

Accredited Exercise Science and Sports Practitioner (AESSP)

The role of an Accredited Exercise and Sports Science Practitioner

Accredited Exercise and Sport Science practitioners are highly experienced practitioners with advanced knowledge, skills and expertise in exercise and sports science. The knowledge and skill is applied across subfields including mental skills, performance analysis, sports physiology, sports biomechanics and sports nutrition. The AESSP evaluates research, and advice on the technical and practical aspects of training; injury prevention; technique; nutritional supplements; performance and recovery practices.

Eligibility

To gain accreditation, an individual must:

- have graduated with a minimum Level 7 Bachelor degree in the field of exercise and sport science and hold a minimum of a Level 8 Postgraduate qualification in the field of exercise and sport science, OR
- have graduated from a minimum level 7 Bachelor degree (in a non-exercise and sports science field) and hold post-graduate qualifications at a minimum Level 8 qualification in the field of exercise and sports science.
- Have undertaken at least 360 hours of professional practice in the categories defined by SESNZ. The professional practice hours can be accumulated in one or two specialist areas.
- Have already completed 140 hours of professional practice with health individuals outlined in the registration for exercise and sport science

Continued practice development

To ensure currency of knowledge and experience, AESSP's are required to participate in ongoing professional development, and stay abreast of recent research. Yearly professional development requirements to maintain accreditation include:

- A minimum of 20 approved CPD points per membership year (1 January – 31 December)
- Hold a current cardiopulmonary resuscitation certificate
- Hold a current first aid certificate

Continued practice is governed by SESNZ national re-accreditation, professional development and professional accountability requirements.

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1. Mental Skills

The mental skills trainer can use best-practice behavioural strategies that align with the unique needs of a client or a group of clients to enhance personal, athletic and sporting performance.

Scope of practice

- Describe human behaviour in terms of personality, motivation and learning, and relate these influences to the behavioural aspects of health, exercise and sport.
- Describe the factors associated with realistic goal setting, exercise adoption and safe participation in physical activity.
- Describe the factors that influence and predict exercise adherence.
- Explain the role of exercise, physical activity and sport in mental health and wellbeing.
- Apply relevant psychosocial measures and behavioural tools in the delivery of an exercise program.
- Systematically assess an athlete's cognitive/behavioural sport performance functioning.
- Establish the aspects of performance that require intervention, detail a performance profile/plan, and implement the plan for individual and teams.
- Measure and evaluate the effectiveness of interventions and modify plans accordingly
- Formulate strategies for behaviour modification to increase the adherence of clients to exercise and physical activity throughout the lifespan.
- Listen to and engage with the client and respond appropriately to match their various needs and preferences with realistic goals and safe, progressive improvement.

Skills and competencies

Candidate case studies should demonstrate the following;

- Ability to assess an athlete's concepts of motivation, anxiety and stress, self-confidence, concentration/attention and formulate a plan for behaviour modification
- Ability to critically evaluate sport psychology interventions and their application
- Demonstrate an understanding of social psychology and the role this may play on sporting performance
- Demonstrate an understanding of how participating in sport influences the development of an individual or player
- Demonstrate an understanding of how sporting environments may influence athletes psychological outcomes and experiences

2. Performance Analysis

The Performance Analyst systematically observes and records athlete performance during training and competition to facilitate and enhance feedback between coaches and athletes.

Scope of practice

- In consultation with coaches, provide permanent records of an athlete and team performance from training and competition;
- Develop protocols for the analysis of performance in consultation with coaches, sport scientists and/or sports medicine professionals;
- Aggregate and curate records of athlete and team performance;
- Work closely with coaches and other support staff to monitor and assess an athlete's technical and tactical performance;
- Use insights gained from observing performance to contribute to multi-disciplinary and interdisciplinary approaches to athlete development;
- Research and implement the use of innovative technology for performance recording, analysis and educational feedback.

Skills and competencies

Candidate case studies should demonstrate the following;

- Motion capture – familiarity with field-based motion monitoring technologies e.g., video, GPS, IMU
- Video coding – competent designing notational systems targeted at specific or general coaching queries and goals using video coding software, e.g. SportsCode, Focus, LongoMatch. Should be able to assess validity and reliability of the designed systems.
- Confidently perform team duties such as:
 - Video capture, editing and coding events in sport matches
 - Provide basic game information to support staff during a match
 - Provide post-match analysis in the form of video packages and statistical reports
 - Preparing both the coaching team and players for the upcoming games by presenting video and analysis of the opposition
 - Filming and coding training sessions
 - Help evaluate prospective recruitment targets from an analytical perspective
 - Working in collaboration with other support staff in centralising all performance data and creating daily reports (such as heart rate & GPS data)
- Analytical skills – ability to use advanced features of performance analysis software (e.g. SportsCode scripting) and general scientific computing skills (e.g. R, Python or MATLAB scripting).
- Applicants should be able to provide templated coaching reports and summaries of key messages including appropriate data visualisations to coaches, support staff and key stakeholders.

3. Sport and Exercise Physiology

The sport and exercise physiologist (SEP) has expertise in non-clinical exercise physiology specifically around the assessment of performance and exercise prescription with the aim of improving athlete performance, fitness, health and/or wellbeing.

Scope of Practice

- Apply the principles of exercise physiology in a non-clinical setting for the improvement of performance, fitness, health and/or wellbeing.
- Knowledge of appropriate, reliable and valid methods for assessing physiological performance for a range of non-clinical populations in a variety of environments and sporting contexts.
- Knowledge of a wide range of exercise prescriptions for non-clinical populations in a sport performance or health and wellbeing context.
- Communication of findings in an accessible manner for medical staff, other sports science team members, coaches and participants.
- Aid coaching staff in the development of training programmes often in conjunction with strength and conditioning staff.
- Accurately monitor and record team or individual performance over time.
- Working with researchers to develop new sport-specific or context-specific tests (e.g. team and individual sports or in – non-clinical – health/physical activity promotion settings) and exercise prescriptions.
- Read and interpret a wide range of physiological studies to make them accessible for wider audiences including coaches, athletes and participants.

Skills and competencies

Candidate case studies should demonstrate the following;

- The knowledge to employ a wide variety of energy system specific, sport specific and/or component-of-fitness-specific assessments tools (field and laboratory) to evaluate physiological functioning
- Ability to monitor changes in energy system response over time through the use a variety of assessment tools.
- Demonstrate expertise in an area of exercise physiology such as sport performance or physical activity promotion.
- Ability to prescribe exercise to specific populations in a sports performance or non-clinical health context.
- Ability to accurately interpret physiological data and monitor outcomes in the short or long-term.
- Ability to relate own findings to the wider field and previous research to aid with interpretation of assessments.
- Ability to explain and work in a way that is safe at all times for participants.
- Ability to analyse data utilising equipment software and statistical tools such as SPSS etc.
- Ability to communicate findings in an appropriate manor to the stakeholders (e.g., written reports, annotated video analysis)

4. Biomechanics

The Sport Biomechanics practitioner has expertise in assessment and evaluation of sport performance and technique with the aim of improving athlete performance and/or reducing injury risk.

Scope of Practice

- Apply the principles of the biomechanical analysis of human movement in the context the sporting population and environment.
- Knowledge of appropriate, reliable and valid methods for assessing sports technique to improve an athlete's performance, in a variety of environments and sporting contexts.
- Knowledge of basic tissue mechanics and mechanisms of injury. Ability to apply concepts to evaluate injury risk in athlete performance.
- Communication of findings in an accessible manner for coaches and sports medicine professionals.
- Aid coaching staff in the development of technique 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

Skills and competencies

Candidate case studies should demonstrate the following;

- Ability to qualitatively represent a sporting technique/movement with appropriate use of free body diagrams or deterministic models.
- Ability to quantitatively evaluate a sporting technique/movement with appropriate kinematic and kinetic variables.
- Knowledge of both three-dimensional and two-dimensional methods for motion capture.
- Showing appropriate understanding and usage of: Marker sets (e.g., Helen Hayes, Cleveland clinic, rigid, cluster), Motion capture systems (e.g., On-line systems, Dv cameras, Inertial measurement units), Calibration techniques (e.g., volume, plane, anatomical), Direct force measures (e.g., force plate, F-scan, transducers), Electromyography (EMG)
- Ability to accurately interpret Biomechanical data and monitor outcomes in the short or long-term.
- Fundamental sporting movement analyses, e.g., gait (running, walking), upper limb (throwing, striking), lower limb (kicking, jumping).
- Knowledge of both laboratory-based and field-based testing techniques where appropriate.
- Ability to analyse data utilising advanced software with basic coding techniques e.g., R, Python, MATLAB
- Ability to communicate findings in an appropriate manor to the stakeholders (e.g., written reports, annotated video analysis)

5. Sports Nutrition

A Sports Nutritionist has a background in exercise science and is an expert in the assessment of an athlete's dietary intake to encourage improved sporting performance and recovery.

Scope of practice

- Knowledge and understanding human body systems, cell and molecular biology, biochemistry, and chemistry.
- Recognise the signs of inappropriate dietary behaviours and understand appropriate referral pathways.
- Explain the strengths and limitations of commonly used methods for measuring and analysing body composition.
- Describe the evidence for the efficacy of common nutritional supplements and nutritional 'ergogenic' aids, and demonstrate awareness of prescribed or illegal supplements.
- Demonstrate an understanding of the role human nutrition has and its effect on sporting and athletic performance
- Ability to accurately interpret the athlete's need for optimising energy levels and recovering more effectively

Skills and competencies

Candidate case studies should demonstrate the following;

- Ability to perform a needs assessment on an athlete's dietary intake for energy and recovery to enhance sporting performance
- Ability to describe the fundamentals of nutrients and health for athletic performance
- Ability to assess international fads and explore research to encourage healthy choices for athletic performance
- Ability to identify the need for behaviour change and nutritional education
- Ability to communicate with athlete's and general population to increase their understanding of nutrition and well-being

6. *Bicultural Considerations*

Treat all people with respect and consideration of their identity and belief without discrimination towards:

- Age or generation, gender, sexual orientation, occupation and socioeconomic status, ethnic origin or migrant experience, religious or spiritual belief & disability
- Understands the Treaty of Waitangi/Te Tiriti o Waitangi and its relevance to the health of Maori in Aotearoa/New Zealand
- Apply the Treaty of Waitangi/Te Tiriti o Waitangi to professional practice
- Demonstrates knowledge of differing health and socio-economic status of Maori and non-Maori
- Practises in a way that respects each person's right to hold personal beliefs, values and goals
- Consults with members of cultural and other groups as requested and approved by the participant/s

7. *Professional Practice*

Accredited Sports Scientist demonstrates specialised knowledge and skills in sports science that are applied in the subfields of sports science, including mental skills, performance analysis, sports physiology, sports biomechanics, and sports nutrition.

- Applies an ethical framework to sports science practice.
- Applies the principles of leadership to guide advancements in sports and sports programs.
- Mentors new graduates and emerging sports scientists in the subfields of sports science.
- Appraises new and emerging evidence, technologies and techniques in sports and sports subfields.
- Evaluates factors that influence performance in sports settings.
- Collaboratively designs individualised programs for service users.
- Collaboratively evaluates the efficacy of interventions.
- Designs evidence-based protocols to effect changes in performance.
- Appraises training programs and interventions aimed at improving athlete preparation and performance.
- Assesses the risks and judges the safety of sports and sports training, and tests activities for service users and other stakeholders.
- Demonstrates testing procedures, calibration procedures and basic equipment maintenance in sports settings.
- Complies with legislated health and safety requirements in both laboratory and field settings.