IAEA education and training activities in Radiotherapy

International Conference on Advances in Radiation Oncology
ICARO2
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Radiotherapy advances

The advances in technology have been striking in the last few years and have changed the way radiotherapy is delivered as well as its overall management.

Professionals support and ensure the safety and efficiency of radiotherapy treatments for the ultimate benefit of patients.

IAEA offers support through different media and activities: publications and guidelines, online material, webinars, training courses, fellowships, conferences, e-learning.
IAEA education and training activities in Radiotherapy

International Standards on Safety – International BSS and Safety Guides

Harmonization Education and Training of Radiotherapy Professionals

Handbooks and Clinical Guidelines

Online educational resources

Webinars

Training courses and workshops

Competency Building and Training through Technical Cooperation Programme

Research Activities through Coordinated Research Projects
International BSS

Details the requirements for the protection of people and the environment from harmful effects of ionizing radiation and for the safety of radiation sources, including medical exposure

Clearly defines the role of medical physicist
Definition of a Clinically Qualified Medical Physicist

Contribution to harmonization of education and clinical training

Promote the recognition of medical physics as a profession internationally

Recommendations for accreditation, certification and registration

Promoting and supporting Continuing Professional Development (CPD)

Define roles and responsibilities of a Clinically Qualified Medical Physicist in the 3 sub-specialties (radiotherapy, diagnostic and interventional radiology, nuclear medicine)
Recommendations for CQMP

- **Basic Degree in Physics (or equivalent)**
  - 3-4 years

- **Postgraduate programme in medical physics**
  - 1-3 years

- **MSc or PhD in Physics (or equivalent)**

- **Complete academic medical physics**

- **Supervised clinical training (residency)**
  - 2-3 years

- **Clinically qualified medical physicist**

- **Certification / re-certification**

- **State registration**

- **CPD**

- **ACCREDITED PROGRAMS**

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Academic Education

Guidelines for the establishment of an internationally harmonized postgraduate academic education programme in medical physics; setting up an education programme in Radiobiology and for RTTs

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Standardized guidelines for implementation of clinical training
Scientific and technical guidelines

Comprehensive clinical audit guidelines

Quality Assurance

Guidance on how to safely transition to new technologies

Publications in the field of Radiotherapy in support of clinical practices

Support for best practice

Clinical Dosimetry

How to plan and set up radiation facilities

Free download

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Guidelines in Radiotherapy

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Handbook and slides

Comprehensive and freely downloadable handbooks, providing the basis for the education of medical physicists. Endorsed by major medical physics societies.

Endorsed by COMP/CCPM, EFOMP, ESTRO, IOMP, PAHO and WHO
RPOP website

Be Informed About the Safe Use of Ionizing Radiation in Medicine

Information to help health professionals achieve safer use of radiation in medicine for the benefit of patients

Information for
- Health Professionals
- Member States
- Patients and Public

Latest Literature

Did You Know That...
- 19. Some patients are at greater risk of developing erythema following an interventional procedure using X rays

Latest News
- RPOP celebrates sending the 100th update to its subscribers May 2017
- "Have-A-Heart" campaign New medical groups join forces to improve cardiac imaging use in children

Upcoming Events
- International Conference on Radiation Protection in Medicine: Achieving Change in Practice 11-15 December 2017, Vienna, Austria
- World Congress on Medical Physics and Biomedical Engineering 3-8 June 2017, Prague, Czech Republic
Many centers work in isolation with limited access to up-to-date published literature, international meetings, and expert opinion. Shortage of training opportunities for professionals.

Monthly online meetings:
- cases discussion/expert opinion
- strengthen education of residents

Oncologists from Anglophone Africa

Duration: 1-1.5 hr

Number of patients: 3-4 + A lecture on seminal topic
Technical Cooperation

- Technical advice on appropriate technologies
- Competence building
- Expert missions
- Transfer of know-how
- Fellowships

Technical Cooperation Programme in the field of Radiotherapy

- Scientific Visits
- Procurement of equipment
- On-the-job training
- Workshops
- Fellowships

- Dissemination of best practices
- Meetings
- Comprehensive audits of clinical radiation facilities
- Meetings
- International Conference on Advances in Radiation Oncology
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Support to Member States through the TC programme

Member States can receive different types of direct support and training through the IAEA Technical Cooperation (TC) programme.

**Human Health**, including **Radiotherapy** related activities, has a predominant role in the TC core activities.

- **Training course on small field dosimetry**
- **Radiotherapy installation**
- **Procurement**
- **Expert Missions and audits**
- **Fellowships**
- **Regional Training Courses**

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National Training courses for Clinical Oncologists

National Training Course on Target Volume Delineation in cases of Head and Neck and Lung Cancers - Dhaka, Bangladesh (May 2017)
Collaboration is ongoing with the Master's Programme in Medical Physics (MMP), run jointly by ICTP and the University of Trieste. The programme helps addressing the scarcity of specialized and trained medical physicists in many countries.
Coordinated Research Projects in the field of Radiotherapy

Knowledge transfer

Fostering scientific collaboration

Scientific meetings

Creating scientific networks

CRP

Publishing results

Doctoral CRPs
Coordinated Research Projects

IAEA ROLE: ensure that the end results of the research and collaboration activities are freely available to all Member States. This is usually achieved through the publication of the results in the form of a technical document, an IAEA report or in the open literature.

Examples of CRPs in the field of Radiotherapy

- Testing of Code of Practice on Small Field Dosimetry
- Quality Assurance of Volumes Definition for Three-Dimensional Treatment Planning
- Improving
- Evidence-Based Assessment of Radiotherapy Demand and Quality of Radiotherapy Services
Thank you!

More information and material available on
https://www.iaea.org/
https://humanhealth.iaea.org