

Faculty of Sport and Exercise Medicine UK



Diploma in Exercise Medicine (DipExM) Syllabus

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2. Executive summary

The Faculty of Sport and Exercise Medicine UK are delighted to offer this new Diploma in Exercise Medicine.

We recognise that physical inactivity causes significant health-related problems yet is often undervalued and underappreciated with no consistent teaching in Medical Schools or post graduate training.

We want to promote a more physically active nation. This Diploma will set the standard for Exercise Medicine knowledge across the breadth of healthcare professionals, a benchmark against which both commissioners and patients can quality assure.

It is not a stand-alone qualification, as it is only an assessment of Exercise Medicine knowledge, but the clinical application of this knowledge aims to improve the standard of care and help our patients become more active.

3. Acknowledgements

The Faculty of Sport and Exercise Medicine UK are deeply grateful to Dr Christopher Speers as lead author, ably supported by Dr Ashley Ridout, Dr Rebecca Gould, Dr Hamish Reid and many others from FSEM and the working group for writing both this syllabus, and the many quality questions for the Diploma exam.

Dr Alastair Nicol FFSEM(UK)

Chair, FSEM Exams Committee

4. Background information

Demonstrate your expertise with the Diploma in Exercise Medicine (DipExM)

The Diploma in Exercise Medicine is intended to assess knowledge and clinical application of exercise medicine in health and disease states.

Successful completion of the examination offers candidates the eligibility to apply for diplomate membership of FSEM and use the associated postnominal.

The exam is an assessment of knowledge and clinical problem-solving and is relevant to current UK practice in primary care and secondary care

The Faculty would like to build a network of motivated professionals who feel their experience and expertise can be validated by the DipExM.

By gaining the DipExM qualification, you will:

- **Demonstrate** your knowledge and interest in exercise medicine
- **Provide** evidence of knowledge and its application in clinical practice
- **Complement** and support your knowledge base in an important area that has been undervalued in the past but growing fast as the country recognises the benefits of physical activity for all.

Who should take the DipExM?

- Doctors with a primary medical qualification suitable for registration with the General Medical Council or Irish Medical Council and comply with all other requirements of the regulations.
- Physiotherapists with registration of the Chartered Society of Physiotherapy.
- Nurse Practitioners, registered with the RCN.
- Allied Healthcare Professionals (AHPs) who wish to improve and demonstrate their knowledge and interest in exercise medicine.

5. The DipExM syllabus

The DipExM is an assessment of knowledge and clinical problem solving, and targets practitioners who wish to demonstrate their knowledge and understanding of exercise medicine.

In each syllabus subject area, you should be able to describe and apply knowledge in community and secondary healthcare clinical settings:

1. Physical Activity Guidelines and Epidemiology
2. Physiology of exercise and nutrition in health and disease
3. Physical Activity in Long term conditions
4. Special groups and considerations
5. Behaviour Change theories
6. Risks and Contraindications
7. Systems Approach

Subject 1. Physical Activity Guidelines and Epidemiology

Knowledge of Should be able to describe...	Skill Should be able to...
<p>Population trends regarding participation in physical activity</p> <p>How multifactorial determinants of health can affect participation in physical activity, such as social, behavioural or cultural factors</p> <p>The barriers and facilitators to physical activity, such as sociocultural, biomedical, environmental, and behavioural</p> <p>WHO recommendations for physical activity</p> <p>Methods of measuring and monitoring physical activity and their limitations.</p> <p>The role of physical activity in the prevention of non-communicable disease</p> <p>The implications of physical inactivity to health systems and society</p>	<p>Identify the populations at increased risk of physical inactivity</p> <p>Identify risk factors and drivers of physical inactivity in individuals and in society</p> <p>Identify whether individuals are meeting physical activity guidelines</p> <p>Apply knowledge of physical activity assessment tools in clinical contexts</p>

Subject 2. Physiology of exercise and nutrition in health and disease

Knowledge of Should be able to describe...	Skill Should be able to...
<p>Energy pathways and nutrition for health and exercise</p> <p>Different forms of physical activity, physical activity intensity and sedentary behaviour</p> <p>Physiological responses and adaptations to exercise</p> <p>Skeletal muscle; function and structure</p> <p>Training principles for improving aerobic and anaerobic capacity. Training muscles for strength</p> <p>The impact of extreme environments on exercise physiology, including at altitude, heat and cold</p> <p>Physiological changes throughout the age course, such as child and adolescent, pregnancy and older age</p> <p>Commonly used physiological and their indications, such as Heart Rate max, Lung Function Test, Peak Expiratory Flow, Cardiopulmonary Exercise Testing</p> <p>Commonly used functional tests and their indications, such as sit-to-stand, grip strength</p> <p>Physiological changes in common illness and disease and how this can impact physical activity</p> <p>Impact of medications on exercise response</p>	<p>Identify the types & role of commonly used physiological tests and their indications in relevant clinical circumstances</p> <p>Identify the types & role of commonly used functional tests and their indications in relevant clinical circumstances</p> <p>Apply knowledge of physiology of exercise in clinical context</p> <p>Apply knowledge of physiology of exercise in clinical context of disease</p>

Subject 3. Physical Activity in Long term conditions

Knowledge of Should be able to describe...	Skill Should be able to...
<p>The benefits of physical activity in long term conditions, such as:</p> <ul style="list-style-type: none"> • Cardiovascular • Cerebrovascular • Respiratory • Cancer • Inflammatory disease • Metabolic • Musculoskeletal • Mental Health • Bone health • Falls & Frailty • Neurological disease <p>Specific considerations for exercise prescription in long term conditions</p> <p>Contraindications to physical activity and exercise in long term conditions</p> <p>Barriers to physical activity in specific long-term conditions</p> <p>Pre-participation screening</p>	<p>Apply knowledge of physical activity guidelines in clinical context of one or more long term conditions</p> <p>Identify specific considerations in long term conditions relevant to exercise prescription</p> <p>Recognise contraindications to physical activity and exercise in long term conditions</p> <p>Apply knowledge of pre participation screening</p>

Subject 4. Special groups and considerations

Knowledge of Should be able to describe...	Skill Should be able to...
<p>Benefits of physical activity, WHO guidelines, barriers and special considerations in the following groups:</p> <ul style="list-style-type: none">• People living with disability• Pregnancy / post-partum• Children & young people• Elderly <p>Contraindications to physical activity in special groups</p>	<p>Apply knowledge of physical activity guidelines in clinical context of special groups</p> <p>Identify specific considerations in special groups relevant to exercise prescription</p> <p>Recognise contraindications to physical activity and exercise in special groups</p>

Subject 5. Behaviour Change theories

Knowledge of Should be able to describe...	Skill Should be able to...
<p>The application of Behaviour change theory in clinical practice</p> <p>Individual barriers to physical activity adherence and compliance</p> <p>Barriers to healthcare professionals supporting physical activity behavioural change in clinical practice</p> <p>Application of motivational interviewing in clinical practice</p> <p>Active listening techniques</p> <p>Common traps healthcare professionals fall into when talking about physical activity and identify strategies to avoid / address them.</p> <p>The rationale for targeting patient self-efficacy</p> <p>Techniques to facilitate behavioural activation</p> <p>Techniques to support relapse prevention</p> <p>The pros and cons of different goal-setting techniques, such as outcome, process and learning goals</p> <p>How system design can support behaviour change through</p> <ul style="list-style-type: none"> • Appropriate follow-up opportunities • continuity of messaging • relevant signposting • patient-facing resources • behavioural reinforcement 	<p>Identify appropriate active listening strategies in clinical scenarios</p> <p>Recognise individual concerns around physical activity</p> <p>Recognise individual's own reasons for changing their behaviour</p> <p>Recognise individuals' readiness to participate in physical activity</p> <p>Recognising what components of behaviour change should be prioritised given different clinical circumstances and time constraints</p> <p>Recognise physical activity interventions that individuals can build into their daily lives</p> <p>Identify appropriate goal-setting strategies</p>

Subject Area 6. Risks and Contraindications

Knowledge of Should be able to describe...	Skill Should be able to...
<p>Risk assessment prior to recommending physical activity including:</p> <ul style="list-style-type: none"> • absolute contraindications for physical activity • altered activity level baseline due to illness, injury, or deconditioning • Safe approaches to increasing physical activity <p>Symptoms or signs during physical activity that require medical attention, in contrast to expected physiological responses</p> <p>Options for further investigation, such as:</p> <ul style="list-style-type: none"> • cardiac/respiratory investigations (lung function testing, Peak Expiratory Flow, exercise tolerance testing) • cardiopulmonary exercise testing <p>Training principles and the risks of illness or injury associated with overtraining or overload</p>	<p>Apply risk assessment principles to exclude absolute contraindications for physical activity and any further assessments that may be required prior to starting activity</p> <p>Apply a person-centred approach to reduce risk</p> <p>Recognise when further investigation is appropriate and which modalities are relevant.</p> <p>Identify the populations with increased incidence of overtraining and energy deficiency</p> <p>Apply the best practice treatment strategies relevant to overtraining and energy deficiency</p>

Subject Area 7. Systems Approach

Knowledge of Should be able to describe...	Skill Should be able to...
<p>Global recommendations for a systems approach to improving physical activity levels for:</p> <ul style="list-style-type: none"> • Societies • Environments • Individuals • Systems <p>How to design clinical services to support behaviour change, such as:</p> <ul style="list-style-type: none"> • Appropriate follow-up opportunities • Continuity of messaging • Relevant signposting • Patient-facing resources • Behavioural reinforcement <p>How to ensure best practice using the framework of the seven pillars of governance</p>	<p>Apply knowledge of global recommendations in designing interventions to support physical activity and behaviour change</p> <p>Apply knowledge of governance within physical activity interventions.</p>

6. Exam Format and Resources

The DipExM exam will last for 3 hours. Each paper is 90 mins in duration and both papers are taken on the same day, with a 15-minute break between them.

The exam is comprised of 180 multiple choice **single best answer** questions (SBAs)

Pass mark

What is the pass mark for the DipExM and how does standard setting work?

The marks for both papers are combined to give a total mark for the examination.

The examination will be conducted in English and will be based around UK practice and recognised global and national guidelines.

The DipExM uses a pass mark that has been standard set. Standard setting is a recognised evidence-based method (modified Angoff) to set the standard and pass mark. The method results in a criterion-based standard that takes into account the difficulty of each question and the level at which the examination is set. As a result, the pass mark is likely to change from diet to diet depending on the questions selected for each paper.

A panel of carefully trained representative practitioners implements the standard setting procedures for the DipExM. The panel reviews the questions, bearing in mind the standard a competent community practitioner should achieve.

Why is standard setting used?

The aim of standard setting is to improve the fairness and validity of the exam process and to set levels of competence for exam success.

The use of standard setting bears no relationship to the percentage of candidates who will succeed in the exam, or to any other external factors.

Resources

Visit www.fsem.ac.uk or for more.

Reading List

The diploma is an examination only, designed to allow healthcare professionals to evidence their competency in exercise medicine. Learning for the examination is self-directed. It can be expected that existing courses, along with knowledge of current reputable guidelines when mapped to the diploma syllabus can all equip clinicians with the knowledge required to pass the diploma. Suggesting reading includes but is not limited to:

- Brukner P, & Khan K(Eds.). *Brukner & Khan's Clinical Sports Medicine: The Medicine of Exercise, Volume 2, 5e*. McGraw Hill, 2019.
- McArdle, WD., Katch, FI and Katch, VL. *Exercise physiology: nutrition, energy, and human performance*. Lippincott Williams & Wilkins, 2010.