2016
ESTRO SCHOOL
LIVE COURSE

PHYSICS FOR MODERN RADIOTHERAPY

A joint course for clinicians and physicists

11 - 15 September 2016 | Athens, Greece

RADIOTHERAPY TREATMENT PLANNING AND DELIVERY

WHO?

COURSE DIRECTOR
Ben Heijmen (NL)

TEACHERS
Tom Depuydt (BE)
Michael Gubanski (SE)
Ann Henry (UK)
Mischa Hoogeman (NL)
Trine Juhler-Nottrup (DK)
Silvia Molinelli (IT)

LOCAL ORGANISER
Efi Koutsouveli

PROJECT MANAGER
Laura La Porta

TARGET GROUP

The course is primarily aimed at:
- Trainees in radiation oncology or radiation physics
- Radiation oncologists and medical physicists early in their career.

The course may also be useful for:
- Clinicians and physicists who are eager to update their knowledge on physics and technical aspects of radiotherapy after a period of relative lack of access to education on modern technology and techniques.
- Dosimetrists and radiation therapists (RTTs) having a strong interest in the application of physics and technology in radiotherapy
- PhD students in radiation therapy or physics, as this course can broaden their knowledge.

COURSE AIM

The lectures aim to:
- Provide physics knowledge relevant to clinical radiotherapy
- Provide comprehensive overviews of imaging and volume concepts in radiotherapy
- Discuss modern dose delivery techniques, such as IMRT, rotational therapy (VMAT, helical tomotherapy), S(B) RT, IGRT, adaptive therapy (ART), and brachytherapy
- Discuss safety issues in lectures on commissioning and QA/QC, radiation protection, *in vivo* dosimetry and induction of secondary tumours.

Complimentary to the lectures, this course has clinical case discussions as an important component, discussing planned homework submitted by the participants (see below for details) regarding selected treatment techniques, planning solutions, constraints and objectives, choice of margins, protocols for image guidance, QA, etc.

LEARNING OUTCOMES

By the end of this course participants should be able to:
- Apply, together with the treatment team from your department, modern physics principles and techniques in clinical practice
- Select modern treatment techniques based on their pros and cons
- Select physics and technical measures that enhance accurate and safe application of radiation therapy.

COURSE CONTENT

1. Lectures on:
- IMRT/VMAT - physics and clinical aspects, clinical gains and limitations
- Stereotactic radiotherapy (cranial and extra-cranial)
- Rotational therapy (VMAT, helical tomotherapy)
- Volumes in external beam radiotherapy
- Imaging for GTV definition
- Imaging for treatment preparation and planning
- PTV margin calculation
- IGRT (equipment for in-room imaging, set-up correction strategies, clinical examples)
- Adaptive radiotherapy
- Dose prescription and plan evaluation
- Field junctions
- Commissioning and Quality Assurance/ Control of equipment and software
- Brachytherapy
- Radiobiology in the clinic
- *In vivo* dosimetry
- Radiation protection
- Induction of secondary tumours.

Specific for clinicians:
- Basic radiation physics
- Dose calculation: principles and application in the TPS
- Modern radiation therapy equipment
- Physical principles of advanced radiotherapy.

Specific for physicists:
- Reference and non-reference dosimetry
- Modern dose calculation algorithms
- QA for advanced delivery techniques
- Oncologic concepts.

2. Clinical case discussions:
The participants are invited to prepare treatment plans for selected clinical cases (homework), based on case descriptions and CT scans as provided prior to the course. During the course, the plans are discussed in small groups, guided by a clinician and physicist teacher.

PREREQUISITES

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TEACHING METHODS

- 20 hours of plenary lectures
- 5 hours of lectures targeted at clinicians
- 5 hours of lectures targeted at physicists

RADIATION ONCOLOGIST · MEDICAL PHYSICIST · RADIOBIOLOGIST · RADIATION THERAPIST · OTHER SPECIALIST

- 4,5 hours of clinical case discussions in small groups
- 1 hour "meet the expert" session for (individual) discussions between participants and faculty members, potentially covering all kinds of issues related to physics and technology in clinical radiotherapy as brought up by attendants.

METHODS OF ASSESSMENT

- Entry and exit exam
- Evaluation form.

KEY WORDS

Physics in radiotherapy, modern treatment techniques.

WORKING SCHEDULE

The course starts on Sunday 11 September 2016 at 08:30 and ends on Thursday 15 September 2016 at 12:30.

On Sunday the 11 September, it will be possible to register as of 07h30 .

LANGUAGE

The course is conducted in English. No simultaneous translation will be provided.

PRACTICAL ORGANISATION

Course organisation

For any further information please contact ESTRO:
Laura La Porta
E-mail: llaporta@estro.org
Tel : +32 2 775 93 54
Fax : +32 2 779 54 94

Course venue

TITANIA Hotel
Leof. Eleftheriou Venizelou 52
106 78 Athens, Greece
Tel: +30 21 0332 6000
www.titania.gr

Local organiser

Efi Koutsouveli
Medical Physicist
YTEIA Hospital
Athens, Greece

Technical exhibition

Companies interested in exhibition opportunities during this teaching course should contact ESTRO:
Laura La Porta
E-mail: llaporta@estro.org
Tel : +32 2 775 93 54
Fax : +32 2 779 54 94

Accommodation

To book you room, please download the accommodation form from the ESTRO website: www.estro.org/school

PARTICIPANTS SHOULD REGISTER ONLINE AT: WWW.ESTRO.ORG/SCHOOL

These pages offer the guarantee of secured online payments. The system will seamlessly redirect you to the secured website of OGONE (see www.ogone.be for more details) to settle your registration fee.

If online registration is not possible please contact us:
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REGISTRATION FEES

Please check the early deadline date on our website

	EARLY FEE	LATE FEE
In-training members*	450 €	625 €
Members	600 €	725 €
Non members	750 €	850 €

*Radiation Therapist (RTT) members are eligible for the in-training fee

The fee includes the course material, coffees, lunches, and the social event.

Reduced fees are available for ESTRO members working in economically less competitive countries. Check the eligible countries and the selection criteria on the website of the ESTRO School.

ESTRO goes green: Please note that the course material will be available online. No course book will be provided during the courses.

ADVANCE REGISTRATION AND PAYMENT ARE REQUIRED. ON-SITE REGISTRATION WILL NOT BE AVAILABLE.

Since the number of participants is limited, late registrants are advised to contact the ESTRO office before payment, to inquire about availability of places. Access to homework and/or course material will become available upon receipt of full payment.

INSURANCE AND CANCELLATION

The organiser does not accept liability for individual medical, travel or personal insurance. Participants are strongly advised to take out their own personal insurance policies.

In case an unforeseen event would force ESTRO to cancel the meeting, the Society will reimburse the full registration fees to the participants, ESTRO ESTRO will not be responsible for the refund of travel and accommodation costs.

In case of cancellation, full refund of the registration fee minus 15% for administrative costs may be obtained up to three months before the course and 50% of the fee up to one month before the course. No refund will be made if the cancellation request is postmarked less than one month before the start of the course.