Paper 1: Optimising training – Altitude training

High altitude training is used by endurance athletes and involves training for several weeks at high altitude (approximately 2400m above sea level) in order to experience physical adaptions.

How it is carried out:

1. Athletes carry out their normal aerobic training at high altitude.
2. Due to the lack of oxygen, the oxygen-carrying capacity of the blood is reduced at high altitude.
3. Therefore, more red blood cells are produced in order to provide the muscles with oxygen.

Benefits

- This method can be useful for any athlete who works aerobically
- Improves cardiovascular endurance at sea level

Limitations

- The benefits of high-altitude training are not long-lasting.
- Altitude sickness can be experienced, which makes it hard for athletes to complete their normal levels of training.
- If training cannot be completed due to sickness, fitness can be lost.

Paper 1: Warm up & cool down

Warm-up

It is important that a warm-up is performed prior to exercise in order to prepare the body for physical activity. A warm-up is designed to reduce the risk of injury and improve performance. The four main components of a warm-up, examples of each component, and the benefits of warming up are outlined below:

Pulse-raising activity

Jogging at an increasing pace for 5-10 minutes to increase oxygen to working muscles

Stretching

Performing a series of stretches which cover all the muscles used, e.g. hamstrings for running

Skill practice

Taking part in drills, such as one vs one shooting practice in ice hockey

Mental strategies

Using positive self-talk, deep breathing and imagery in order to control arousal levels, e.g. imagining a successful race