

Sports Drinks

There are three types of Sports drink all of which contain various levels of fluid, electrolytes and carbohydrate.

Type	Content
Isotonic	Fluid, electrolytes and 6-8% carbohydrate
Hypotonic	Fluids, electrolytes and a low level of carbohydrate
Hypertonic	High level of carbohydrate

The osmolality of a fluid is a measure of the number of particles in a solution. In a drink these particles will comprise of carbohydrate, electrolytes, sweeteners and preservatives. In blood plasma the particles will comprise of sodium, proteins and glucose. Blood has an osmolality of 280-330mOsm/kg. Drinks with an osmolality of 270-330mOsm/kg are said to be in balance with the body's fluid and are called Isotonic. Hypotonic fluids have fewer particles than blood and Hypertonic have more particles than blood.

Which is most suitable?

Isotonic - quickly replaces fluids lost by sweating and supplies a boost of carbohydrate. **This drink is the choice for most athletes and team sport players.** Glucose is the body's preferred source of energy therefore it may be appropriate to consume Isotonic drinks where the carbohydrate source is glucose in a concentration of 6% to 8% - e.g. **High Five, SiS Go, Boots Isotonic, Lucozade Sport.**

Hypotonic - quickly replaces fluids lost by sweating . Suitable for athletes who need fluid without the boost of carbohydrate - jockeys and gymnasts.

Hypertonic - used to supplement daily carbohydrate intake normally after exercise to top up muscle glycogen stores. In ultra distance events high levels of energy are required and Hypertonic drinks can be taken during exercise to meet the energy requirements. If used during exercise Hypertonic drinks need to be used in conjunction with Isotonic drinks to replace fluids.

Want to make your own? (MAY NOT TASTE GREAT!!)

Isotonic - 200ml of orange squash (concentrated orange), 1 litre of water and a pinch of salt (1g). Mix all the ingredients together and keep chilled

Hypotonic - 100ml of orange squash (concentrated orange), 1 litre of water and a pinch of salt (1g). Mix all the ingredients together and keep chilled.

Hypertonic - 400ml of orange squash (concentrated orange), 1 litre of water and a pinch of salt (1g). Mix all the ingredients together and keep chilled.