Press Release

Ireland’s World Cup Cricket team not immune to Delhi Belly

A new study which followed Irish cricket players as they prepared for the 2016 ICC Twenty20 World Cup, found that the travel took a toll on their gut.

For athletes who travel internationally to compete, avoiding gut distress symptoms (aka Delhi Belly) is crucial to ensure top performance and this new study provides insight to identify approaches for athletes preparing for international sporting tournaments.

Researchers at the APC Microbiome Ireland SFI Research Centre partnered with the Sport Ireland Institute and Cricket Ireland to study the gut microbiome of Irish male and female cricket players. The research team, which is based at University College Cork and Teagasc Food Research Centre, Moorepark, tracked changes in the cricket players’ gut microbiomes as they travelled to Zimbabwe, Namibia, Australia, the United Arab Emirates, and India in the run up to the 2016 ICC Twenty20 World Cup.

Lead author, Dr Ciara O’Donovan, notes that “generally, the gut microbiome of healthy adults is expected to remain stable over time. However, our study found that the stability of cricket players’ gut-microbiome fluctuated during travel. We found that the type of gut-microbes present in cricket players while at home differed from those present during travel periods, in particular after travel to India. Importantly, those microbes that were different have previously been associated with symptoms of gut distress and notably, several of the athletes we studied did encounter such symptoms”.

The study observed another undesirable phenomenon – there was an increase in the number of antibiotic resistance genes present in the guts of travelling athletes, a phenomenon that was most apparent in those who experienced gut distress. However, Dr O’Donovan remarked that “many other studies have indicated that antibiotic resistance genes acquired during travel do not persist.”

Dr. Sharon Madigan, Head of Performance Nutrition at the Sport Ireland Institute says, “Athletes travel all over the world to train and compete and it’s crucial that they remain healthy. If we can plan evidence-based strategies which can maintain health then we are giving athletes a better chance of performing to their optimum. Months of training can be lost if an athlete picks up a bug that can stop them from competing at an event. This is devastating if this event is only every 4 years like a World Cup or Olympic and Paralympic Games”.

This research gives us a better understanding of the potential impact of travel on the gut microbiome of individuals, and in particular athletes, who travel frequently to many different destinations during their career. For now, practical advice includes avoiding those foods known to be associated with gastrointestinal distress during travel, especially uncooked or unpasteurised products. Going forward, researchers at APC Microbiome Ireland are working towards identifying approaches, through diet and the use of specific probiotics or biotherapeutics, to protect the gut microbiome during travel. Ultimately, with a greater knowledge of potential negative impacts of travel on the microbiome, interventions can be sought to minimise these impacts so that athletes can perform at their best.

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About APC Microbiome Ireland

APC Microbiome Ireland (APC; http://apc.ucc.ie) is a world-leading SFI Research Centre based in University College Cork and Teagasc Food Research Centre, Moorepark, which was formed in 2003 with funding from Science Foundation Ireland and in conjunction with key industry partners. It represents a seamless collaboration between University College Cork and Teagasc (the Irish Agriculture and Food Development Authority). It is widely recognised that the gut microbiota plays an important role in human health and has become one of the most dynamic, complex and exciting areas of research in both food and pharmaceutical arenas. Over the last decade the APC has established itself as one of the leading global centres in gut microbiota research. The APC has made several landmark discoveries and has published over 2,700 research articles in peer-reviewed journals, generating many journal covers and associated editorials. Recent research areas being led by APC include the development of new diagnostics or biomarkers of health or risk of disease (e.g. colon cancer) based on analysis of the microbiota; exploring the mechanisms by which the microbiota may be favourably mobilised or manipulated (e.g. by bacteriophage) to promote health and ‘mining’ the microbiota for new drugs (e.g. smart antibiotics) and functional food ingredients. APC recently celebrated 15 years in operation, with the publication of a new report “Mining Microbes for Mankind - 15 years of Impact”, produced in tandem with Cork University Business School, which outlines the impact of APC research on society and on the Irish economy. The Executive Summary of the report “Mining Microbes for Mankind – 15 years of impact” is available to download at http://apc.ucc.ie/apc-15-years-impact/