UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Radiotherapy Techniques

2425-3-I0303D015

Aims

The student will be able to: describe the different phases of the radiotherapy process from the prescription visit to post-therapeutic monitoring; define and describe in detail the technical phases of setting up and carrying out the radiation treatment; define the methods of correct multidisciplinary integration between the different professional figures operating in the Radiotherapy department, refine the methods of approaching the cancer patient.

Contents

The teaching aims: to provide the student with knowledge of the different irradiation techniques both in the field of external beam radiotherapy and in that of brachytherapy; to provide the student with knowledge on the methods of calculating the dose distribution and on the principles of dose optimization; to provide the student with knowledge relating to the patient's path in Radiotherapy; to provide the student with knowledge on irradiation methods according to the main tumor diseases.

Detailed program

The various phases of the radiotherapy procedure: prescription, setting, centering, simulation, acquisition of anatomical data, development of the treatment plan, evaluation of the plan, execution, verification, monitoring during treatment, monitoring over time.
The choice of beams: photons, electrons. The choice of energy.
Performance in depth.
The beam modifiers.
The conformation.
Intensity modulation.

The irradiation geometry.
Dose fractionation methods.
The volumes of interest.
ICRU reports.
Patient set-up: positioning and immobilization methods.
Imaging in Radiotherapy.
Quality controls.
Recording of processing data.
Brachytherapy: indications; devices for endocavitary treatments and interstitial treatments; the different radioisotopes; loading modes: pre-loading, after-loading, -remote-loading.

Prerequisites

Health Care and Disease Prevention

Teaching form

Teaching takes place in attendance, with frontal and interactive lessons

Textbook and teaching resource

Teachers will provide educational materials

Semester

First semester

Assessment method

Written and oral exam to evaluate preparation on the exam programme, the ability to organize knowledge and communication skills in a disciplinary context.
The written test will consist of multiple choice questions for each module. The oral exam will consist of a more in-depth assessment of knowledge of the topics covered in the course modules through open questions, with questions possibly relating to errors made during the written exam. The final evaluation will take into account the results obtained in both the written test and the oral test.

Office hours

By appointment required by mail

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION