**INJURY**

**Fractures -** broken bone.

Sorted into two major classes: simple and compound fractures.



**Concussion -** a temporary injury to the brain caused by a bump, blow or jolt to the head. An impact to the head causes the brain to hit the inside of the cranium.



**Dislocation -** where the bones of a joint come apart from their normal position.

Caused by an awkward twist or fall which forces the bones of a joint to separate.

**Sprain – a joint injury**

A **sprain** is an injury that occurs when you twist or turn your joint in an awkward way. This can stretch or tear the ligaments that help hold the bones of the joint together.

A sprained ankle is the most common.

**Strain – a muscle injury (pulled muscle)**

A pulled muscle usually caused by overstretching a muscle or an inadequate warm-up

**Torn cartilage**

Cartilage is the soft, spongey substance that covers the end of the bones. It acts as a shock absorber and prevents the bones rubbing directly against each other.

Torn cartilage usually occurs during an awkward twist or movement. This can cause a piece of the cartilage to come lose or brake away.

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| **Injury prevention**1. correct application of the principles of training to avoid overuse injuries;
2. correct use and enforcement of the rules of the game (e.g. with referee)
3. use of appropriate protective clothing and equipment;
4. checking of equipment and facilities before use
5. Effective warm-up – cool down does NOT prevent injury as done AFTER training
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**Performance Enhancing Drugs:**

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| **Anabolic steroids POWER** | Benefits* Training drug (train harder for longer)
* Increase muscle mass
* Leading to muscle hypertrophy
* Therefore increase in power
 | Negative Side-effects* Testicular atrophy (fertility problems)
* Acne
* Aggression
* “Male” features e.g. facial hair
* Heart Attack
* Infection e.g. HIV
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| **Peptide Hormones** (**EPO**) **ENDURANCE** |    Benefits* Red blood cells, increase oxygen transportation, improved endurance
 |    Negative Side-effects* Increased thickness of blood
* Therefore thrombosis/blood clots
* stroke/heart attack
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| **Peptide Hormones****(GH)** – **GROWTH & REPAIR OF MUSCLE**  | Benefits* Improved growth/repair of muscle
* Used to shred/burn fat (unlikely to be asked this)
 | Negative Side-effects* Abnormal growth of hands/feet
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| **Blood doping** – **ENDURANCE** (MIMICS THE EFFECTS OF EPO) | Benefits* Mimics the effects of EPO but avoids drug testers
* Increases number of red blood cells to aid oxygen delivery
 |   Negative Side-effects* Blood clots/thrombosis
* stroke/heart attack
* Blood therefore risk of infection e.g. HIV
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| **Beta Blockers** - **Calm/reduce anxiety** | Benefits* Slows heart rate
* Blocks adrenaline
* Increases concentration
* Target sports e.g. archery
 |   Negative Side-effects* Not beneficial in most sports (only those requiring concentration)
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| **Diuretics** **Weight loss, mask traces of other drugs**  | Benefits* Increases urination to dehydrate body
* Leading to temporary weight loss to “make weight”
 | Negative Side-effects* Dehydration - therefore nausea/sickness, kidney damage, reduced thermoregulation
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| **Narcotic Analgesics** **Mask pain**  | Benefits* Mask pain of an injury
* Allows athletes to “play hurt”
 |    Negative Side-effects* Addictive, loss of coordination
* Risk permanent injury
* Moral/ethical arguments appropriate here (e.g. is it morally right to ask a player to risk health?)
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| **Stimulants** - **alertness** |   Benefits* increase alertness, reduce fatigue
 | Negative Side-effects* Insomnia
* Heart palpitations
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| **Moral & Ethical Arguments** * Risks to athletes health
* Risk shame in the media
* Against the “spirit of the game”
* Because athletes want to compete on a “level playing field”
* But cheating gives an “unfair advantage”
* Pressure on others to take drugs to keep up
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