



NATIONAL HIGH PERFORMANCE SPORT RESEARCH AGENDA

March 2022



The Australian Institute of Sport has established a set of high performance sport research priorities, and corresponding practical research challenges, designed to prioritise resources in areas of critical importance to Australia's high performance sport system.

Functions of the Australian Sports Commission include initiating, encouraging, and facilitating research and development in relation to sport, and undertaking research and development related to sports science and sports medicine (ASC Act 1989). "Sport 2030", a comprehensive plan to reshape Australian sport released by the Australian Government in 2018, states that the Australian Institute of Sport (AIS) will be an information leader for high performance (HP) sport, contributing to research agendas.

Led by the AIS, in collaboration with the National Institute Network Research Group, the National High Performance Sport Research Agenda (NHPSRA) was developed in consultation with Australian athletes, coaches, performance support practitioners, performance directors, researchers, and industry partners. The NHPSRA aims to promote applied research supporting sustained sporting success at the highest level, and it will facilitate allocation of resources in a manner that is aligned with HP sport needs. The research priorities listed in the NHPSRA are neither exclusive, nor are they exhaustive. The implementation of these priorities is expected, over time, to result in an increased proportion of HP research investment to be strategically allocated to areas of critical need for HP sport. The NHPSRA will be reviewed every four years (commencing in 2025) to allow for new initiatives to take effect and to ensure that matters being addressed are still the most relevant for HP sport.

RESEARCH PRIORITIES AND PRACTICAL CHALLENGES



The successful athlete

Athletes are the building blocks of Australia's high performance sport ambitions. The champions of the future might not yet even be athletes. To future-proof the Australian sport system, understanding and optimising sport specific development pathways is key. Equality, diversity, and inclusion principles are fundamental to ensuring all athletes are supported, contributing to increased chances of achieving sporting goals on all fronts. Athletes need different types of support at different stages of their journey. Athlete physical health, mental health and wellbeing is of paramount importance to achieving sustainable success.

Research will lead to better decision-making in the context of athlete identification, development, transition, maturity, and longevity. Research should support athlete health and state of the art management of injuries and illnesses.

Organisations/Institutes should give priority to research that will lead to:

1. Developing frameworks for identification and confirmation of sport-specific talent.
2. Evidence-informed holistic athlete development plans.
3. Optimising athlete wellbeing, physical and mental health to support sustained sporting performance.
4. Understanding and supporting the needs of a diverse athlete population.
5. Developing a return to play and sport performance framework, ensuring safe and efficient post-injury and post-illness recovery.



Coaching science

HP coaches are a fundamental asset of the Australian sport system. They are expected to present the highest standards of ethics, and to aid athlete wellbeing in both success and failure. Fostering learning, understanding environment design, promoting a positive motivational climate are key to the holistic development of athletes. Critical thinking and decision-making, exceptional communication, and the ability to integrate interdisciplinary performance support teams are necessary attributes to successfully develop athletes and their support teams.

Research is critical to understanding the coach journey in the Australian sport system, together with coach profiling and capability mapping to inform development. Research will also help define the coach developer's role and characteristics, and the needs of the future coach.

Organisations/Institutes should give priority to research that will lead to:

1. Effective and impactful coach development.
2. Developing optimal learning environments in the HP landscape.
3. Enhancing people development skills.



Sports performance optimisation

Performance optimisation is ever evolving, with new sports entering the Games programme and new technologies promoting continuous “fine-tuning”. Understanding the demands of future competitions, and what it will take to be successful, is the foundation of performance optimisation. Interdisciplinary teams can help tailor training to individual athlete needs. Research can sometimes have a relatively narrow focus (e.g., single discipline), which can result in overlooking the complexity of sport-specific competition environments.

Research should adopt an interdisciplinary approach and be conducted under conditions that represent the complexities of competition environments.

Organisations/Institutes should give priority to research that will lead to:

1. Increasing the understanding of performance determinants to better support and facilitate an interdisciplinary approach to athletes' preparation.
2. Improving individualisation of training planning and implementation, including an interdisciplinary approach to periodisation.
3. Enhancing targeted athlete monitoring.
4. Enhancing execution during competition, with an interdisciplinary approach to facilitating optimal performance states in a complex environment.



Practice enhancement

The growth rate of scientific publications is increasing and with it the number of low-quality studies. Now more than ever, sport needs high-quality, valid, and trustworthy research. Metascience seeks to improve the quality of scientific research while reducing inefficiency. The development of individuals and teams supporting performance is important for the sustainability of success and should be based on the best available evidence. Implementation strategies can promote the uptake of evidence-based practices and support behavioural change.

Research will be critical in appraising the current status of research and practice in the Australian sport system to inform future developments. Research will lead to data-informed decision-making, finding where improvements can be made and promoting the enhancement of practice in HP sport (including but not limited to research itself, coaching, performance support and leadership).

Organisations/Institutes should give priority to research that will lead to:

1. Increasing the impact and quality of scientific research (i.e., metascience).
2. Solving strategic performance issues via applied research.
3. Promoting the systematic uptake of research findings and other evidence-based practices into routine practice (i.e., implementation science).



For more information contact:
science@ausport.gov.au



@theAIS #theAIS

Leverrier Street Bruce ACT 2617
PO Box 176 Belconnen ACT 2616
+61 2 6214 1111