Australasian College of Sport and Exercise Physicians edition: uncertainty in sport and exercise medicine

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From 28 to 31 October 2026, the Australasian College of Sport and Exercise Physicians (ACSEP) will host its Annual Scientific Conference in Brisbane in conjunction with Sports Medicine Australia (SMA). At a time when healthcare systems, sporting environments and the wider world are navigating profound change, this BJSM ACSEP edition explores a central theme—that of uncertainty. This feels more relevant than ever during these turbulent times.

Uncertainty in SEM is not new. Clinicians have always balanced evolving science, incomplete evidence, and the unpredictability of human performance. However, our current challenges feel broader and more complex. Athletes continue to push the boundaries of what the body is capable of achieving. Chronic disease and physical inactivity continue to rise while healthcare systems remain stretched. New technologies and access to data promise precision and insights, but can also create noise. At the same time, expectations of SEM clinicians continue to expand—from clinic and team doctors to communicators, advocates and leaders within multidisciplinary systems. This BJSM edition highlights research and discussion where uncertainty is ever-present.

GENETIC TESTING

Few areas in SEM better illustrate the tensions of uncertain times than the evolving debate surrounding sex eligibility and mandatory genetic testing in elite sport. Two editorials in this edition present sharply contrasting perspectives on the recent introduction of SRY gene screening by World Athletics and World Boxing *(see pages 839, 837)*.

Bermon and colleagues argue that once-in-a-career SRY screening is necessary to preserve fairness in women's sport and describe the process as minimally intrusive with safeguards for confidentiality and follow-up care *(see page 839)*. In contrast, Pitsiladis and Hu contend that mandatory genetic testing revives scientifically unsupported and ethically problematic practices abandoned decades ago, raising concerns around coercion, privacy and athlete welfare *(see page 837)*. Together, these editorials highlight that some of the SEM's most difficult questions now sit at the intersection of biology, ethics, law and identity, where scientific evidence alone may be insufficient to resolve competing values.

NEW TRICKS?

Some problems in SEM are very familiar. There are already relatively large swathes of research on Achilles tendon rupture, patellar tendinopathy and anterior cruciate ligament (ACL) injury prevention. Yet, the following papers remind us that even in areas we think we know well, uncertainty persists—and many accepted solutions may still be incomplete.

Toft and colleagues present the Copenhagen Achilles tendon Rupture Treatment Algorithm (CARTA), an ultrasound-guided strategy designed to individualise treatment selection after acute Achilles rupture *(see page 848)*. While the approach did not improve primary functional outcomes, it reduced rerupture rates compared with non-operative treatment while also reducing unnecessary surgery. The study reflects a familiar SEM question—how do we identify which patients genuinely benefit from more invasive treatment while avoiding unnecessary intervention in others?

Deng's PhD work on patellar tendinopathy exposes similar uncertainty *(see page 919)*. Exercise-based rehabilitation remains the cornerstone of treatment, yet recovery remains inconsistent and difficult to predict. Long-term follow-up from the JUMPER cohort showed encouraging overall recovery rates, but only one-quarter of athletes returned to their desired sport completely pain free. Commonly used clinical tests and imaging findings also failed to reliably predict treatment outcomes.

Nimphius and Kadlec then challenge one of the most widely accepted concepts in modern sports injury prevention, namely using a 'warm-up' as a long-term ACL injury prevention strategy *(see page 916)*. Their critique argues that many current programmes have moved into widespread implementation without adequately establishing the underlying mechanistic evidence or training principles required for sustained adaptation. They argue that warm-up programmes may reduce injury risk in younger or less-trained athletes, but they are unlikely to provide sufficient overload to meaningfully alter injury risk in more highly trained populations.

WHAT DOES THE FUTURE HOLD?

Two further papers look to the future, though from very different starting points. Hennessy and colleagues expand a well-established area of knowledge—ACL injury increases the long-term risk of osteoarthritis and eventual knee arthroplasty *(see page 865)*. Using more than 135 000 patients from England's National Hospital Episode Statistics database, they found knee arthroplasty occurred more frequently in ACL-reconstructed knees than the contralateral knee in the same patient over 20 years. This paper does not radically alter our understanding, but better defines a known risk.

By contrast, Bate and colleagues examine a much less settled question: whether sport-related trauma contributes to motor neuron disease/amyotrophic lateral sclerosis *(see page 900)*. Their scoping review found no increased risk with general physical activity or recreational sport, but suggested professional participation in high-impact sports

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involving repetitive head trauma may be associated with a substantially increased risk. Importantly, the authors remain appropriately cautious, emphasising that current evidence remains largely descriptive and correlative rather than causal.

Together, these papers illustrate two different forms of uncertainty in SEM: refining what we already know versus confronting questions where the mechanisms, causality and long-term implications remain unclear.

THE ONGOING ROLE OF 'EXERCISE AS MEDICINE'

What is not uncertain is that exercise itself remains one of the most powerful therapeutic tools available to clinicians. Yet, important questions persist—not so much about whether exercise works, but about how we sustain its benefits and tailor care across the lifespan—or perhaps more importantly, the healthspan.

Luijk and colleagues examined interventions designed to help people with chronic conditions remain physically active after formal exercise therapy *(see page 884)*. Mixed maintenance approaches combining digital, in-person and hybrid models appeared most promising for sustaining physical activity and quality of life, although evidence certainty remained low to moderate. The paper highlights a familiar SEM problem—clinicians are often better at initiating behaviour change than sustaining it once structured supervision ends.

Castro-Piñero and colleagues focus on the humble sit-to-stand (STS) test *(see page 844)*. Their editorial argues that this inexpensive assessment may provide substantial prognostic value across ageing populations, with poorer STS performance associated with frailty, disability, falls and mortality risk. In a world increasingly influenced by wearable technology and biomarkers, the ability to derive meaningful prognostic information from repeatedly standing from a chair has a pleasant simplicity to it.

Still, 'exercise as medicine' is not confined to ageing populations. Furzer and colleagues describe the 'Thriving in Motion' programme in Western Australia, a therapeutic physical literacy model for children experiencing neurodivergence, developmental delay, behavioural challenges and social disadvantage *(see page 911)*. In many ways, this paper sits at the opposite end of the spectrum from the STS editorial. One focuses on identifying frailty and decline in older adults; the other focuses on building confidence, motivation and lifelong engagement with movement in children who may otherwise disengage from physical activity entirely.

Together, these papers reinforce a central SEM principle: exercise remains medicine, but successful implementation requires sustainable systems, pragmatic tools and a willingness to meet people where they are.

CARE OF DIVERSE POPULATIONS

One further reason uncertainty persists within SEM is that much of the historical evidence base has been derived from relatively narrow populations—predominantly male, able-bodied athletes. Several papers in this edition highlight important efforts to broaden that lens.

Friedman and colleagues discuss the cardiac care of athletes with disabilities, outlining important differences in cardiovascular risk profiles while also emphasising major knowledge gaps surrounding screening and return-to-play decisions *(see page 835)*

A similar theme emerges in Allison Schmitt's personal reflection on delayed body literacy in elite female athletes *(see page 914)*. Despite being a four-time Olympian and 10-time Olympic medallist, Schmitt describes reaching the age of 30 before fully understanding the physiological signals of her own body. Her account highlights how many high-performance systems were historically designed around male physiology, often overlooking hormonal health, recovery patterns and cumulative stress in female athletes.

The infographic by Ghani and Imthiyaz extends this discussion into culturally diverse populations through the lens of exercise and diabetes management during Ramadan fasting *(see page 909)*. The authors emphasise the importance of culturally appropriate care and individualised exercise prescription. Together, these papers remind us that reducing uncertainty is not simply about generating more data from the same traditional cohorts; it is also about studying broader populations.

Uncertainty remains unavoidable in SEM, but uncertainty need not be paralysing. Indeed, it is uncertainty that drives us to ask more and more clinical questions, through research. There will always be occasions when evidence is incomplete and decisions are complex. At these times, it is often collaboration, that critical cornerstone of SEM practice, that becomes essential to achieving good outcomes. In uncertain times, SEM has an opportunity not merely to react to change, but to help shape a future of healthier, more sustainable and more humane sporting environments. We hope you enjoy this edition, and that many of you can join us in Brisbane for ACSEP+SMA 2026.

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