Professions in Radiation Therapy

Radiation Oncologist



Radiation oncologists are physicians who oversee the care of each cancer patient undergoing radiation treatment. After determining whether a patient is a candidate for radiation therapy, they review the side effects and benefits of treatment with the patient. Next, they develop and prescribe each cancer patient's radiation treatment plan and make sure that every treatment is accurately given. They monitor the patient's progress and adjust treatment to make sure patients receive quality care. Radiation oncologists also help identify and treat any side effects of radiation therapy. They work closely with other physicians and all members of the radiation oncology team. Radiation oncologists have completed four years of college, four years of medical school, one year of general medical training, then four years of residency (specialty) training in radiation oncology. They have extensive training in the safe use of radiation to treat disease. If they pass a special examination, they are certified by the American Board of Radiology (http://theabr.org/) . They participate in maintenance of certification, a process that ensures that they are up to date on advances in the field. Patients should ask if their doctor is board certified.

Therapeutic Medical Physicist

A therapeutic medical physicist is a qualified medical physicist who works directly with the doctor in treatment planning and delivery. Therapeutic medical physicists oversee the work of dosimetrists and help ensure that complex treatments are properly tailored for each patient. They are responsible for developing and directing quality control programs for equipment and procedures that ensure the equipment works properly. They also take precise measurements of radiation beam characteristics and do other safety tests on a regular basis. Therapeutic medical physicists have doctorates or master's degrees and have completed four years of college, two to four years of graduate school and typically one to two years of clinical physics training. If they pass a special examination, they are certified by the American Board of Radiology (http://www.theabr.org/) or the American Board of Medical Physics (http://www.abmpexam.com/) . They participate in maintenance of certification, a process that ensures that they are up to date on advances in the field.

Radiation Therapist

Radiation therapists work with radiation oncologists. They administer the daily radiation treatment under the doctor's prescription and supervision. They maintain daily records and regularly check the treatment machines to make sure they are working properly. Radiation therapists go through a two- to four-year educational program following high school or college. They take a special examination and must be certified by the American Registry of Radiologic Technologists (http://www.arrt.org/) . In addition, many states require that radiation therapists be licensed.

Dosimetrist

Dosimetrists use treatment planning software to help the radiation oncologist develop a treatment plan for a patient. Contours are created for normal tissues, such as the lungs or liver and for tumor structures and other areas at risk for harboring cancer cells. They then calculate the dose of radiation that will be delivered to these contoured structures to make sure that the tumor gets

Copyright© 2026, RadiologyInfo.org

enough radiation to destroy it while spares the normal tissues. There are generally accepted guidelines (dose constraints) for the amount of radiation that a particular organ can tolerate. Many of these treatment plans are very complex. Dosimetrists work with the radiation oncologist and the medical physicist to create the treatment plan that is best suited to each patient. Final decisions regarding the treatment plan are made by the radiation oncologist. Many dosimetrists start as radiation therapists and with intensive training, become medical dosimetrists. Others are graduates of one- to two-year dosimetry programs. The Medical Dosimetrist Certification Board (http://www.mdcb.org/) certifies dosimetrists.

Radiation Oncology Nurse

Nurses work with the radiation team to care for patients during the course of treatment. They help evaluate the patient before treatment begins. They may talk to the patient about potential side effects and their management. During the course of radiation treatments, the nurse may evaluate the patient weekly or more frequently to assess problems and concerns. Nurses play a key role in educating the patient about treatment, side effects, etc. Radiation oncology nurses are registered nurses licensed to practice professional nursing. Most nurses in radiation therapy have additional accreditation in the specialty of oncology nursing. Advanced practice nurses in oncology, which include clinical nurse specialists and nurse practitioners, have completed a master's degree program.

Social Worker

Social workers may be available to provide practical help and counseling to patients or members of their families. They can help a patient and their family members cope with the stressors associated with a cancer diagnosis. They also may help arrange for home health care and other services. Social workers may be licensed. Licensed social workers must have a master's degree and pass an examination.

Dietitian

Dietitians work with patients to help maintain nutrition. They monitor the patient's weight and identify any nutritional problems. Dietitians educate patients and may provide them with recipes and nutritional supplements to improve their nutritional status before, during and after treatment. Dietitians attend four years of college then usually take part in a one-year internship. The American Dietetic Association (https://www.eatright.org/) registers dietitians who have passed a professional examination.

Disclaimer

This information is copied from the RadiologyInfo Web site (http://www.radiologyinfo.org) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at **http://www.radiologyinfo.org** to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright ® 2026 Radiological Society of North America, Inc.

Copyright© 2026, RadiologyInfo.org