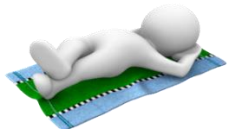
Paper 1: Injury prevention

Considerations to prevent injury:

Complete a warm up	A warm up should be completed to: increase the temperature in the muscles, tendons and ligaments. This increases the elasticity which will help prevent muscle pulls and strains	
Avoid overstretching	Stretching should be completed carefully without overstretching or bouncing as this can result in a muscle strain	
Avoid overtraining	If you train too hard adaptations will not take place e.g. lifting too heavy weight can cause an injury such as a strain	
Take adequate rest	Training programmes should include rest days. Make sure you have enough resting between sessions to allow for recovery	
Use taping or bracing	When necessary taping and bracing can be used to provide additional support to joints and muscles. E.g. an ankle support can reduce the chance of a twisted ankle (sprain)	
Remain hydrated	Maintain an appropriate level of hydration by drinking water. If you don't maintain your hydration levels you can become dehydrated, this can lead to dizziness and nausea	
Wear appropriate clothing and footwear	This may include non-slip footwear such as boots to prevent ankle injuries Gum shield in rugby to protect the teeth in boxing and rugby Shin pads to reduce the impact on the shins in football and hockey	
Use correct technique	When completing any activity, using correct technique will lead to better results. Help avoid injury by using the correct technique when lifting weight or throwing the javelin	

Paper 1: High altitude training

High Altitude training as a form of aerobic training:

There are fewer air molecules at altitude. This means there is less oxygen available to take into our body. This means there is less oxygen available to get to the working muscles. The body's oxygen carrying capacity is reduced at high altitude.

When an athlete first tries altitude training their performance will be worse. However, after several weeks of training at high altitude their body will adapt:

- Increasing red blood cells
- Increasing haemoglobin

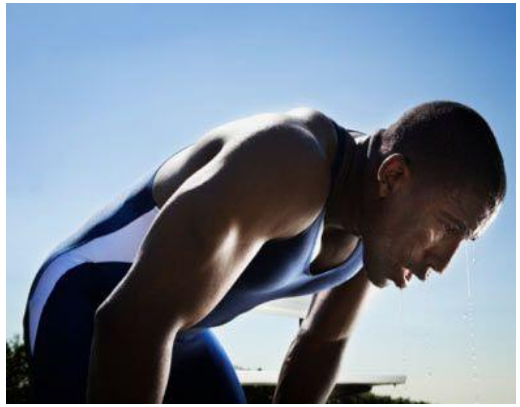
When they return to sea level, they will have an advantage because their oxygen carrying capacity will have increased

Benefits of high-altitude training:

- Increased red blood cell production
- Increased oxygen carrying capacity
- A greater amount of oxygen being transported to the working muscles once athletes return to sea level

These benefits are particularly helpful to endurance athletes who rely on aerobic energy production for example marathon runners and triathletes

Limitations of high-altitude training:



- Adaptations take time
- Expensive to live away from home
- Timing of training for competition needs careful planning
- Altitude sickness (nausea caused by training at altitude)
- Limited to aerobic activities (no effect on anaerobic events)
- Can make it harder to train at high intensities need for anaerobic activities