

## **Exercise Induced GI Distress**

Gastrointestinal distress caused by exercise is very common among endurance athletes, specifically. Symptoms include but are not limited to bloating, gas, abdominal pain, nausea, vomiting, and diarrhea, as a direct result of exercise. This phenomenon can occur due to physiological, mechanical, and nutritional reasons.



## CAUSES

**Physiological** Reduced blood flow to the GI-tract due to increased blood flow to the muscles required for exercise, causing delayed gastric emptying

**Mechanical** Jumping, jolting, or running; certain positioning in workouts that contorts the GI tract preventing proper digestion

**Nutritional** Excess fluids or inadequate fluids prior to exercise; eating foods high in fat, protein, or fiber to exercise; or eating spicy, acidic, or dairy foods prior to exercise

## PRACTICAL TIPS

If you experience GI upset and/or bloating during and after intense workouts, here are some tips to consider:

- Avoid dehydration and hydrate throughout the day prior to exercise
- Avoid overhydration and try not to "chug" fluids prior to or during exercise
- Allow yourself more time to digest, at least 60 minutes to digest a pre-workout snack, and at least 3 hours for a full meal
- Limit high fat / high protein foods prior to exercise as they sit heavy on the stomach and slow digestion
- Limit high fiber foods prior to exercise, as they take longer to digest and may cause gas, cramping, and bloating
- Avoid very spicy or acidic foods prior to exercise
- Avoid milk products prior to exercise if intolerant to dairy
- Develop a fueling schedule and practice eating prior to exercise to "train" the gut

The GI tract is highly adaptable and typically responds well to consistency. If you want to implement pre-training nutrition, start with small changes to allow your gut to adapt over time. Talk to your registered dietitian about how to stay consistent with your fueling schedule and find what foods work best for you.

## REFERENCES

De Oliveira, Erick Prado, and Roberto Carlos Burini. "The impact of physical exercise on the gastrointestinal tract." *Current opinion in clinical nutrition and metabolic care* vol. 12,5 (2009): 533-8. doi:10.1097/MCO.0b013e32832e6776

De Oliveira, Erick Prado, and Roberto Carlos Burini. "Food-dependent, exercise-induced gastrointestinal distress." *Journal of the International Society of Sports Nutrition* vol. 8 12. 28 Sep. 2011, doi:10.1186/1550-2783-8-12

Jeukendrup, Asker E, and John McLaughlin. "Carbohydrate ingestion during exercise: effects on performance, training adaptations and trainability of the gut." *Nestle Nutrition Institute workshop series* vol. 69 (2011): 1-12; discussion 13-7. doi:10.1159/000329268

Peters, H P et al. "Gastrointestinal symptoms in long-distance runners, cyclists, and triathletes: prevalence, medication, and etiology." *The American journal of gastroenterology* vol. 94,6 (1999): 1570-81. doi:10.1111/j.1572-0241.1999.01147.x

Prado de Oliveria, Erick. "Nutritional Recommendations to Avoid Gastrointestinal Distress during Exercise." *Gatorade Sports Science Institute*, May 2013, www.gssiweb.org/sports-science-exchange/article/sse-114-nutritional-recommendations-to-avoid-gastrointestinal-distress-during-exercise.

Ryan, A J et al. "Effect of hypohydration on gastric emptying and intestinal absorption during exercise." *Journal of applied physiology (Bethesda, Md. : 1985)* vol. 84,5 (1998): 1581-8. doi:10.1152/jappl.1998.84.5.1581

Ter Steege, R W F, and J J Kolkman. "Review article: the pathophysiology and management of gastrointestinal symptoms during physical exercise, and the role of splanchnic blood flow." *Alimentary pharmacology & therapeutics* vol. 35,5 (2012): 516-28. doi:10.1111/j.1365-2036.2011.04980.x BF00422841

WWW.TOA.COM

EMMA NELSON RD, LDN, CPT