

Dr Gareth Wallis BSc (Hons.), MSc (Dist.), PhD

Lecturer in Sport and Health Nutrition

[School of Sport, Exercise and Rehabilitation Sciences \(/schools/sport-exercise/index.aspx\)](/schools/sport-exercise/index.aspx)

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About

Dr Wallis draws on a diverse range of experiences and expertise, which includes academic and industrial scientist roles as well as practitioner experience with high performance athletes, to enable him to deliver leading edge research and education in the area of Sport and Health Nutrition.

Feedback and office hours

Office hours for University of Birmingham students: Mondays 2-4pm, Rm 143 (SportExR). Please email to book an appointment.

Qualifications

- BSc (Hons.) Sport and Exercise Sciences (University of Birmingham)
- MSc (Dist.) Exercise Physiology (Loughborough University)
- PhD Sport and Exercise Sciences (University of Birmingham)

Biography

Dr Gareth Wallis has been a Lecturer in Sport & Health Nutrition in the School of Sport, Exercise and Rehabilitation Sciences since November 2011. In this role he conducts research in the area of nutrition and metabolism in the context of exercise, health and sporting performance as well as teaching undergraduate and postgraduate courses in similar areas.

Following Undergraduate (Birmingham, 2000) and Masters (Loughborough, 2001) degrees, Gareth worked as a Sport Scientist at the Sport Medicine, Human Performance and Fitness Services Unit (2001-2002) at the University of Birmingham (UK), where he delivered world-class physiological support to high performance athletes. He conducted his doctoral studies in the School of Sport and Exercise Sciences at the University of Birmingham where his research focused on 'Exercise Metabolism and Carbohydrate Ingestion in Men and Women'. Aspects of this research has made significant contributions to current Sports Nutrition guidelines for endurance athletes and impacted on nutritional product development in the sport nutrition manufacturing industry. Dr Wallis conducted post-doctoral studies in the Department of Integrative Biology at the University of California, Berkeley where he researched in a broad range of areas related to whole-body and organ specific metabolic regulation in health and disease. During his time in Berkeley he was awarded a Senior Research Training Fellowship from the American Lung Association.

Before joining the School of Sport, Exercise and Rehabilitation Sciences, Dr Wallis worked as a Principal New Product Research Scientist at GlaxoSmithKline Nutrition based in the UK (2008-2011). In this role he provided strategic scientific input, technical oversight and undertook human volunteer research study management in a scientific program developing innovative new product and claims opportunities for GSK Nutrition, with a particular emphasis on sport and exercise science/nutrition.

Teaching

Dr Wallis organises and lectures on the Sports Nutrition module, available to final year undergraduate students studying BSc(Hons) Sport & exercise Sciences. In addition, Gareth lectures on the Nutrition and Metabolism module on the MSc Sport & Exercise Sciences.

Postgraduate supervision

Dr Wallis is currently lead supervisor for two doctoral researchers:

Gareth Fletcher (2012 - present): Gareth's research is focussed on determining novel nutritional strategies to modulate fuel metabolism during exercise. His research is supported by a BBSRC Industrial CASE Award (industrial partner: GlaxoSmithKline).

Scott Robinson (2012-present): Scott's research is focussed on exploring the physiological significance of inter-individual variability in substrate metabolism during exercise. His research is supported by a College of Life & Environmental Sciences Scholarship (University of Birmingham).

Research

Dr Wallis interested in the response of fuel metabolism to nutritional intake and/or exercise in the context of health and sporting performance.

He currently leads research projects exploring the physiological significance of interindividual variations in substrate oxidation during exercise and in determining novel nutritional strategies to modulate fuel metabolism during exercise. This research is ultimately aimed at identifying novel nutritional or physical activity strategies that can improve metabolic factors that may confer health or performance benefits.

In addition, in collaboration (Dr Jennifer Norton & Dr Thomas Mills, Chemical Engineering, Birmingham; Professor Penny Gowland, Dr Luca Marciani, Dr Caroline Hoad, Professor Robin Spiller, University of Nottingham) he is researching novel methods to modulate nutrient delivery from nutritional products with the aim of improving post-prandial metabolic control and satiety.

These research projects utilise a diverse array of experimental approaches including human nutritional interventions and exercise testing, metabolic techniques (indirect calorimetry, stable isotope tracer methods, blood and skeletal muscle tissue sampling and analysis), magnetic resonance imaging and food engineering approaches.

To date his research has been supported by BBSRC, EPSRC, GlaxoSmithKline and the Birmingham-Nottingham (Universities) Strategic Collaboration Fund.

Other activities

Service

Institutional:

MRC Confidence in Concept (Institutional Funding Support) Steering Group (2014-2015)

Business Links Lead - School of Sport, Exercise & Rehabilitation Sciences (2013-)

Centre for Obesity Research (<http://www.birmingham.ac.uk/research/activity/mds/centres/obesity/index.aspx>) - Research Board Member (2011-)

Health, Safety and Ethics Committee Member - School of Sport, Exercise & Rehabilitation Sciences (2012-13)

External:

Peer-review (2011-2013): Journal of Applied Physiology, International Journal of Sports Nutrition and Exercise Metabolism, European Journal of Sport Sciences, Journal of Nutritional Metabolism, Journal of Strength and Conditioning Research, Longevity and Healthspan, Scandinavian Journal of Science and Medicine in Sport, Medicine and Science in Sports and Exercise, International Journal of Sports Physiology and Performance.

Consultancy

Sugar Nutrition UK. Commissioned literature review on sucrose and sports performance (Jan-May 2012).

Coldeportes (Colombian Sports Institute). International advisor - unification of physiological testing guidelines for elite Colombian athletes (Bogota, Sept 2013).

English Institute for Sport. Invited Academic expert - Strength, Conditioning and Nutrition workshop (Dec 2013).

Publications

1. Norton, J.E., **Wallis, G.A.**, Spyropoulos, F., Lillford, P.J. & Norton, I.T. Designing Food Structures for Nutrition and Health Benefits. *Annu. Rev. Food Sci. Technol.* in press
2. **Wallis, G.A.** & Wittekind, A (2013). Is there a specific role for sucrose in sports and exercise performance? *Int J Sport Nutr Exerc Metab*, 23(6):571-583.
3. Vanhatalo, A., Bailey, S.J., DiMenna, F.J., Blackwell, J.R., **Wallis, G.A.** & Jones, A.M (2013). Acute L-arginine supplementation does not enhance exercise efficiency or exercise tolerance in healthy adults. Accepted for publication in *European Journal of Applied Physiology*, 113(7):1805-19
4. Res, P.T., Groen, B., Pennings, B., Beelen, M., **Wallis, G.A.**, Gijsen, A.P., Senden, J.M.G & van Loon, L.J.C (2012). Protein ingestion prior to sleep improves post-exercise overnight recovery. *Medicine and Science in Sports and Exercise*, 44(8):1560-9.
5. Atkinson, G., Taylor, C.E., Morgan, N., Ormond, L.R. & **Wallis, G.A.** (2011). Pre-race dietary carbohydrate can independently influence sub-elite marathon running performance. *International Journal of Sports Medicine*, 32:1-7
6. Zarins, Z.A., **Wallis, G.A.**, Faghihnia, N., Johnson, M.L., Fattor, J.A., Horning, M.A. & Brooks, G.A (2009). Effects of endurance training on cardio respiratory fitness and substrate partitioning in postmenopausal women. *Metabolism*, 58(9):1338-46.
7. Zarins, Z.A., Johnson, M.L., Faghihnia, N., Horning, M.A., **Wallis, G.A.**, Fattor, J.A. & Brooks, G.A (2009). Training improves the response in glucose flux to exercise in postmenopausal women. *Journal of Applied Physiology*, 107(1):90-7.
8. Hulston, C.J., **Wallis, G.A.** & Jeukendrup, A.E (2009). Exogenous carbohydrate oxidation with glucose plus fructose intake during exercise. *Medicine and Science in Sports and Exercise*, 41(2):357-63.
9. **Wallis, G.A.**, Hulston, C.J., Mann, C.H., Roper, H., Tipton, K.D. & Jeukendrup A.E (2008). Post exercise muscle glycogen synthesis with combined glucose and fructose ingestion. *Medicine and Science in Sports and Exercise*, 40(10):1789-94.
10. **Wallis, G.A.**, Friedlander, A.L., Jacobs, K.A., Horning, M.A., Fattor, J.A., Wolfel, E.E., Lopaschuk, G.D. & Brooks, G.A (2007). Substantial working muscle glycerol turnover during two-legged cycle ergometry. *American Journal of Physiology, Endocrinology and Metabolism*, 293(4):E950-7.
11. **Wallis, G.A.**, Yeo, S.E., Blannin, A.K. & Jeukendrup, A.E (2007). Dose-response effects of ingested carbohydrate on exercise metabolism in women. *Medicine and Science in Sports and Exercise*, 39(1):131-138.
12. Hensderson, G.C., Horning, M.A., **Wallis, G.A.** & Brooks, G.A (2007). Pyruvate metabolism in working human skeletal muscle. *American Journal of Physiology, Endocrinology and Metabolism*, 292(1):E366.
13. **Wallis, G.A.**, Dawson, R., Achten, J., Webber, J. & Jeukendrup, A.E (2006). Metabolic response to carbohydrate ingestion during exercise in males and females. *American Journal of Physiology, Endocrinology and Metabolism*, 290(4):E708-15.
14. **Wallis, G.A.**, Rowlands, D.S., Shaw, C., Jentjens, R.L.P.G. & Jeukendrup, A.E (2005). Oxidation of combined maltodextrins and fructose ingestion during prolonged exercise. *Medicine and Science in Sports and Exercise*, 37(3):426-432.
15. Rowlands, D.S., **Wallis, G.A.**, Shaw, C., Jentjens, R.L.P.G. & Jeukendrup, A.E (2005). Glucose polymer molecular weight does not affect exogenous carbohydrate oxidation. *Medicine and Science in Sports and Exercise*, 37(9):1510-1516.
16. Jeukendrup, A.E & **Wallis, G.A.** (2005). Measurement of substrate oxidation during exercise by means of gas exchange measurement. *International Journal of Sports Medicine*, 26 (Suppl 1):S28-37.
17. Yeo, S.E., Jentjens, R.L.P.G., **Wallis, G.A.** & Jeukendrup, A.E (2005). Caffeine increases exogenous carbohydrate oxidation during prolonged exercise. *Journal of Applied Physiology*, 99(3):844-850.

