paceline
coaching and training

Without the Sugar

Feb 11

SportAktive Easy
build on science

Basically, a sports drink should be tasty while replacing the essence of sweat, i.e., water and salt. Glucose (or blood sugar) and sodium (the salt in sweat) are key ingredients for optimal fluid and electrolyte replacement during periods of heavy sweating. Research studies indicate that sport drinks containing simple carbohydrates (sucrose, glucose and fructose) plus minerals (sodium, potassium, chloride, etc.) also provide greater rehydration benefits than water alone.(1,2) However, compared to drinks sweetened with lots of sugar, blends using only a little glucose promote faster gastric emptying (movement of fluid from the stomach to the small intestine) and absorption into the blood.(3)

Sweat contains about 800mg sodium per liter, whereas a typical sports drink has only half that much. There is risk of hyponatremia (low blood sodium) developing from sweat losses during prolonged exercise, so a better strategy than sweet sports drinks is needed for optimal salt replacement.(4) This is why our SportAktive Easy formula contains 400mg sodium per tablet.

(1) Barr SI, Costill DL, Fink WJ. Fluid replacement during prolonged exercise: effects of water, saline, or no fluid. Med Sci Sports Exerc 1991;23(7):811-7.

(2) Von Duvillard SP, Braun WA, Markofski M, Beneke R, Leithauser R. Fluids and hydration in prolonged endurance performance. Nutrition 2004 Jul-Aug;20(7-8):651-6.

(3) Leiper JB. Intestinal water absorption – implications for the formulation of rehydration solutions. Int J Sports Med 1998 Jun;19 Suppl 2:S129-32.

(4) Dennis SC, Noakes TD, Hawley JA. Nutritional strategies to minimize fatigue during prolonged exercise: fluid, electrolyte and energy replacement. J Sports Sci 1997;15(3):305-13.

GLYCERIN

(also known as Glycerine, and Glycerol)

By Dr George Samra

An extract from Dr George Samra (2002),THE HYPOGLYCEMIC CONNECTION II, One Stop Allergies, Sydney. Australia Page 251. This book can be obtained here.

Glycerin is a trihydric alcohol CH2OH-CHOH-CH2Oh. It is a clear colourless syrupy liquid with a sweet taste. It is soluble in water and alcohol, but insoluble in oils.

When given orally, glycerin is readily absorbed. It may be employed as a sweetening agent or vehicle in place of syrups. It may be used in diabetes and in Hypoglycemia Disease as a sweetener because ***it's absorption and metabolism bypass the pancreas and insulin secretion.*** (Image) In this way it is able to act as a useful energy source in these diseases.

Glycerin is commonly used as a base for topical preparations often with other drugs added. It may be given as a rectal suppository to promote bowel evacuation.

Glycerin absorbs water and therefore in high concentration it is somewhat dehydrating and irritating to exposed tissue. For this reason, used topically, concentrated solutions are slowly bactericidal. Glycerine can be incorporated in the diets of rats to the extent of 35 per cent of the total calories without exerting noxious actions. No systematic actions follow copious applications to the skin. However, glycerine can exert toxic effects given by injection *(approximately 10 mg per kilogram)* - there may be renal or hepatic toxicity.

Glycerine should be taken in diluted form, such as in herbal teas, with or dilute lemon or even just with water - about 150 or 200 mL of Glycerine. I usually recommend three 10mL doses per day with the first three meals, and extra doses about 20 minutes before sport or study up to a maximum of 50mL each day, **always in a drink.**