

## First FRCR Examination – Purpose of Assessment Statement

The First FRCR examination assesses knowledge of the sciences that underpin clinical oncology practice. The syllabus for this examination is described in [Appendix 2](#). As the knowledge assessed in this examination is essential to clinical oncology practice, this examination must be completed during core clinical oncology training (ST3 and 4).

The purpose of the examination is to assess whether those undertaking specialty training in clinical oncology have an appropriate knowledge of the sciences that underpin clinical oncology including physics as applied to radiotherapy, radiobiology, cancer biology including molecular biology, the pharmacology of systemic anti-cancer treatments and medical statistics.

Candidates who succeed in this examination have demonstrated their:

1. understanding of the molecular basis of abnormalities which give rise to dysplasia, invasive cancer and metastases.
2. understanding of the therapeutic effects and toxicity of ionising radiation at the level of cells, organs and organisms.
3. knowledge of the safe, appropriate and effective use of drugs for systemic therapy and symptomatic treatment of cancer.
4. statistics knowledge necessary to understand the design of trials, read and use a trial protocol, present and interpret data, interpret results of clinical trials, critically review and evaluate papers.
5. knowledge and understanding of physics that underpin current radiotherapy practice, including the interaction of ionising radiation with matter, how a desired dose distribution is produced, calculated and quality assured and how the dose of unintended radiation can be minimised for patients and staff.

The First FRCR examination is examined by four papers of single best answer (SBA) questions:

1. Cancer Biology and Radiobiology: the processes of cancer cell transformation and tumour development and the response to ionising radiation of cells both individually and grouped as tissues.
2. Clinical Pharmacology: the structure, action, use and evaluation of drugs used in the treatment of a patient with cancer.
3. Physics: the application of physical principals and methods in clinical radiotherapy, physical basis of the therapeutic uses of radioactive isotopes, radiation hazards and protection.
4. Medical Statistics: with special reference to clinical trials and assessment of results, and the epidemiology of cancer.

The examination takes the format of a modularised assessment as it offers trainees more flexibility and the opportunity to take papers at the point in their ST3/4 training which is most appropriate for them. The SBA question format is used because it allows the candidate to demonstrate his application of knowledge, or his synthesis and evaluation of information. The candidate has to solve problems by applying acquired knowledge, facts, techniques and rules.

Candidates are restricted to four attempts at the First FRCR for reasons relating to consistency and currency of training.