

Olympic stomach upsets—leaky gut syndrome?

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Professor Raymond Playford, Professor of Medicine and gastro-intestinal specialist, from Plymouth University Peninsula Schools of Medicine and Dentistry. Credit: Plymouth University

A number of competitors at the Rio Olympics have reported stomach

problems. Team GB officials have denied that athletes have fallen victim to food poisoning at the Olympic athletes' village in Rio, despite a number complaining of upset stomachs.

Professor Raymond Playford, a gastro-intestinal expert and Professor of Medicine from Plymouth University Peninsula Schools of Medicine and Dentistry, suggests that the culprit may, in some cases, be 'leaky gut' syndrome.

'Leaky gut' is a condition where the thin mucosal barrier of the gut, which plays a role in absorbing nutrients and preventing large molecules and germs from the gut entering the blood stream, becomes less effective.

It is a particular problem for those taking part in heavy exercise or who are active in hot conditions. It can lead to 'heat stroke' (especially in military personnel deployed to countries with high temperatures) and gut symptoms in [athletes](#). The combination of intense physical exertion and warm environments at the Olympic Games could well be antagonising leaky gut in participating athletes.

Earlier this year Professor Playford led a research team which published a study in the prestigious *American Journal of Clinical Nutrition*. The study claimed that [zinc](#) carnosine (a [health food](#) product), taken alone or with bovine colostrum, may have value for athletes affected by 'leaky gut'.

The team recruited eight volunteers who took part in a four-arm, double-blind placebo-controlled test. The volunteers were put into groups where each group received either the placebo, zinc carnosine, colostrum or zinc carnosine and colostrum for 14 days prior to standardised exercise taken two and 14 days after starting treatment. Among the changes that occurred in the athletes during heavy exercise was a two degree

centigrade rise in body temperature, which may well have been a contributing factor in causing the increased leakiness of the gut.

The clinical trial went parallel to cell culture experiments to help understand the mechanisms behind how zinc carnosine and bovine colostrum worked.

The results showed that zinc carnosine improved the performance of the mucosal barrier of the gut, and that this improvement was enhanced when supplemented with bovine colostrum. Both are readily available from health food suppliers and the research team concluded that zinc carnosine taken alone or with bovine colostrum may have value for those affected by 'leaky gut'.

Professor Playford commented: "It comes as little surprise that some athletes at the Olympics are experiencing stomach complaints. The conditions are ideal for 'leaky gut' - hot temperatures and high levels of exercise are a heady combination for the condition. The good news is that our research has shown that there is a natural and readily-available solution to the problem."

More information: G. Davison et al, Zinc carnosine works with bovine colostrum in truncating heavy exercise-induced increase in gut permeability in healthy volunteers, *American Journal of Clinical Nutrition* (2016). [DOI: 10.3945/ajcn.116.134403](https://doi.org/10.3945/ajcn.116.134403)

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