

University of Pennsylvania
Medical Physics Residency Program
Educational Goals and Objectives

Patient care	<ul style="list-style-type: none"> a. Understand the role of the physicist in radiation oncology and its impact on patient care. b. Develop and carry out simulation and planning activities in coordination with physicists and radiation oncologists. c. Together with staff physicists consult and advise physicians on various clinical physics aspects related to patient care.
Radiation Oncology Physics Knowledge Developmental Medical Physics knowledge Research Activities	<ul style="list-style-type: none"> a. Incorporate the didactic instruction in physics, radiation oncology physics, anatomy and physiology, radiation biology and biostatistics into a broad and varied clinical physics experience. b. Become familiar with standard, advanced and specialized radiation therapy techniques seen by a radiation oncology institution. c. Use the more advanced radiation therapy techniques on a daily basis. d. Enhance the radiation therapy knowledge base, with an emphasis on learning about each radiation therapy technique during specialized rotations. e. Enhance basic radiation oncology physics knowledge through reviews of departmental clinical physics activities. f. Attend radiation therapy and radiology conferences in collaboration with physicists and physicians within the Radiation Oncology Program. h. Perform Rotations at affiliate facilities to experience first hand a small clinic environment. <ul style="list-style-type: none"> a. Participate in the process of identifying and translating new technologies from the industry to the clinical environment. b. Be able to identify risks and advantages of new technologies. <ul style="list-style-type: none"> a. Participate in applied medical physics research projects. b. Participate in clinical research together with physicists and physicians. c. Participate in translational research projects together with physicians, physicists and radiobiologists (alternative path only). d. Participate in basic research within the ACC (alternative path only).
Practice-based learning and improvement	<ul style="list-style-type: none"> a. Appraise and assimilate scientific evidence from current medical physics and radiation oncology literature. b. Analyze knowledge base in the full spectrum of clinical physics practice. c. Use information technology to broaden skills and knowledge in radiation oncology physics.
Interpersonal and communication skills	<ul style="list-style-type: none"> a. Work effectively within the radiation oncology team to include physicians, physicists, nurses, technicians and support staff. b. Demonstrate effective interpersonal and communication skills with professional associates, patients and their families. c. Teach radiation oncology physics to junior physicists and medical residents, physics and medical students, during resident lectures and clinical activities.
Professionalism	<ul style="list-style-type: none"> a. Carry out all expected professional responsibilities. b. Display respect and altruism. c. Adhere to ethical principles. d. Be sensitive to cultural, age, gender, and disability issues.
Systems-based practice	<ul style="list-style-type: none"> a. Demonstrate an awareness and responsiveness to the position of radiation oncology care at an academic institution in the larger context of the health care system. b. Learn the costs associated with radiation oncology care and be able to effectively and economically participate in patient care.