

MS937-15 Fertility, Fertilisation and Assisted Reproduction

26/27

Department

Warwick Medical School

Level

Taught Postgraduate Level

Module leader

Anthony Lyons

Credit value

15

Module duration

10 weeks

Assessment

60% coursework, 40% exam

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module provides a comprehensive examination the causes and diagnostic approaches for male and female infertility, examining both endocrine and physiological factors. The module includes an analysis of assisted reproduction technologies, including gamete handling, fertilisation methods, and oocyte culture. A strong emphasis is placed on compliance with HFEA regulations, ethical considerations, and informed consent. Through a combination of theoretical knowledge and practical application, this module prepares students to navigate the complexities of infertility treatments within a clinical context.

Module aims

This module aims to provide students with an in-depth understanding of fertility and assisted reproduction, exploring the biological, clinical, and regulatory dimensions of reproductive science. Students will benefit by gaining critical skills in analysing infertility causes, advanced reproductive technologies, and ethical frameworks guided by HFEA regulations. This knowledge prepares them for roles in clinical, research, or policy settings. The module will also provide students with the skills to critically evaluate techniques for oocyte retrieval, sperm procurement, and insemination, as well as the ability to assess fertilisation outcomes. The module integrates foundational and

advanced aspects of reproductive science, situating it within the broader context of biomedical and healthcare education.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

The module delves into the definitions, epidemiology, and diagnostic approaches to infertility, examining both male and female causes, including genetic, endocrine, and anatomical factors. It explores various treatment strategies and the role of environmental and lifestyle influences. The syllabus includes gametogenesis, fertilisation mechanisms, advanced gamete handling, sperm assessment, and oocyte retrieval, while ensuring comprehensive understanding of quality assurance and risk management in ART labs. Topics also cover regulatory standards, patient care communication, and the ethical implications of assisted reproduction, with a strong focus on clinical practice, data interpretation, and ethical considerations.

Learning outcomes

By the end of the module, students should be able to:

- Critically assess the causes, diagnosis, and management of male and female infertility, including screening and treatment options.
- Evaluate ovarian stimulation protocols, analysing their physiological and endocrine effects on fertility treatment.
- Interpret the regulatory and ethical considerations of consent in assisted reproduction, ensuring compliance with HFEA guidelines.
- Analyse the processes of gametogenesis, fertilisation, and early embryo development at the cellular and molecular levels.
- Appraise key laboratory techniques in assisted reproduction, including oocyte retrieval, sperm processing, insemination, and embryo assessment.

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

1. In-depth understanding of infertility causes and diagnostic methods.
2. Advanced techniques in gamete handling, including sperm and oocyte quality assessment.
3. Proficiency in patient-centred communication, including discussing complex information and conveying difficult news.
4. Practical knowledge of clinical embryology, ART quality control, and risk management
5. Analytical skills for interpreting clinical results and data from assisted reproduction outcomes.
6. Comprehension of ethical and legal frameworks, including HFEA regulations.
7. Critical evaluation of clinical research and evidence-based practices in reproductive science.

Transferable skills

1. Critical Thinking and Problem-Solving: Analysing complex case studies and treatment options requires critical thinking.
 2. Research and Analytical Skills: Engaging with current literature and research studies enhances the ability to gather, analyse, and interpret data, which is valuable in many fields.
 3. Empathy and Emotional Intelligence: The module delves in topics of fertility and ART, this exposes students to topics that often involve sensitive issues and helps build emotional intelligence.
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Study

Study time

Type	Required
Seminars	16 sessions of 1 hour (11%)
Online learning (scheduled sessions)	4 sessions of 1 hour (3%)
Private study	70 hours (47%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

Structured online activities via VLE (Moodle) including podcasts and other online resources, discussion forums, case reports – 70 hours Self-directed learning – 30 hours each in preparation for SAQ with clinical vignette assessment, and writing case report (1500).

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group D

	Weighting	Study time	Eligible for self-certification
Assessment component			

Case Report on a topic from the module	60%	30 hours	Yes (extension)
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The case report assessment will involve the detailed analysis of a clinical or research-based scenario related to reproductive science. Students will be expected to critically evaluate the case, integrating relevant scientific knowledge, clinical evidence, and ethical considerations.

Reassessment component is the same

Assessment component

SAQ Examination with Clinical Vignette's	40%	30 hours	No
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The SAQ examination for the module aims to test students' ability to apply knowledge to real-world reproductive science and clinical scenarios. Questions will cover fundamental principles of fertility and reproductive biology, including hormonal regulation and gamete physiology. Mechanisms of fertilisation and early embryonic development, as well as ART techniques, such as IVF, ICSI, embryo freezing, and preimplantation genetic testing will also be examined.

Reassessment component is the same

Feedback on assessment

Assessments will be marked using clear grading criteria, ensuring transparency and consistency in feedback. Students will receive a breakdown of their performance across different assessment components. Detailed, structured comments will be provided on submitted assessments, highlighting strengths, areas for improvement, and suggestions for further development.

[Past exam papers for MS937](#)

Availability

There is currently no information about the courses for which this module is core or optional.