

ACCREDITED SPORTS SCIENCE SCOPE OF PRACTICE

Framework for Accredited Sports Science Practitioners

1.0 Introduction, Definition and Role of an Accredited Sports Science Practitioner (ASp)

Accredited sports science practitioners are specialists in the application of scientific principles and techniques to assist coaches and athletes improve their performance at an individual level or within the context of a team environment. Accredited sports science practitioners may also apply their knowledge and skills to relevant projects within the sports industry, to corporate bodies and the community. Accredited sports science practitioners must at all times place the well-being of the athlete and the team as their primary concern, providing the athlete their utmost duty of care and not recommending the use any substance or practice that might knowingly cause them harm.

The analyses, services and interventions provided by sports science practitioners include application of the following fundamental and applied sciences: the biomedical sciences including anatomy, physiology, biochemistry and nutrition; the biomechanics of movement and functional anatomy; the principles of motor control as applied to the analysis and acquisition of skilled performance; the application of psycho-social sciences in athlete motivation, goal setting and stress management; and the application of training principles, techniques, and recovery practices to assist an athlete reach his/her optimal performance, and prevent injury

in sport. Accredited sports science practitioners must observe high standards of inter-professional practice, quality control in athlete assessment, the duty of care of athletes, an understanding and application of doping legislation, and an understanding of the procedures and the ethics of fair play in sport.

Accredited sports science practitioners are tertiary qualified and trained professionals who typically work in national and state sports institutes and academies, national sporting organisations (NSO's) and elite professional teams. They may also work in private practice and be engaged as consultants working with elite or recreational athletes, providing performance assessments or advice on improving training practices or performance.

Sports science practitioners may be either generalists, working across the breadth of biomedical and psychosocial sciences, or specialist sports science practitioners, who would predominantly work within one or more specific discipline areas relevant to sports science and sports performance. The work undertaken by sports science practitioners must be commensurate with, and limited by, their academic training, expertise and competencies. Table 1 outlines the five discipline areas that sports science practitioners typically work within and the work that they would generally undertake within each discipline area.

Table 1. Specific work practices typically undertaken across the sport science disciplines provided by examples below.

Discipline area	Type of work undertaken
Sports physiology	<ul style="list-style-type: none"> Investigations into the anthropometric, physiological, metabolic and nutritional demands of sport Developing sports-specific physiological assessments in consultation with the athlete's coach Developing individual training goals and priorities in consultation with the athlete's coach, strength and conditioning staff and relevant medical and allied health staff Evaluating the efficacy of training programs, in consultation with an athlete's coach and/or strength and conditioning staff Monitoring of the training load and assessment of an athlete's response and adaptation, including the use and application of blood biochemistry Providing advice on environmental stressors (heat, altitude) and the design of programs to assist adaptation and performance Monitoring signs of training maladaptation, musculoskeletal injury and illness in consultation with the sports medicine physician and other relevant allied health staff Providing advice on recovery and regeneration techniques Researching and evaluating new training programs, ergogenic aids, including nutritional products and environmental adaptations that may improve athlete performance.
Sports biomechanics	<ul style="list-style-type: none"> Assessing sports techniques and efficiency of movement using appropriate reliable and valid technologies to improve an athlete's performance In consultation with coaches, skill acquisition specialists and sports medicine professionals, developing technical modifications to improve the efficiency of an athlete's performance and/or to reduce the risk of injury Working with researchers to develop new techniques, sports equipment (e.g. rackets, bats, balls, surfaces) or personal equipment (e.g. helmets, footwear, sportswear) to improve sports performance and/or reduce the risk of injury

Motor control and skill acquisition	<ul style="list-style-type: none"> Assessing an athlete's motor performance and providing advice on the design of training programs that will enhance an athlete's ability to improve or to learn new skills to improve performance Assessing an athlete's visual processing, cue recognition and decision making skills Developing and designing programs to enhance an athlete's learning and decision making abilities and improve skilled performance In consultation with coaches, biomechanists and/or sports medicine professionals, developing technical modifications to improve the efficiency of athlete's performance or to reduce the risk of injury
Strength and conditioning/ strength science	<ul style="list-style-type: none"> Developing individual training goals and priorities in consultation with the athlete's coach, the sports physiologist and relevant medical and allied health staff Designing implementing and modifying individualised training programs following a physical or physiological assessment to enhance an athlete's sports performance Monitoring the training load and individual athlete responses to evaluate the efficacy of the training program in consultation with other relevant sports science and medicine staff Working in consultation with the sports science and medicine staff to improve performance, to prevent injury, and to assist in the rehabilitation of injury
Performance analysts	<ul style="list-style-type: none"> Systematically observing and recording of an athlete's performance during training and competition In consultation with coaches, providing permanent records of an athlete's performance that augment information about performance during training and competition Developing protocols for the analysis of performance in consultation with coaches, sport scientists and/or sports medicine professionals Aggregating and curating records of an athlete's performance Work closely with coaches, sport scientists and/or sports medicine professionals to monitor an athlete's technical and tactical performance Using insights gained from observing performance to contribute to multi-disciplinary and inter-disciplinary approaches to athlete development Researching and implementing innovations in educational technology that may improve the ways in which performance analysis services can be enhanced and shared

2.0 Scope of Sports Science Practice

The professional practice of the sports science practitioner is influenced by many factors including the context in which practice occurs, individual athlete needs, the practice and team environment, the type of professionals working within the sports medicine and science team, as well as local and industry

policies. The scope of practice that ESSA accepts as reasonable for sports science practitioners to be involved in, across the various discipline groups are listed in Table 1. Accredited sports science practitioners may also advance their scope of practice through continuing education and experience, or undertake training in specialty fields of practice

3.0 Core Rules, Regulations & Boundaries

Sports science practitioners have a minimum of 3-years of university training in exercise and sports science or equivalent. Accredited sports science practitioners (ASp) will have generally completed an Honours degree, Masters degree, or PhD in sports or exercise science or another relevant discipline area, plus a minimum 500 hours of supervised professional practice, under the direction of an experienced sports science practitioner. Many sports science practitioners have completed PhDs in discipline areas within or related to sports science. Sports science practitioners specialise in the assessment and improvement of athlete performance, the monitoring of training adaptations, the prevention of and rehabilitation of injury, and skill development. Sports science practitioners will generally work as an integral part of a multi-disciplinary team, including sports medicine physicians, coaching staff and relevant allied health practitioners, to improve performance, prevent injury and assist in the rehabilitation of injury, whilst ensuring the optimal health of the athlete.

Accredited sports science practitioners may complete additional post-graduate study (e.g. nutrition) or certification in areas relevant to their discipline (sports massage, phlebotomy), to provide an extended scope of practice. The training and provision of these services would be external to ESSA.

Accredited sports science practitioners WILL:

a) develop safe, evidence-based, performance enhancement interventions in conjunction with medical, allied health and coaching staff.

- b) provide training and/or physical assessment data to assist medical staff to make a final decision on a athlete's "readiness on a return to play" following an injury or illness
- c) comply with a "no needle" policy for injectable products including any other prohibited methods as specified by the national and international sports drug agencies, or by the relevant national sporting body.

Accredited sports science practitioners will NOT

- a) design or implement nutritional supplementation programs (unless additional post-graduate training or certification has been completed), without consultation or approval by dietetic or medical staff
- b) provide nutritional assessments or medical nutrition interventions
- c) order medical pathology tests or procedures without prior approval or in consultation with a medical practitioner
- d) prescribe schedule 4 (restricted substances requiring a medical prescription) pharmaceutical products or medicines
- e) undertake genetic testing as an integral part of a talent identification program in compliance with the regulations of the relevant sports governing body
- f) perform joint manipulation or use electro-medical therapies
- g) coerce, provide unbiased information, or unnecessarily convince or pressure a coach or athlete to undertake any such intervention, product or service.

4.0 Code of Professional Conduct & Ethical Practice

Accredited sports science practitioners must practice in accordance with the association's national codes of Professional Conduct & Ethical Practice. They must also respect and honour standards established through legislation and common law.



5.0 Accreditation requirements for ESSA sports science practitioners

Accredited sports science practitioners are required to complete relevant university degree at a recognised tertiary institution in the area of exercise and sports science, or a discipline relevant to sports science. Sports science practitioners are required to meet

the ESSA accreditation criteria including an approved practicum experience and meet their continuing education requirements.

Details of the ESSA sports science accreditation requires are outlined in the associated document Accreditation of Sports Science practitioners.

6.0 Summary

The scope of practice cannot be defined as a simple list of tasks or procedures. ESSA have chosen to use a broad, principle-based scope of practice to define the purpose, values and boundaries of an accredited sports scientist. By adopting this approach ESSA aims to harness individual competencies, embrace innovative

practices and remain sensitive to changes within the sports industry environment. This approach ensures the Scope of Practice for Accredited Sports science practitioners continues to be relevant in an ever-changing sports industry and ensures that every Australian can benefit from the services provided by accredited sports science practitioners.

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