The maintenance of optimal immune function is an important component of allowing training consistency. With training consistency and sound program design come maximal performance gains. It has been demonstrated that strenuous exercise can cause alterations in immune function. Recent studies have shown that up to 9% of Olympic athletes report illness of which approximately 50% are infections during the duration of the Olympics. Most infections are those involving the upper respiratory system.

Strenuous physical activity can also adversely affect the health of the gut due elevated core body temperature, hypoperfusion (reduced blood flow) and movement of the internal organs (viscera). Changes in gut health in turn have been implicated in suppression of the immune system. Strategies for an athlete to minimize the negative effective that even mild illness can have on training and competitive results by improving gut function become an important part of a high performance program. This is particularly important in endurance athletes (runners, triathletes and cyclists) who are at increased risk of becoming immunosuppressed.

‘Endurance athletes such as runners, cyclists and triathletes commonly experience gastrointestinal upset with training and racing. Strategies to improve gut health an minimize the various problems associated such issues are an important part of any performance plan’

Research has demonstrated that the microbiota, the live microorganisms that inhabit the gut, are central to optimal growth and maturation of the mucosal immune system. Normal mucosal function is particularly important in the respiratory and gastrointestinal systems. These microorganisms, mainly bacteria (such as those from the Lactobacillus and Bifidus species) are a core component of the gut and therefore keep the mucosal immune system working in an optimal fashion.

Nutritional strategies to influence immune function, such as those that include the intake of probiotics to improve health of the gut are a very practical option for athletes. Such approaches can improve immune function by enhancing the function of the mucosal immune system. It is the mucosal system that is considered to offer an important first line of defense against invading bacteria or viruses (pathogens).

Probiotics have been linked to numerous health benefits potentially relevant to athletes that include normalizing age related drops in testosterone levels increasing neurotransmitter synthesis, reducing stress-induced cortisol levels and inflammation or improving mood. It must be noted that all of these proposed potential benefits lack current substantiation in human intervention trials in an elite athletic population. Strain specific effects are also not yet to be well understood.

How then should an athlete practically optimize gut health?

Following are 3 key points for an athlete to consider.

1. Start with a good diet.

Supplementation strategies should accompany a diet that meets the demands of the athlete in terms of macro and micronutrients, timing of food intake and hydration needs. Nutrient quality and quantity can exert a substantial influence on the structure of the bacterial community. Dietary strategies formulate the foundation of gut health with some foods having a prebiotic effect. Insoluble dietary fiber is of high importance. Obtaining advice and a plan from an accredited dietitian is a great starting point for many athletes. Like your training that is planned and structured to optimize results, so should your diet.
2. Probiotics.

Probiotics can be consumed in a variety of forms other than tablets or powders. Fermented vegetable products such as sauerkraut and kim chi and now readily available and make a great addition to other wholefoods. Quality yoghurt and kefir products are also rich in probiotics. Probiotic supplements need to be taken for at minimum of 2 weeks to optimize effectiveness and should not be trialed immediately before competition as adverse gastrointestinal symptoms can occur.

Probiotic supplements should be stored, handled and transported in an appropriate manner given that many forms remain viable only in specific temperature ranges. Advances in probiotic preparation have allowed some manufacturers to provide more temperature stable options for athletes. Athletes travelling overseas are advised to retain original packaging and any instructions to address any immigration concerns.

3. Get the right advice from qualified professionals.

If you are an athlete who experiences gastrointestinal symptoms such as diarrhea, bloating, bleeding, abdominal pain, nausea or indigestion seek advice from a health professional. Accredited dietitians, sports medicine physicians and gastroenterologists with a special interest in gut health in athletes are a great starting point. The exercise and high performance community is full of misinformation surrounding topics of nutrition and altered gut function. Obtaining accurate, evidence based advice is highly recommended. Readers are advised that there are various medical techniques and appropriately qualified medical professionals who can assess various aspects of gut function and microbial levels through techniques such as faecal sampling in order to provide more definitive diagnosis, advice and individualized approaches towards probiotic supplementation and the restoration of microbiome balance. Such a medical supervised approach is recommended due the current absence of specific clinical guidelines around this topic.

If you are a person with questions regarding ways you can optimize performance or your health with sound nutritional strategies contact our team at Rise Health Group for an appointment with our accredited dietitian 03) 9763 9233 www.risehealthgroup.com.au

Further reading & references


About the author

Stuart Canavan is a physiotherapist & high performance director. He has a Bachelor degree in physiotherapy with postgraduate qualifications in sport physiotherapy and high performance sport. He has over 23 years of unique and broad experience as a clinician and educator and has
assisted athletes of all ages and abilities, from recreational to elite level with injury management, injury prevention, persistent pain problems, strength & conditioning and performance enhancement. He has lectured nationally and internationally on a variety of topics, particularly leg pain and complex pain.

Stuart has a passion, both personally and professionally for endurance sport. He has spent the last few years as the Performance Director and Physiotherapist for Drapac Pats Veg Cycling (Cannodale-Drapac Development team) as well as being the former Well Being Director for Drapac Pro Cycling. He has personally competed in a large variety of endurance sports that include running (track, road & trail), cycling and triathlon.

He is the founder & director of Rise Health Group, now part of the Corio Bay Health Group with over 14 locations in Victoria & Queensland. He is available for private consultation at both Rowville and Geelong locations.

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