








# Component 1 How to Optimise Training and Prevent Injury (Performance Enhancing drugs)

Drug		Effect on performance	Health risks	Who might take it	
<b>Anabolic Steroids</b>		Allows performers to train longer and harder Increases protein synthesis helping develop lean muscle mass. Speeds up recovery time	<ul style="list-style-type: none"> <li>• Liver damage</li> <li>• CHD</li> <li>• Testicular atrophy</li> <li>• Infertility</li> <li>• Mood swings/aggression</li> </ul>	Activities that require power: <ul style="list-style-type: none"> <li>• Sprinters</li> <li>• Rugby players</li> <li>• Weight lifters</li> <li>• Boxers</li> </ul>	
<b>Beta Blockers</b>		Beta blockers slow heart rate and reduce anxiety, allowing the performer to remain calm	<ul style="list-style-type: none"> <li>• Disturbance of sleep</li> <li>• Tiredness</li> <li>• Lower blood pressure</li> <li>• Slowing of heart rate</li> </ul>	Activities that require precision: <ul style="list-style-type: none"> <li>• Archery</li> <li>• Diving</li> <li>• Shooting</li> </ul>	
<b>Diuretics</b>		Diuretics achieve quick weight loss (fluids) They also mask other drugs making them harder to detect	<ul style="list-style-type: none"> <li>• Dehydration</li> <li>• Nausea/headaches</li> <li>• Heart/kidney failure</li> </ul>	Activities with weight categories: <ul style="list-style-type: none"> <li>• Boxing</li> <li>• Jockey</li> <li>• Drug cheats</li> </ul>	
<b>Narcotic Analgesics</b>		Narcotic analgesics increases the performers pain threshold so can mask injuries They can give a feeling of invincibility	<ul style="list-style-type: none"> <li>• Nausea/vomiting</li> <li>• Anxiety/depression</li> <li>• Kidney/liver damage</li> <li>• Addiction</li> <li>• Risk of further injury</li> </ul>	Any sport that a performer is injured or: <ul style="list-style-type: none"> <li>• Boxers</li> <li>• Sprinters</li> <li>• Footballers</li> </ul>	
<b>Peptide Hormones</b>	<b>EPO</b>	Erythropoietin (EPO) Can increase red blood cell production increasing O <sub>2</sub> delivery	<ul style="list-style-type: none"> <li>• Blood thickness</li> <li>• Blood clots</li> <li>• Strokes/heart attack</li> </ul>	Aerobic events e.g. long distance: <ul style="list-style-type: none"> <li>• Running</li> <li>• Cycling</li> </ul>	
	<b>HGH</b>	Human Growth Hormone helps gain muscle mass and burns fat	<ul style="list-style-type: none"> <li>• Arthritis</li> <li>• Heart failure</li> <li>• Abnormal feet/hands</li> </ul>	Strength events: <ul style="list-style-type: none"> <li>• Weightlifting</li> <li>• Sprinting</li> </ul>	
<b>Stimulants</b>		Stimulants increase alertness, reduce tiredness and increase heart rate	<ul style="list-style-type: none"> <li>• Insomnia</li> <li>• Anxiety/aggression</li> <li>• Irregular heart rate</li> </ul>	Alert and aggressive sports: <ul style="list-style-type: none"> <li>• Rugby</li> <li>• Boxing</li> </ul>	
<b>Blood Doping</b>		Blood doping is when blood is put into a performers body prior to an event (more red blood cells = more O <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Infection</li> <li>• Blood clots</li> <li>• Stroke</li> <li>• HIV/hepatitis</li> </ul>	Aerobic events e.g. long distance: <ul style="list-style-type: none"> <li>• Running</li> <li>• Cycling</li> </ul>	