Sports Water

A new product is quickly claiming shelf space at the supermarket. It is uncoloured, lightly flavoured, contains vitamins and is known as sports water. Sports water aims to make it easier to stay hydrated during exercise. It is positioned as a product that is better than plain water but with less kilojoules than sports drink. This fact sheet examines this new product and compares it to plain water and sports drinks.

What is sports water?

Sports waters are essentially purified water that is lightly flavoured and may contain added vitamins, minerals and/or electrolytes. The following table outlines sports waters currently available in Australia. A popular sports drink and plain water are included as a comparison.

Product	Composition					
	Energy kj/100ml cal/100ml	CHO g/100ml	Electrolytes mg/100ml		Vitamins	Other
			Sodium	Potassium		
Propel Fitness Water (Gatorade) Claims: Quenches and nourishes. In a daily diet, B vitamins aid in energy metabolism. Antioxidant vitamin E helps neutralise free radicals.	60 15	3.8	2	0	B group E	no
Powerade Sports Water Claims: Includes electrolytes and minerals to assist in the rapid replenishment of fluids lost during exercise.	44 11	2.5	12	14	no	no
Sanitarium Water Plus Claims: Easy to drink - takes the hard work out of hydration. Contains electrolytes to assist in hydration. Contains antioxidants to protect the body against harmful free radicals.	2 <1	0 (artificially sweetened)	6	6	B group C E	calcium magnesium zinc
Mizone Claims: Easy to drink. B vitamins aid in energy metabolism. Vitamin C assists with recovery.	43 10	2.5	<5	0	B group C	no
Sports Drink (Gatorade) Claims: Optimal combination of fluids, carbs and minerals designed to quench thirst and refuel muscles.	105 25	6.0	41	12	no	no
Water	0 0	0	no	no	no	No

What are the key features of sports water?

Flavoured

Sports scientists have known for some time that athletes consume more fluid when a flavoured beverage is used. In order to optimise physiological function during exercise, it is recommended that athletes consume a fluid at the same rate as fluid is lost from the body through sweating. However, in practice, it is difficult to do this and athletes typically only manage to replace approximately 30-70% of the fluid lost. Studies demonstrate that better fluid balance is achieved when athletes consume pleasantly flavoured beverages. Fruit flavours have the most appeal. A common criticism of sports drinks is that they are too strongly flavoured and are therefore difficult to drink. To counteract this, sports waters have opted for less flavouring than sports drinks. Sports drink manufactures have invested a great deal of effort in ensuring that sports drinks have an optimal flavour profile. Flavour preferences change when the body is working hard and it is important to ensure that whatever fluid you choose is palatable during exercise. *If the flavouring in sports waters appeals to you during exercise and therefore encourages you to drink more, sports waters are a good choice during exercise.*

Low in Kilojoules

Sports drinks contain carbohydrate that contributes kilojoules to the diet. Some people shy away from sports drinks as they feel the extra kilojoules will interfere with body weight goals. In contrast, water is kilojoule free. Some sports waters are kilojoule free and are flavoured with artificial sweeteners. Others have 2.5-3.8% carbohydrate and 44-60 kj/100ml compared to 6-8% carbohydrate, 100-136 kj/100ml in common sports drinks. Whether or not carbohydrate is required during exercise depends on the type of exercise and the length of the session. Research suggests that consuming carbohydrate during strenuous exercise, even exercise lasting an hour, will allow athletes to exercise for longer and at a higher intensity. The American College of Sports Medicine suggests that carbohydrate should be consumed at a rate of 30-60 g per hour during strenuous exercise. This equates to 375-1000 ml of common sports drinks or 1200-2400 ml of a 2.5% sports water. *If your goal is to improve performance and you are undertaking a strenuous session, sports drinks are a practical option. If your exercise session is less intense, sports water or plain water may be more suitable.*

Electrolytes

Electrolytes such as sodium and potassium are lost during exercise. When exercise sessions are prolonged (i.e. 2-3 hours) it is important to replace electrolytes to aid rehydration and avoid conditions such as hyponatraemia (low blood sodium). When the exercise period is shorter, electrolyte replacement is not as crucial. However, the inclusion of sodium in a beverage has some advantages. Sodium helps to encourage fluid intake by stimulating the thirst mechanism. Athletes typically consume less water than sodium-containing beverages. It is thought that this is because water switches off the thirst mechanism before adequate fluid has been consumed to replace fluid losses. Sodium also enhances fluid absorption and retention. This means that fluids that contain sodium are more effective at minimising dehydration. Sports waters contain 0-12 mg of sodium per 100 ml. Sports drinks typically contain 12-40 mg/100 ml. The inclusion of sodium in a beverage consumed during exercise is a positive feature. The level of sodium required varies according to individual needs. *During moderate exercise, the lower levels provided by sports waters will be adequate for most people. However, when sweat losses are large or rapid rehydration is required, the higher levels provided by sports drinks are more useful.* For more information on electrolyte replacement see the *Electrolyte Replacement Supplements* fact sheet on the AIS Sports Nutrition website.

B Vitamins

B vitamins perform a number of vital functions in the body. Some are involved in reactions that result in the release of energy from carbohydrate and fat. Some are involved in protein function and oxygen transport. An adequate intake of B vitamins is necessary for optimal physiological function. However, B vitamins are abundant in food, and deficiencies are rare provided a varied diet is consumed. There is little evidence to support the idea that consuming B vitamins in excess of the RDI (Recommended Dietary Intake) has any benefit. Current research does not indicate that consuming B vitamins during exercise improves performance. Sports waters provide relatively small quantities of B vitamins compared to other sources of supplementation. As B vitamins are water soluble, any excess is excreted in the urine making supplementation with B vitamins relatively safe. *The inclusion of B vitamins in sports water is safe but is unlikely to offer any benefit.*

Antioxidants

Antioxidants such as vitamin C and E are included in some sports waters. During exercise, the body undergoes a number of reactions that result in the production of harmful free radicals. Antioxidants help to eliminate free radicals. Therefore it is thought that supplementing the body with antioxidants will reduce damage during exercise and assist with recovery post exercise. Despite a large amount of research in this area, antioxidant supplementation remains controversial. Some studies suggest a positive effect when quite large doses are given. While others suggest that antioxidant supplementation has no effect or is detrimental. The *Antioxidant Vitamins C and E* fact sheet on the AIS Sports Nutrition website outlines the AIS policy on antioxidant supplementation. Sports waters provide relatively small amounts of antioxidant vitamins compared to other sources of supplementation. *The inclusion of these substances in sports waters is safe but may not have any beneficial effects.*

Making Sense of it All

Sports waters are new to the sports supplement market. Significant direct research on these products has not been conducted, hence it is not possible to comment on the specific effects of these products. The inclusion of flavouring and sodium in sports waters may help to increase fluid intake in people who normally consume plain water during exercise. The inclusion of sodium may also improve fluid absorption and retention. Therefore, sports water may be a better alternative than plain water during exercise. For athletes undertaking longer, strenuous training sessions where optimal performance is important, sports drinks are the preferred option.

Case Scenarios

Charlie enjoys a leisurely walk around his local lake most days of the week. The walk helps him to relax, keeps him moderately fit and helps to maintain his weight. It takes about 45 minutes.
Suitable Fluid: water
Explanation: Charlie's exercise session is low intensity. He is not trying to optimise his performance. Sweat losses are likely to be small.

Nadia loves her daily sessions at the gym. She usually does about an hour, six days per week and includes a variety of strength and aerobic workouts. Most sessions are quite strenuous and she is dripping with sweat at the end. Nadia has a snack before most sessions. She takes a water bottle with her but usually only has a few sips.
Suitable Fluid: sports water
Explanation: Nadia's sessions are moderately intense. She has a snack prior to exercise therefore does not need to consume additional carbohydrate during the sessions. Sports water may help Nadia to increase her fluid intake.

Jade plays top-level hockey. She has 5 training sessions and 1-2 matches each week. Jade's training sessions are usually 2 hours and are often intense. She has to rush from work to training and usually only manages to eat a banana between lunch and training.
Suitable Fluid: sports drink
Explanation: Jade's exercise sessions are long and intense. Her sweat losses and need for fuel during exercise are high. Jade's goal is to perform optimally at each training session.