The Royal College of Radiologists

The Faculty of Clinical Oncology

TO: TRAINING PROGRAMME DIRECTORS

REGIONAL POST-GRADUATE EDUCATION ADVISERS
COLLEGE TUTORS
EXAMINATION CANDIDATES

FIRST EXAMINATION FOR THE FELLOWSHIP IN CLINICAL ONCOLOGY

AUTUMN 2024

The Examining Board has prepared the following report on the AUTUMN 2024 sitting of the First Examination for the Fellowship in Clinical Oncology. It is the intention of the Specialty Training Board that the information contained in this report should benefit candidates at future sittings of the examinations and help those who train them. This information should be made available as widely as possible.

Dr Louise Hanna
Medical Director, Education and Training

FIRST EXAMINATION FOR THE FELLOWSHIP IN CLINICAL ONCOLOGY EXAMINERS' REPORT – AUTUMN 2024

The pass rates achieved at the AUTUMN 2024 sitting of the First Examination for the Fellowship in Clinical Oncology are summarised below.

	All Candidates		UK-trained Candidates		UK 1st attempt Candidates	
Cancer Biology & Radiobiology	62%	117/188	77%	62/81	79%	48/61
Clinical Pharmacology	58%	107/183	71%	50/70	72%	44/61
Medical Statistics	54%	105/195	76%	54/71	78%	47/60
Physics	64%	136/212	65%	56/86	65%	39/60

This examiners' report does not provide an in-depth breakdown of performance on individual questions but is intended to guide trainers and candidates by highlighting particular areas of concern. Candidates are reminded that it is recommended that all modules are attempted at the first sitting, to maximise chances of success over the total of six permitted attempts.

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Cancer Biology and Radiobiology

Candidates performed in line with previous sittings. They demonstrated a good understanding of the genetics of normal and malignant cells and receptor signalling.

Candidates did less well in the following areas and further reading is recommended in:

- Clinical relevance of genomics
- Control of normal cell growth and behaviour (including apoptotic signalling and histone- based chromatin regulation)
- Chromosomal and genetic changes in malignancy
- Underlying genetic abnormality, mechanism of action and associated cancers
- Basic principles of tumour immunology

Overall candidates had a solid knowledge of radiobiology. The least well answered questions were related to:

- Timing of irradiation-induced damage repair
- Management of total body exposure
- Time course of radiation-induced pneumonitis
- RBE of carbon ions

Clinical Pharmacology

Candidates demonstrated good understanding of mechanism of action and side effect profile of anticancer drugs and steroids. Some candidates could have performed better with a more in-depth revision of the side effect profile of antiemetics, including cautions and contraindications, which influence rational antiemetic selection. It is also recommended to familiarise with drug to drug interactions, particularly enzyme inducers and inhibitors. Lastly, a further focus on pharmacokinetic principles is suggested for future revision.

Medical Statistics

Candidates did very well across the breadth of topics and questions provided. Candidates performed particularly well in questions on survival analysis. Candidates are advised to consider aspects of clinical trial design: sample size considerations and interim analyses in particular.

Candidates are also advised to give additional attention to sampling theory, particularly the concept of ‘source’ vs. ‘study’ populations.

Finally, candidates are also reminded to consider in detail the interpretation of statistical tests: particularly differences between clinical and statistical significance, and interpreting p-values and the magnitude (size) of effects. Candidates are reminded that this is a ‘single best answer’ exam when choosing their response.

Physics

Candidates generally performed well, especially in the areas of basic physics principles and interactions with matter. Candidates could improve their understanding surrounding IRMER roles and responsibility for specific tasks in the radiotherapy treatment pathway; effects of tissue inhomogeneity on dose; the role of 4D imaging; and understanding the limitations of specific planning checks.