

## FACT SHEET RUNNER'S GUT

### WHAT IS RUNNER'S GUT?

Bowel function is frequently overlooked in the world of sports nutrition. Exercise is often recommended for the protective effect it can exert on bowel health, such as reducing the incidence of colon cancer, diverticular disease, and constipation, most likely due to the faster passage of faeces through the gut. However, in certain groups of athletes, particularly runners and triathletes, loose bowels and urgency to find a bathroom (also known as runners "trots") can ruin a perfectly good run! For some it is simply a grumbling sensation, pain in the stomach, or bloating; but for others, toilets must be publicly accessible at regular intervals. This is not only disruptive in training and competition, but is also stressful and can diminish an athlete's confidence and performance.

Runners may be twice as likely as other athletes to experience bowel discomfort. This could be due to the redistribution of blood away from the gastrointestinal tract (GIT) to working muscles, the physical movement of the gut when running and/or altered neurological and hormonal functions. Females and those prone to nervous anxiety are more commonly affected by gut disturbances. A sports psychologist can assist athletes with strategies to manage performance and competition anxieties which may reduce stress-induced gut symptoms.

Elite athletes are 1.5 to 3 times more likely to suffer from gastrointestinal symptoms than non-elite recreational athletes. Younger athletes may also be more at risk of GIT symptoms, possibly due to performing exercise at higher relative intensity than older athletes, having a poorly 'conditioned' GIT compared to older athletes, or being more prone to dehydration due to lack of experience.

There are many dietary factors which may be investigated to assist or prevent gastrointestinal discomfort during exercise. These are discussed individually below with suggestions on appropriate management. It is highly recommended you consult with a sports dietitian to develop a management plan for your GIT issues.

### DEHYDRATION

Dehydration of greater than 2% loss of body weight (eg. a 1.4 kg loss in a 70 kg athlete) increases the risk of nausea, vomiting,

diarrhoea and other gastrointestinal problems during exercise. Always start exercise well hydrated; this will reduce the risk of becoming dehydrated during sport. Drinks that have a very high carbohydrate (or sugar) concentration can also cause diarrhoea. Therefore, sports drinks, such as Gatorade™, with 4 – 8% carbohydrate are ideal for rehydration, but also are generally well tolerated. Drinks with carbohydrate concentrations higher than 10% (eg. fruit juices, soft drinks, caffeinated 'energy' drinks) are likely to cause gut issues in susceptible athletes when consumed just before or during training as they draw extra water into the bowel. For more information on dehydration, refer to the Fluids in Sport Fact Sheet.

### HIGH INTENSITY EXERCISE AND GUT BLOOD FLOW

A lack of blood flow to the gut (ischaemia) has been shown to be the main cause of nausea, abdominal pain, vomiting, and diarrhoea. Prolonged, high intensity exercise (e.g. marathon or triathlon endurance events) can cause an athlete's body temperature to increase to as high as 41°C, which is high enough to cause symptoms of heat stress. When accompanied with substantial dehydration, the decreased blood volume results in further reducing blood flow to the gut. The greater the degree of dehydration, the greater the reduction in blood flow to the gut, increasing the likelihood of GIT symptoms. Therefore, it is wise to get to know your sweat rate by weighing yourself before and after training sessions and competition, and aim to match your sweat rate with fluid intake as closely as possible.

### GENERAL DIETARY FACTORS

The type of food, the timing of the last meal before exercise and caffeine intake may be associated with the development of GIT symptoms during exercise. In addition, anecdotally, some athletes report GIT symptoms the night after consuming several drinks of alcohol or with vitamin C supplementation. High fibre, fat and protein meals consumed pre-exercise have been shown to cause an increase in GIT symptoms, as has the timing of the last meal prior to an event. This makes sense as fibre, fat and protein are slow to empty from the stomach, and planning to eat the pre-event meal well before the whistle provides ample time to allow for almost complete gastric emptying. Athletes should assess individual tolerance. See our fact sheet on Eating and Drinking Before Sport for general guidelines.



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### COELIAC DISEASE

Coeliac disease is a genetic medical condition that results in a permanent intolerance to gluten and can cause GIT symptoms if undiagnosed or poorly managed. When gluten is ingested, "villi" (finger-like projections in the small bowel) become damaged and this interferes with the absorption of nutrients, thus increasing GIT symptoms. Adherence to a well-controlled gluten free diet prevents further damage to the villi, promotes comfort through the return of normal gut function and allows for complete absorption of nutrients. Please refer to the SDA fact sheet on Athletes with Coeliac Disease for further information.

### IRRITABLE BOWEL SYNDROME, LACTOSE INTOLERANCE AND FRUCTOSE MALABSORPTION

Irritable bowel syndrome, lactose intolerance, and fructose malabsorption have been suggested to be associated with the development of GIT symptoms of a chronic nature in both athletes and non-athletes. These symptoms can be exacerbated in exercise, particularly the urge to defecate while running. Symptoms can also be triggered by other poorly absorbed carbohydrates such as fructans (chains of fructose sugars joined), galacto-oligosaccharides and polyols. These are found in everyday foods such as wheat, apples, pears, onions, garlic, and more importantly for runners, in many drinks, gels and powders. Athletes need to know exactly what their intolerance is and plan ahead. Consult with a sports dietitian to determine whether a food intolerance may be impacting on your gut symptoms. (Please refer to the SDA fact sheet on Athletes and Low FODMAPs Diets for further information.)

### SUMMARY POINTS

- Disturbed bowel function is more likely to occur in runners than other athletes.
- Elite athletes, younger athletes, those prone to anxiety, and females are more likely to be affected.
- Dietary factors such as dehydration, having a high fibre intake, caffeine, the intake of fructose and lactose, gluten (if coeliac), and possibly vitamin C and alcohol may all impact on normal GIT function.
- Enjoy your pre-event meal two to four hours before running, and only a light snack (or fluids) in the hour before if you are prone to runner's gut.
- Make sure the meal or snack is low in fibre (ie. white bread rather than wholemeal or wholegrain), low in fat (ie. low fat dairy if consuming this rather than full cream), and contains minimal protein (ie. very little or no meat, chicken or fish).
- Athletes should be careful not to self-prescribe anti-diarrhoeal medication as a prophylactic measure. These should only be taken under advice from a general practitioner or sports medicine professional.
- If you are concerned about adverse gut symptoms, consult with a sports dietitian. To find a sports dietitian, [click here](#).

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