

## Answers

*Shock* is a condition that affects people whose cardiovascular system is failing to perfuse the body's tissues adequately. This can be a life-threatening condition resulting from an imbalance in *oxygen* supply and demand. It is characterised by *hypoxia* and inadequate *cellular* function leading to *organ* failure and potentially death.

There are five stages of shock and these are

1. *Initial*
2. *Compensatory*
3. *Progressive*
4. *Refractory*
5. *Death*

In stage one cells are deprived of *oxygen* and no *ATP* is made. *Glucose* cannot be converted to energy and *cell* damage starts. This leads to *anaerobic* respiration and increased levels of lactic and *pyruvic* acid that need to be removed from the body by the *liver*. A blood test would reveal *acidosis* and if not treated will lead to stage two.

The signs and symptoms of stage two include increased *respiration* rate, and thirst. Skin may appear *pale* and cool. The *temperature* and blood glucose may be increased due to stress and urine output will decrease. There may be alterations in the patient's *mental* health.

In stage three continued *hypoxia* causes cell damage and continued *acidosis* causes *capillary* damage. There is a reduction in *blood pressure* and tissue perfusion. Accumulation of waste products cause *vasodilation* making it hard for compensatory mechanisms to support BP.

During stage four, *organs* including the heart, begin to fail due to oxygen deprivation. The cardiovascular system is unable to supply the *brain* with blood so it begins to fail causing loss of central control.

The final stage is *death*