

FEATURE ARTICLE

SPORTS NUTRITION

INTEGRATIVE THINKING IN A SPORT AND EXERCISE CONTEXT

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Feature Article

THE INTEGRATIVE PERSPECTIVE

Research from any field is only useful when it is contextually relevant to the individual in question, and this appreciation is particularly relevant when human physical performance is on the line. For more than half a century, sport and exercise nutrition science has focused on the quantitative needs of an athlete, including the macronutrient requirements to 'fuel' their chosen endeavours. While these assessments are important to incorporate, especially when relative energy deficiency in sport (REDs) is becoming more prevalent (1), working with an active human being introduces many more variables to our thinking. Such variables include eating patterns, training regimes, recovery and sleep quality, chosen supplements, plus the environment or 'ecosystem' within which they live. From an integrative perspective, we of course should also be mindful of optimal functioning and crosstalk between physiological systems, which can also impact performance and recovery.

Thankfully such human complexities are now being discussed within many scientific communities, but to learn about them, you must read widely. Staying within a certain research modality (in this case sport and exercise nutrition) may lead to stagnancy of thought and insight when working with individual cases, all of which present their own unique challenges.

As a working example, we would like to present you an integrative case: a Masters athlete with clear sporting goals, who (because of her physiological health challenges) would be shortchanged by a traditional quantitative sports nutrition approach. In fact, she very much needs the complex thinking of an integrative practitioner to help her resolve the inflammatory impacts of exercise training on her body, and thereby improve her resultant recovery.



As part of this case we propose a wider integrative thinking paradigm, incorporating knowledge-based quality, evidence and experience-based practice, physiological interconnectedness, and crucially, person-centered contextualisation.



Introducing Patricia the triathlete

CASE STUDY

Patricia is an Olympic distance triathlete, hoping to qualify as an age group athlete in the 40-49 category in the coming season. She is married with two children (aged 12 and 9) and works as an administrator in a private care facility for the elderly. Patricia's work patterns are 9 till 5, Monday to Friday, and her parents help with childcare when needed.

Training wise, she completes three training sessions before work plus two longer sessions at the weekend and is guided by an online coach via the Training Peaks software. Although Patricia considers herself 'healthy', her overall symptomatology suggests otherwise. She struggles with her gastrointestinal (GI) system, often feeling bloating after meals, and has occasionally experienced bowel urgency during longer training sessions and races, especially when in the heat.

This GI disruption negatively impacts her ability to train, sometimes causing missed training sessions, plus affects her confidence during long sessions.



Most significantly, each morning after waking, she feels unrested, with stiffness and soreness from previous training sessions, which only alleviates during the movement of exercise or when performing her work duties. Sometimes the muscular soreness lasts for several days, and her average energy levels are quite low. Her doctor has diagnosed her with a mild form of fibromyalgia and prescribed routine non-steroidal anti-inflammatory drugs (NSAIDs), which she doesn't use because, based on previous experience, they aggravate her gut.

Patricia has been advised by her coach to consume a high-carbohydrate (CHO) diet, which mostly includes oat-based breakfasts, sandwiches for lunch, and rice or pasta-based dinners. She consumes a lot of fruit and nuts as snacks, plus relies on energy bars before and after sessions. Additionally, as recommended by her teammates, she used to purchase commercial sports drinks and gels for long training sessions and races, although due to the frequent experience of nausea, she mostly now relies on plain water while training and competing.



Tasking your Nutritional Therapy knowledge

On the surface, Patricia is a sports nutrition case, but she displays an array of signs and symptoms that are indicative of imbalanced integrative physiology, which nutritional therapy is well suited to work with. From an integrative thinking perspective, we propose that whilst building a nutrition strategy on the 'demands' of the sport may be useful from one perspective, focusing on the functional 'needs' of the person will be more beneficial from a health and performance perspective.

So, if Patricia was your client, ask yourself; what would you do now? (see overleaf for full size)



Row 1

ASSESS YOUR KNOWLEDGE

Firstly, assess whether you have a sufficient or aligned knowledgebase, particularly if not familiar with the demands of a particular sport, or if considering a particular nutrition strategy. What more information do you need to begin working with her? For example, considering row 1 in Figure 1: do you know enough about master's triathlon requirements; do you know enough about GI complaints and how this links with the stresses of endurance exercise; do you know enough about fibromyalgia?



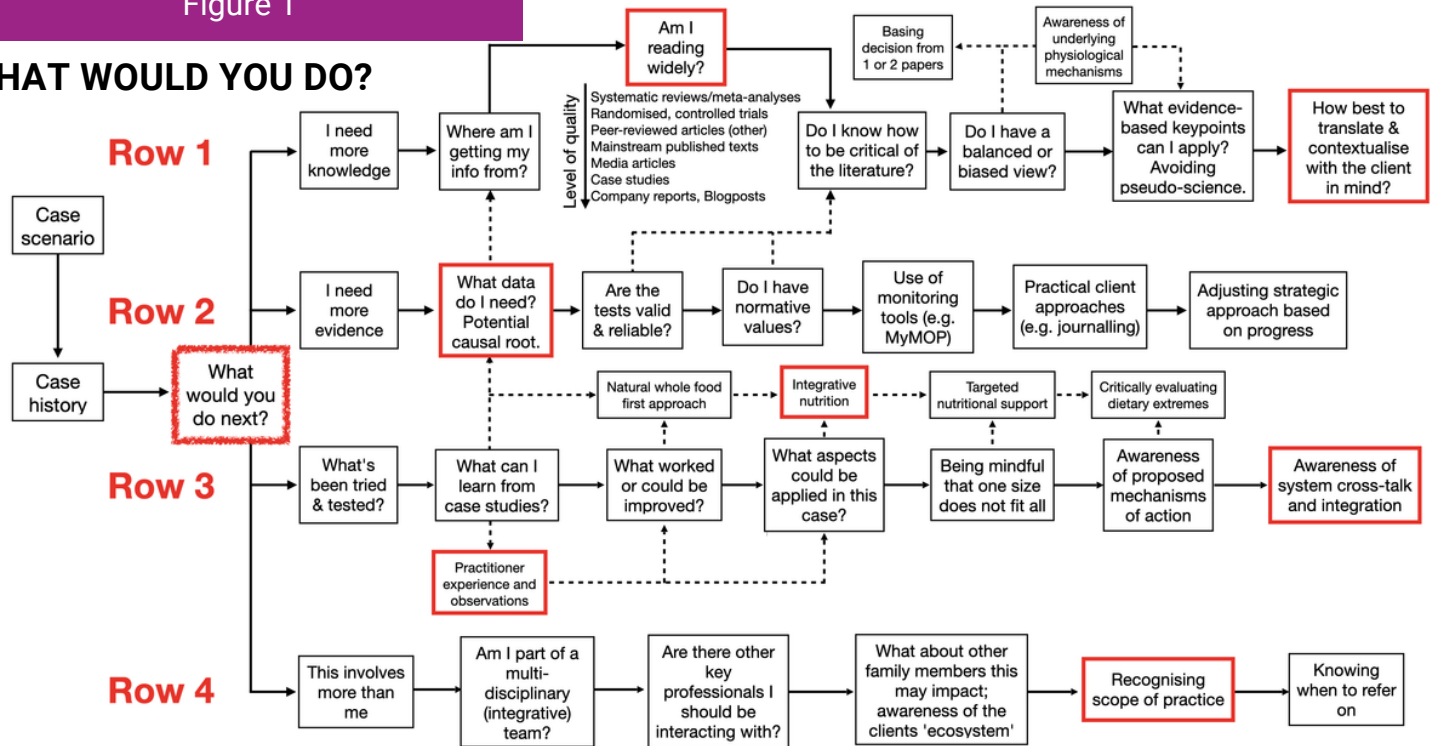
From an integrative perspective, if we only base our clinical reasoning from a limited resource mindset (i.e. based on reading a few abstracts or one or two articles), our view may well be biased or incomplete. For example, consider if you read an article about a particular supplement that might be useful for gut health, and results from the study were positive. Would you consider using that supplement? Now what if you read another paper, more specific to exercise/triathlon, using the same supplement, and the results were negative?

As a practitioner, not only do you need to be 'well read' (and this also begs the question how much is enough?), but you also need to be able to critically evaluate the specific details from research to inform your thinking. Just reading an abstract or a headline isn't good enough, and of course we should also be mindful of the source/quality of the material we read to avoid pseudoscience or personal opinions.

As a practitioner, the goal therefore should be to demonstrate sound (non-biased) evidence-based reasoning, leading to clear translational messages, which can be practically applied in the context of the client. Stop for a moment and ask if you do this?

Figure 1

WHAT WOULD YOU DO?



If we only approach this case from a traditional sport and exercise nutrition quantitative approach (e.g. 60% of calories from CHO, 15% protein, 25% fat - 2), would this be enough for Patricia to improve her health and performance? Potentially yes. However, she is already on a high-CHO diet, as advised by her coach, but chances are that these recommendations have exacerbated her gut issues, especially if attention was not placed on food quality. We need to ask the question: what may have caused or could be contributing to her GI imbalance and systemic inflammation in the first place?

Row 2

WHAT FURTHER INFO IS NEEDED?

Extending this line of thought, and returning to the flow chart, what further information do you need? Considering row 2, testing could be a consideration, but what would be contextually relevant to test? GI health and function would clearly be a priority here, plus some insight to mitochondrial (energetic) function. Fibromyalgia (fibro) is just a set of symptoms, with multiple potential triggers and mediators: in addition to gut and mitochondrial functioning (3,4), Patricia's neurochemistry (e.g. serotonin levels)



and hypothalamus-pituitary (HP) axes functioning could be considered (5). However, as with all things, cost often becomes the limitation, particularly for the client. Therefore, any supporting data/tests needs to be: i) meaningful, ii) reliable and accurate. Practitioners should also be mindful of working with reputable diagnostic companies that can demonstrate adherence to good clinical practices, and robust lab procedures.

Row 3

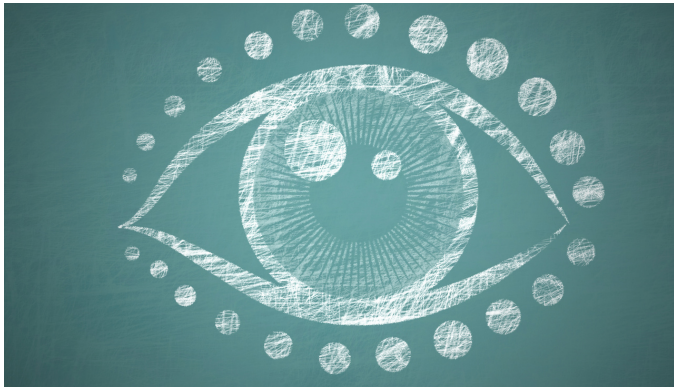
EXPERIENCE & OBSERVATION SKILLS

This is where your prior experience and observation skills, along with learning from other practitioners, comes into play. You are unlikely to have worked with another case that exactly replicates this one, but you may, for example, have experienced stressed corporate clients with similar fibromyalgia symptoms: in those cases, nutritional (dietary and supplemental) support of

GI and mitochondrial function, along with stress management strategies, had often worked well.

Additionally, your colleague who specialises more in sport and exercise nutrition, has shared her inflammatory management strategies with you, which seems to shorten her clients' recovery times.

Thirdly, you subscribe to a popular sports nutrition podcast, which has started featuring case discussions on GI health and inflammatory patterns in athletes. These 'observational' inputs, combined with relevant reading from row 1, should provide you with sufficient 'evidence-based practice' and 'experience-based practice' to be able to formulate initial intervention suggestions for Patricia. Of course, this is only the start of your interaction with her: you need to monitor her progress and adjust the strategy as required to keep her moving towards her end goal of triathlon qualification (which requires improved integrative health).



Row 4

AN EFFECTIVE TEAM APPROACH

No matter how good a practitioner you are, a team approach is generally more effective than a lone voice - if you all agree on the overall approach that should be taken with the client. The obvious inclusion in this case is Patricia's coach, who believes that a traditional high-CHO diet is best for endurance training. He/she would benefit from the same nutrition education that Patricia receives from you, which is personalised to her. Based on her triathlon goals, and viewed in isolation, her training load is not unduly high,

but the fact is that Patricia's body is an overwhelmed state, so she could benefit from a planned period of low-volume low-intensity training, combined with some restorative movement, such as yoga or Tai Chi. Patricia is also in a family environment (ecosystem), so inviting her husband into one or more of her sessions with you, could benefit her progress. It would help him to understand why she is struggling health-wise, and he may even be persuaded to take on some of the cooking duties! Chances are that Patricia would progress well with such an integrative approach, but it's always worth anticipating your own scope of practice and when it's appropriate to refer on.



Practical take Home Messages

ALWAYS HELPFUL TO CONSIDER...

- When it comes to sports nutrition cases, a traditional 'food as fuel' approach could be limiting, and even disruptive, to certain individual athletes.
- Awareness of wider integrative practices can help you develop and sharpen your own practitioner skills. This includes reading widely from high-quality sources and learning how to be critical and balanced in your 'evidence-based approach'. You also need to be mindful of translational (academic observation into applied practice) thinking (e.g. 6).
- Learn to sharpen your 'experience-based practice' in addition to building a comprehensive understanding of body systems-based crosstalk, which can impact athlete recovery and performance.
- Integrative thinking includes seeing the bigger picture, which may involve other professionals or those within the client's 'ecosystem', who could impact the overall success of the case.

Ian Craig, Nutritional Therapist and Founder of the Centre for Integrative Sports Nutrition
Professor Justin Roberts, NED Editor-in-Chief

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