude to competition	Spectators
Muscular Endurance	Lactate threshold	Agility	Professionalism	Weather
Flexibility	Motor skills	Power-to-weight ratio	Positivity	Temperature
Cardiovascular capacity		Range of motion	Aggression	Type of stadium
Power		Centre of gravity	Motivation	
Body composition				

Performing an athlete needs analysis

As a sports conditioning coach, you are primarily concerned with the physical/physiological and biomechanical development of your athlete. To understand what they need to develop, you must first test your athlete's current level of performance in each of the components of fitness that are relevant to them. I.e, you must perform fitness tests. Remember, that when testing an athlete, you should always consider the following:

- V - is a test valid? (fulfil purpose, provide relevant and useable information)
- A - is a test accurate? (sensitivity of equipment being used, human error etc)
- R - is a test reliable? (accurate in different conditions)
- S - is a test specific? (does the test measure a specific component)

Fitness test list

A comprehensive list of fitness tests can be found in the lesson 'Fitness Testing' as well as here:

- <https://www.topendsports.com/testing/tests/index.htm>
- <https://www.brianmac.co.uk/eval.htm>