SENr

The Sport and Exercise Nutrition Register

Graduate Registration Competences in Sport and Nutrition

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Contents

This document describes in detail the collection of competences expected of the SENr graduate registrant in Sports and Performance Nutrition.

It covers the underpinning Scientific Knowledge required.

The competencies outlined in this document are re-presented in a separate document 'Self assessment of knowledge competence for Graduate Registrants' in a framework designed to allow applicant self assessment prior to application submission.

Scientific Knowledge

Individuals competent in Sport and Performance Nutrition should be proficient in nutrition, underpinned by the biosciences.

The Scientific Knowledge base has two components:

1. Foundation in Biosciences.

2. Science of Sport and Performance Nutrition.

A1. Foundation in Biosciences

Registration requires competence in specific aspects of the biosciences.

In brief, Sport and Performance Nutritionists should have a thorough understanding, at an intermediate level [1], for example achieved through full time undergraduate study for two years or equivalent, of:

1. The whole human body and its functions, especially digestion, absorption, excretion, respiration, fluid and electrolyte balance, cardio-vascular system, neuro-endocrine system, movement and the musculo-skeletal system, immunity and thermoregulation.
2. Mechanisms for the integration of metabolism, at molecular, cellular, and whole body levels.

[1] This equates to the level reached after 2 years full-time study in higher education and attaining '...a sound understanding of the principles of the field of study', 'an ability to apply those principles widely', 'the qualities necessary for employment in situations requiring exercise of personal responsibility and decision making'. QAA (2001) *The framework for higher education qualifications in England, Wales and Northern Ireland.*

A2. Science of Sport and Performance Nutrition

Sound grounding in the science of nutrition is essential for rigorous, evidence-based practice. The fundamentals of nutrition science should be presented in a module of at least 10 European Credit Transfer and Accumulation System (ECTS) credits at an intermediate level. This is equivalent to the second year or level 2 in a full time honours degree course or HND/Foundation degree level.

In the interest of clarity, guidance follows on the detailed knowledge and understanding of basic nutrition that underpins the specialist competences in sport and exercise nutrition. In each case, unless otherwise stated, competency means sufficient knowledge and understanding for application in safe, sound, effective and ethical practice.

Basic Nutrition

Individuals who are eligible for registration are expected to:

1. Know, understand and have the ability to critically evaluate the principles and methods of measurement and estimation of energy balance, energy expenditure and components of fitness, body mass and body composition.
2. Know and understand the theory and methods of investigating the dietary and nutrient patterns of the general population and subgroups of the population.
3. Understand the scientific basis of the safety and health-promoting properties of nutrients, based on knowledge of the metabolic effects of anti-nutrients, toxicants, additives, pharmacologically active agents (drugs); nutrient-nutrient interactions, 'nutri-ceuticals', functional foods, and any other metabolically active constituents of foods and the diet.
4. Know, understand and have the ability to evaluate the scientific basis for the measurement and estimation of nutritional requirements; know and understand the limitations and usefulness of dietary reference values and recommended dietary allowances for the general population and safe upper levels of individual nutrients.
5. Know how to select and analyse relevant qualitative and quantitative dietary and nutritional data and, using (an) appropriate database, interpret these data using appropriate reference values to inform decisions.
6. Know and understand the strengths and limitations of the general principles and standard methods of assessment of nutritional status including anthropometric, dietary, biochemical, physiological, and functional methods.
7. Be aware of public health and nutrition in the UK (within a European or wider context).
8. Know and understand the aetiology of nutritional or nutrition-related problems that are relevant to sports performance (e.g. Fe).
9. Know and understand the special needs of vulnerable groups:
    - at stages in the lifecycle (childhood, pregnancy, old age);
    - with conditions such as obesity and eating disorders;
    - socio-economic disadvantaged or socially excluded;
    - the disabled;
    - vegans.

10. Know and understand how to take ethnicity or culture into account in formulating practical advice in terms of foods, meals and menus.
11. Know and understand the principles of food preparation, handling, management and safety:
    - Principles of catering management;
    - Practical and financial constraints on menu planning;
    - Methods of food service;
    - Food and nutritional labelling regulations and legislation;
    - Types of food additives, methods of food preservation and how these alter the nutrient content of food.

Specialist Knowledge in Sport & Performance Nutrition

Registered Sport and Performance Nutritionists should have additional competences, equivalent to the final year of an honours degree, in two respects:

- Additional intellectual knowledge and understanding of information, concepts, and methods that are integrated with basic knowledge of nutrition and sport and exercise sciences;
- Additional professional abilities needed to apply knowledge to athletes in a sporting environment.

Individuals who are eligible for registration are expected to:

1. Know and understand the theoretical basis for, and methods of investigation of, the metabolic effects, the efficacy, health, safety, and legal aspects of ergogenic aids of all kinds including pharmacologically active agents, sports foods, sports drinks, and supplements.

2. Know and understand the nature of the different sports, that is:

    - The physiological demands of sport participation and training programmes, training practices, physical demands and rules of sports;
    - Lifestyles of athletes, their families, coaches and other people who work with athletes, and the organisational cultures of sports;
    - The scientific basis of training for and competing in sport;
    - The nutritional implications of the physiological and biochemical demands of training for and competing in sport;
    - Application of nutrition to the physical and biochemical states in various sports;
    - The psychological implications of the physical and nutritional demands of training for and competing in sport.

3. Appreciate the ambitions, values, beliefs, motivations and psychosocial concerns of athletes (e.g. to ‘make weight’, to change body composition, to control body mass).

Nutrition, Health and Sports

Individuals who are eligible for registration are expected to:

1. Know and understand the effects of disease processes upon:
   - Diet and nutrition;
   - Capacity for activity in the forms of exercise or sports;
   - Sports performance.

2. Know and understand the factors that affect athletes' nutritional needs and practices.

3. Know the range of foods commonly available to athletes on a practical level and be able to advise on suitability of specific products.

4. Know and understand how to design advice that will maintain and/or promote the safety and health of individuals or groups of clients:
   - Elicit relevant information for the formulation of appropriate advice;
   - Select, assess, and analyse information in order to formulate advice about diets, nutrient intakes, and nutritional status of athletes;
   - Design advice that will optimise performance and give consideration to the health of the athlete.

Research and Evaluation

Individuals who are eligible for registration are expected to know and understand how to conduct, and / or critically evaluate research, in order to provide up-to-date evidence-based scientific support, advice or other services:

1. Cognisant of the range of research methods used that are valid and appropriate to the needs and context in sport nutrition:

   - Principles and methods of research design;
   - Principles of measurement (including validity, repeatability of measurements);
   - Selection, use and interpretation of design issues (sampling, study size, power);
   - Selection, use and interpretation of appropriate analytical statistical techniques;
   - Methods for monitoring and evaluating the effectiveness of an intervention.

2. Continually evaluate relevant research to ensure own practice is evidence based:
   - Critical appraisal;
   - Application to practice.

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The Sport and Exercise Nutrition Register, C/O The British Dietetic Association, 5th Floor Charles House, 148/9 Great Charles Street Queensway Birmingham B3 3HT Tel. 0121 200 8080, e-mail: info@senr.org.uk