

# Radixact® Physics Essentials

Product Training for the Radixact® Treatment Delivery System or TomoTherapy® Treatment Delivery System with iDMS® and Accuray Precision® Treatment Planning System.

The Physics course is designed for Medical Physicists responsible for performing commissioning and quality assurance (QA) tasks on the Radixact Treatment Delivery System. This course provides an overview of clinical operation with in-depth instruction on commissioning procedures and routine QA tools and practices.

The Physics course has two components: pre-work and in-class work. The theoretical foundation of system design and QA are learned by completing thoughtfully designed reading assignments and quizzes prior to attending class. The in-class portion provides opportunity to implement the theory learned in the pre-course assignments through guided, hands-on practice on an actual Radixact System, and discussion with peers. Completion of the course prepares the Physicist to perform the necessary commissioning and testing to ensure the system is ready for clinical use.

**NOTE:** Physicists who create clinical treatment plans are advised to enroll in the separate Accuray Precision® Treatment Planning for the Radixact System course.

**NOTE:** This course does not cover the Radixact Synchrony® feature. In addition to the Radixact Physics Essentials course, Synchrony users should attend the Physics Differences Training for Radixact with Synchrony course.

This course meets core curriculum required for Radixact New System Implementation.

## COURSE OBJECTIVES

Upon completion of this course, attendees will be able to:

- Describe beam-generating hardware components
- Explain TomoHelical™ Treatment Delivery, TomoDirect™ Treatment Delivery and TomoEDGE™ treatment geometries
- Summarize QA theory and methodology per AAPM Task Group 148
- Identify beam parameters, and explain how they influence dose calculation

### COURSE FORMAT

Instructor-led presentations  
System demonstrations  
Hands-on labs

### COURSE PRE-WORK

Review relevant topics in the Physics Essentials Guide (PEG)

### DURATION

Four and one-half (4.5) days

### TARGET AUDIENCE

Medical Physicists

### PARTICIPANT BACKGROUND

Knowledge of the standards of practice in the field of radiation oncology

### NO CE CREDITS OFFERED

## SKILLS

Upon completion of this course, attendees will be able to perform the following tasks:

- Identify beamline components on a Radixact System
- Perform start-up, shut-down and machine operation procedures

- Perform commissioning and routine QA tasks
- Create and measure a patient QA plan

## Course Outline

**Note:** Course agenda is subject to change without notice.

### DAY ONE

- Identify beamline components on an actual system
- Perform machine warm-up and calibration routines
- Practice scan/register/treat workflow on an anthropomorphic phantom

### DAY TWO

- Create a simple treatment plan on the Accuray Precision® Treatment Planning System using VOLO™ Ultra or Classic planning method
- Verify alignment of beam, lasers, and couch

### DAY THREE

- Measure sample water tank profiles
- Perform IMRT dose calibration measurements (plan creation, delivery, and analysis)
- Verify image quality of CTrue™ MVCT images and ClearRT™ Helical kVCT images
- Create a density model for planning

### DAY FOUR

- Calibrate the monitor unit display
- Verify delivery of an interrupted and completed procedure
- Verify coordination of couch, gantry, and MLC
- Perform daily, monthly, quarterly, and post-service QA

### DAY FIVE

- Create and deliver a patient QA procedure
- Delivery Analysis™ demonstration
- Address machine data changes
- Check plan quality and treatment progress