Chief Medical Physicist- UPMC Hillman Cancer Center Zabok, Croatia

UPMC
LIFE CHANGING MEDICINE

About UPMC Hillman Cancer Center

UPMC Hillman Cancer Center connects patients to the integrated expertise of leading clinicians, academic researchers, specialty programs, and treatment centers. Headquartered in Pittsburgh, PA (U.S.), UPMC Hillman operates more than 70 cancer centers in the U.S., with five cancer centers in Ireland and Italy. In 2025, UPMC Hillman will bring cutting-edge therapies to Croatia on the campus of Zabok General Hospital, approximately 25 miles from the capital of Zagreb. The facility will include medical and radiation oncology, as well as PET-CT services.

Position Overview

Supported by the UPMC Hillman Cancer Center team in the U.S. and Europe, the Chief Medical Physicist will be responsible for managing the medical physics activities of the Department of Radiation Oncology UPMC Hillman Cancer Center at Croatia and overseeing the activity of other Medical Physicists. Additionally, the Chief Medical Physicist will work closely with the clinical and operational leadership in the Department of Radiation Oncology to ensure optimal clinical operation of the Department. The Chief Medical Physicist is also responsible for conducting all aspects of Radiation oncology physics including equipment calibration and commissioning, clinical support, maintenance of appropriate quality assurance for equipment and treatment delivery, compliance with radiation safety, and licensing issues.

Job Requirements

- PhD or MSc from an accredited program in Medical Physics or related field.
- Experience in planning 3-D conformal radiotherapy, IMRT, VMAT, SRS, and SBRT.
- Ten years of clinical experience in therapy medical physics.
- Proficiency in reading, writing, and speaking both English and Croatian is required.
- Official authorization as an expert in Medical Physics (MPE) in Croatia in the field of radiotherapy specialization is required.
- Appropriate Croatian licensure and certification to meet minimum education and knowledge requirements.
- Must maintain certification by following standard guidelines put in place by the appropriate Croatian Certifying Authority (as appropriate by Croatian regulations).

Responsibilities

- Responsible for the systematic measurement, documentation, and assurance of the physical aspects of all radiation sources/devices used in radiation oncology.
- Performs acceptance testing and commissioning of all treatment-related equipment. This includes calibration of all radiation beams, confirmation with external auditors, and maintenance of all records for their appropriate use.
- Performs reference and relative dosimetry for all radiation producing beams following internationally recognized protocols.
- Develops and documents performance specifications, testing, tolerances, and frequency of testing for all therapy equipment.
- Performs and maintains a comprehensive Quality Assurance (QA) Program that ensures patients are provided tumor localization, radiation treatment, and dose distributions as prescribed. This includes all machine-specific and patient-specific QA.
- Generates and checks clinically optimal high-quality radiation treatment plans utilizing the treatment planning system, knowledge of anatomy & physiology, radiation biology and oncology, radiation safety and protection, mathematics, radiation therapy techniques, physics, and technology.
- Provides consultation to the radiation oncologist and translates the desired treatment plan into a set of instructions for radiation therapists to execute.
- Creates and implements clinical protocols and operative procedures in radiotherapy.
- Communicates with the radiation oncologist during the treatment planning process and participates in communicating the plan to the radiation therapy technologists for plan implementation.
- Maintains a commitment to a high degree of accuracy, attention to detail, and safety.
- Utilizes critical thinking skills when performing radiation treatment planning and plan evaluation, recognizing & resolving equipment problems, and treatment discrepancies.
- Ensures accurate data transfer of patient and treatment plan information to clinical systems including, but not limited to, record and verify systems, imaging guidance systems, treatment delivery systems, and electronic medical record systems.

Chief Medical Physicist- UPMC Hillman Cancer Center Zabok, Croatia

UPMC
LIFE CHANGING MEDICINE

- Participates in the acquisition of patient data via computer-generated data sets from medical imaging devices such as CT, PET, MR, etc., or manual methods such as physical measurements, and incorporates this data into radiation treatment plans, calculations, and treatment devices.
- Assists the radiation therapists in the treatment simulation process including the use of ancillary treatment devices, patient immobilization techniques, and other patient positioning techniques as needed for simulation and treatment. Assists in fabrication of these ancillary treatment devices. Provides support from patient simulation to treatment delivery.
- Contours and delineates clearly discernable normal critical structures and expanded planning structures using different imaging modalities.
- Performs rigid and deformable image registration for multi-modality image sets.
- Applies the principles and concepts of radiation physics in developing and checking radiation treatment plans, which includes, but is not limited to: 2D treatment planning, 3D conformal treatment planning, Deep inspiration breath-hold (DIBH) planning, Intensity Modulated Radiation Therapy (IMRT) treatment planning, 4D treatment planning, Volumetric Modulated Arc Therapy (VMAT) planning, Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiation Therapy (SBRT) planning, gated treatment planning and delivery, and Brachytherapy Treatment planning, if appropriate.
- Applies knowledge of radiobiology regarding dose tolerances, time dose fractionation calculations, hypofractionation, BED and EQD2 calculations, and other radiobiology applications to the radiation therapy treatment process.
- Accurately performs radiation dose calculations, both manual and computer generated, for treatment delivery including the effects of beam modifying devices, irregular fields, gaps for adjacent fields, and off-axis calculations.
- Provides consultation to the radiation oncologist on the physical and radiobiological aspects of treatment. Translates the desired treatment plan into a set of instructions for radiation therapists to execute.
- Responsible for the in-vivo dose measurement and use of measuring devices for verification of dose delivery to patients. Provides interpretation/consultation to the radiation oncologist on in-vivo dosimetry.
- Responsible for the development of a Quality Management program that will ensure a culture of safety within the radiation oncology department.
- Provides consultation related to radiation safety. Ensures that the treatment vaults as well as other rooms with radioactive sources are appropriately shielded.
- Directs the design, fabrication, and measurement of treatment beam modifiers and treatment aids.
- Responsible for obtaining and disseminating information pertaining to current practices in Radiation Oncology Physics.
- Responsible for initiating and performing research in medical physics or clinical projects consistent with the missions and goals of the Department of Radiation Oncology. Such research should be performed in close collaboration with other UPMC medical physicists, research scientists, radiation oncologists, and others as appropriate.
- Advises in the clinical practice of radiation oncology physics and dosimetry. This includes equipment usage, selection and implementation of new technology, equipment replacement, physics staffing requirements/assignments/recruitment, program operation, budget preparation, and ongoing development and review of the program's policies and procedures.
- Provides support for clinical trials as appropriate.
- Performs routine chart checks per departmental policy.
- If appropriate, participates in charge capture and generates documentation for billing in accordance with departmental policies.
- Participates in educational activities such as providing instruction and training and mentoring new staff members, physicians/ physician residents (as appropriate), physicists/ physics residents (as appropriate), radiation therapists (or trainees), and others as appropriate.
- Maintains an atmosphere of caring, concern, and support for patients, visitors, medical staff, and colleagues.
- Adheres to high ethical standards in relation to patients, students, trainees, and colleagues and UPMC Croatia policies and procedures.
- Additional responsibilities as assigned by the supervisor.

Interested Candidates

Chief Medical Physicist- UPMC Hillman Cancer Center Zabok, Croatia

UPMC offers competitive compensation and benefits. Candidates should be proven leaders and demonstrate a passion for excellence in the delivery of exceptional patient care. To be considered for this role, please submit a cover letter and CV. For more information about this opportunity, contact Gina Matolcsy at HumanResources@upmc.hr

About UPMC

Based in Pittsburgh, PA (U.S.), UPMC is a $26 billion, globally recognized academic medical center and integrated health care provider and insurer. Working in close collaboration with the University of Pittsburgh Schools of the Health Sciences, UPMC shares its clinical, managerial, and technological skills worldwide. With more than 95,000 employees, 40 hospitals, 800 doctors' offices and outpatient sites, and a 4.5-million-member Insurance Services Division, UPMC works with public and private partners around the world to provide access to the best possible care close to home. UPMC has more than 20 years of multinational experience, operating hospitals and cancer centers in Italy and Ireland while providing clinical expertise and counsel in China and Kazakhstan. Our international team routinely brings innovation and global expertise to identify and assess what is needed to implement high-quality health care solutions. Learn more about UPMC and its international operations at www.upmc.com and www.upmc.com/about/international-services.