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An Overview of Radiation Oncologists

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Commentary

A radiation oncologist is a cancer specialist who employs ionising radiation (such as megavoltage X-rays or radionuclides) to treat patients. Radiation oncology is one of three key specialities involved in cancer treatment, the other two being surgical and medical oncology. Radiation therapy can be used as a curative modality alone or in conjunction with surgery and/or chemotherapy. It may also be used to ease symptoms in individuals with incurable malignancies on a palliative basis. Some benign disorders, such as benign tumours, may also be treated with radiation by a radiation oncologist. Radiotherapy and chemotherapy are managed by a single physician, known as a "clinical oncologist," in some countries (though not in the United States). As part of the multidisciplinary cancer team, radiation oncologists collaborate with other physicians such as surgical oncologists, interventional radiologists, internal medicine subspecialists, and medical oncologists, as well as medical physicists and technicians. Radiation oncologists receive four years of oncology-specific training, whereas oncologists who administer chemotherapy have two years of additional cancer care training after completing their internal medicine residency in the United States.

Radiation oncologists in the United States complete a four-year residency programme (in addition to an internship) that is more focused on oncology training than any other medical specialty. Residents learn clinical oncology, the physics and biology of ionising radiation, and how to treat cancer patients with radiation during their four years of post-graduate training. A radiation oncologist may seek certification from the American Board of Radiology after completing this training (ABR). Board certification consists of three written tests and an oral examination given only once a year. The written exams comprise separate exams in radiation physics, radiobiology, and clinical oncology, which are followed by an eight-part oral examination given one year into practise in late spring. Passing these tests results in the issuance of a time-limited board certification. Recertification is achieved by a sequence of continuing medical education and practise requirements, which include a written exam, clinical practise parameter review, continuing medical education credits, and achieving community practise standards. In most jurisdictions, radiotherapy training includes the treatment of solid malignancies using chemotherapy, radiation therapy, and palliative care. After three years of comprehensive post-MBBS in-service training and a final university level exam, a postgraduate MD degree is conferred. MD Radiation oncology practitioners are the most skilled oncologists in India, providing radiotherapy and chemotherapy.

The first radiotherapy department in Asia was established in 1910 at Calcutta Medical College in the state of West Bengal, and it is now a premier cancer teaching institution in India. Training in radiation oncology in Canada is relatively similar to that in the United States. Radiation oncologists enter radiation oncology residencies that last five years, with the first year serving as an internship. Residents receive comprehensive training in clinical oncology, radiophysics and radiobiology, as well as treatment planning and delivery of radiation throughout the next four years. Following their residency, most radiation oncologists pursue a fellowship in areas such as brachytherapy, intensity Modulated Radiation Treatment (IMRT), gynecologic radiation oncology, and many more. In Canada, radiation oncologists typically treat two or three different anatomic locations, such as the head and neck, breast, genitourinary, hematologic, gynecologic, central nervous system, or lung cancer. Clinical oncologists who practise radiotherapy in the United Kingdom are also fully certified to give chemotherapy. Following completion of their basic medical degree, all oncologists must complete full-time training in general internal medicine and pass the MRCP test, which is usually 3–4 years following qualification. Following that, a five-year Specialist Registrar (SpR) training programme in all non-surgical aspects of oncology is necessary. During this time, the trainee must pass the FRCR examination in order to become a clinical oncology specialist. A considerable number of trainees will prolong their training to pursue an academic fellowship, MD, or PhD.

Almost all consultant clinical oncologists in the United Kingdom are Fellows of the Royal College of Radiologists, the specialty's regulating body. While most oncologists may treat a variety of typical general oncology cases, there is increasing specialisation, with consultants expected to specialise in one or two subsites. The Royal Australian and New Zealand College of Radiologists (RANZCR) in Australia and New Zealand gives a Fellowship (FRANZCR) to trainees after a 5-year programme and multiple sets of exams and modules. Radiation oncologists, like those in other nations, tend to subspecialize, while generalists will always exist in smaller centres. Despite being skilled in chemotherapy administration, radiation oncologists in Australia and New Zealand rarely administer it. Radiation oncologists in Iran who are trained in non-surgical parts of oncology (including radiation therapy) enter a 5-year residency programme after completing 7 years of general medicine study and passing the national comprehensive residency test. The radiation oncologist is in charge of developing the treatment strategy in cases when radiation is required. Radioactive implantations, external beam radiotherapy, hyperthermia, and combination modality therapy, such as radiotherapy paired with surgery, chemotherapy, or immunotherapy, are some of the therapeutic options.

To give the treatment correctly, a variety of equipment is required to supplement it. First, a simulator and treatment preparation must be performed, which includes finding the area where the tumour is placed in order to determine exactly where the patient would be exposed during treatment. A Computed Tomography (CT) scan, Magnetic Resonance Imaging (MRI), and a W X-ray are employed to conduct this work. Following that, the area where the patient will be treated is designated, and an immobiliser is made to ensure that no other part of the body is exposed to the radiation. They utilise tape, foam sponges, headrests, moulds, and plaster casts to supplement this immobiliser. A thermoplastic mask is also utilised when the therapy is in the area of the head and neck. This mask is precisely moulded to your shape in order to later fix it on certain screws on the treatment table, which aids in patient mobilisation [1-5].

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