AI Applications for Sport and Exercise Nutrition

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Artificial intelligence (AI) has shaped our professional and personal lives for decades, often without being recognised as such. Generative AI marks a new inflection point, bringing powerful tools directly into everyday use through platforms such as ChatGPT, Claude and Gemini. Yet adoption remains uneven. Some practitioners avoid AI because of ethical, environmental and human concerns, while others have incorporated it into their daily workflows and services. Many practitioners would like to use AI more in their work, but feel held back by limited practical skills or concerns about how to use it responsibly.

For many sport nutritionists, AI's appeal is as a time-saving digital assistant for drafting emails and reports, creating infographics and website content, and locating and interpreting research. But a growing number of practitioners may be extending their use of AI to generate meal plans and adjust individualised nutrition advice, despite unease about relying on it for expertise traditionally provided by human practitioners. This often leads to undisclosed use of AI, raising questions about professional judgement and trust between athlete and practitioner. Athletes may also turn to AI for similar support, but without sufficient knowledge to assess its advice, they may apply it in ways that are unhelpful or even dangerous.

As a teaching-focused academic responsible for an MSc in Sport Nutrition, I have tried to stay ahead of rapid AI developments through ongoing exploration and experimentation, which have led to substantial changes in how we assess and train students. My view is that the foundational skills of the profession remain essential, but we must also make space for AI literacy and responsible professional use, particularly as athletes and clients increasingly use AI to make decisions, with or without professional guidance.

This presentation was initially conceived as an overview of useful AI applications and their potential adoption into sport nutrition practice. But the rapid pace of AI developments over the past 6-months has revealed entirely new ways to work

with AI. For example, any sport nutritionist can now create customised applications for their own practice and their clients. Tasks that previously required specialist programming expertise are now accessible through AI tools, allowing practitioners to draw on their experience to create customised applications.

The central argument is that AI's value depends on how effectively practitioners combine these emerging capabilities with their existing expertise. While many sport nutritionists are understandably concerned that AI could displace them, there are also emerging opportunities where success will depend on an expanded range of practitioner capabilities and experience. AI is not changing the mission of a sport nutritionist, but it is changing how services are delivered to support athletes. Practitioners who learn to use AI creatively and responsibly can combine its capabilities with their expertise to offer athletes support that AI cannot provide alone.

(For transparency, I used AI tools to help organise and edit this text, but the ideas and arguments are my own.)