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Measuring Energy Intake (in athletes)

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Accurate assessment of energy intake (EI) is fundamental to sports nutrition research and practice, informing our understanding of dietary adequacy, energy balance and energy availability (EA). Yet measuring what athletes actually eat remains one of the most challenging aspects of nutritional assessment. Traditional approaches, including weighed and estimated food records, dietary recalls and food frequency questionnaires, rely heavily on athlete self–reporting. A recent audit of 203 publications investigating EA found that 82% of observational studies used food records to estimate EI, despite their recognised limitations. A systematic review comparing reported EI with energy expenditure measured by doubly labelled water identified an average underestimation of approximately 19%. Recording also imposes considerable participant burden and may alter habitual eating behaviours, particularly when athletes simplify food choices or reduce consumption to facilitate documentation. Emerging technologies offer opportunities to address these limitations. Image–assisted dietary records allow athletes to photograph meals, snacks and leftovers, reducing the need for detailed written descriptions. More recently, artificial intelligence (AI) applications have introduced automated food recognition, portion–size estimation and nutrient analysis. Although increasingly accessible, their accuracy remains challenged by mixed dishes, hidden ingredients, portion estimation and incomplete recording. An alternative approach, the Observer Record method, transfers responsibility for documenting intake from athletes to trained researchers who systematically observe and quantify food consumption. Particularly suited to supervised training camps and laboratory–based studies, this approach reduces athlete burden and may minimise recording–induced changes in eating behaviour, although it requires substantial resources. This presentation critically evaluates established and emerging EI assessment methods, highlighting their respective strengths, limitations and applications. Rather than identifying a single ideal method, the challenge is to develop practical, validated approaches that balance accuracy, participant burden and ecological validity across different research and high–performance sport settings.

Some Prospects for the Future (of Sports Nutrition)

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Hi ChatGPT: Write me an abstract for the ISENC conference that will recognise the huge contribution that Sports Nutrition makes to mankind rather than just winning medals. Tell the audience that we won the 2040 Nobel Prize for Physiology and Medicine and provide teasers that will entice them to come to hear what the breakthroughs were, and how we achieved them.

The 2040 Nobel Prize in Physiology or Medicine: Sports Nutrition's Greatest Victory

Stockholm, December 2040.

The Nobel Prize in Physiology or Medicine has just been awarded to a team of sports nutrition researchers for discoveries that have revolutionised our understanding of human biology, transformed the prevention and treatment of disease, and enhanced healthspan. It is a remarkable achievement for a discipline traditionally associated with helping athletes run faster, jump higher and win medals.

But perhaps we should not be surprised. Elite athletes have long provided extraordinary models for investigating the limits of human physiology. Their remarkable capacities for adaptation, their exposure to extreme physical and nutritional demands, and the consequences when these demands exceed biological tolerance offer unique opportunities to understand how the human body functions.

Over the preceding decade, sports nutrition researchers had embraced ambitious new approaches. International collaborations followed thousands of athletes across sports, sexes, abilities and entire sporting careers. Innovations in metabolic measurement, remote monitoring and artificial intelligence allowed researchers to connect nutritional exposures with physiological responses in unprecedented detail. Meanwhile, carefully designed experiments began to unravel biological mechanisms that had remained hidden for generations.

What emerged challenged fundamental assumptions, resolved longstanding scientific mysteries and revealed opportunities to improve human health far beyond the sporting arena.

So, what exactly did sports nutrition discover? Why were athletes the key to unlocking the mystery? And how did a field concerned with carbohydrates, protein and supplements end up changing the course of medicine?

What discovery could be so important that sports nutrition earns the Nobel Prize in Medicine?

You'll have to come to the presentation to find out.

Managing the Use and Abuse of Social Media in Sports Nutrition

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Social media has transformed the way nutrition information is communicated, consumed and debated. It provides unprecedented opportunities for researchers and practitioners to share scientific evidence, engage with diverse audiences and influence nutrition behaviours. Yet these same platforms have become fertile ground for misinformation, sensational claims, commercial interests and the promotion of dietary practices that may be ineffective, misleading or harmful. How can sports nutrition professionals navigate this increasingly complex environment? Should scientists actively challenge misinformation, or does engaging with controversial content simply amplify its reach? How do we communicate nuanced scientific findings in a world that rewards certainty, simplicity and attention–grabbing messages? And how can we build trust when scientific expertise competes with influencers, algorithms and personal testimonials?

In this session, Professor Louise Burke leads a discussion with Professor Stu Phillips and Dr Jessica Knurick, drawing on their experiences of using social media to communicate nutrition science, engage with audiences and respond to misinformation. The panellists will explore the opportunities, frustrations and unintended consequences of participating in online nutrition debates, including the personal and professional challenges of maintaining a public scientific voice. Importantly, the discussion will move beyond identifying the problems to exploring practical solutions. How can researchers and practitioners harness social media to make credible nutrition information more accessible, engaging and influential? What communication strategies work, and what should we avoid? The session will challenge sports nutrition professionals to consider their own responsibilities in shaping public conversations about nutrition, exercise, performance and health.