Practical aspects for the integration of radiotherapy services in national cancer programmes

Course Syllabus

Learning Objectives

At the end of this Master Course, the participants should be able to:

1. Understand the indications for radiotherapy and how it kills cancer cells,
2. The different types of radiotherapy and machines,
3. The most common indications of radiotherapy and the concept of multi-specialty treatment,
4. The benefits of radiotherapy in survival and local control,
5. The setup of radiotherapy services, needed resources and the cost of radiotherapy,
6. Education and research related to radiotherapy.

Target audience

Cancer control professionals with an interest in learning about the need for radiotherapy and its integration into the health system

Online course structure

5 modules including 2-3 webinars.

- Total number of webinars: 14
- Total duration: 4h40min

One week after each module there will be a live session for questions and answers.

Relevant references and links will be made available to the participants.

Online course curriculum:

<table>
<thead>
<tr>
<th>Module</th>
<th>Webinar</th>
<th>Topic</th>
<th>Speaker</th>
<th>Duration (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Definitions</td>
<td>Lisbeth Cordero</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>How radiotherapy (RT) works: physics</td>
<td>Jake Van Dyk</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>How RT works: radiobiology</td>
<td>Jan Wondergem</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>Common indications</td>
<td>Kirsten Hopkins</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Combination and interactions with other treatment modalities</td>
<td>Surbhi Grover</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------</td>
<td>---------------</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Cervical cancer as a model</td>
<td>Supriya Chopra</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>From cancer incidence to RT needs: RT utilisation rate</td>
<td>Mei Ling Yap</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Benefit LC-survival</td>
<td>Timothy Hanna</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>RT availability and access</td>
<td>Alfredo Polo</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>RT process, RT team, and QA</td>
<td>Yavuz Anacak</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Design of a RT department</td>
<td>Kamal Akbarov</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Resources and costs</td>
<td>Eduardo Zubizarreta</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Return of investment in radiotherapy</td>
<td>Danielle Rodin</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Education and research</td>
<td>Ben Prajogi</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

**Course Leader**

**Eduardo Zubizarreta**

**Title:** Head of Applied Radiation Biology and Radiotherapy Section  
**Organisation:** Division of Human Health - Department of Nuclear Sciences and Applications, IAEA.

**Course Faculty**

Ben Prajogi

**Title:** Associate education officer  
**Organisation:** ARBR-IAEA, Austria

Alfredo Polo

**Title:** Radiation oncologist  
**Organisation:** ARBR-IAEA, Austria

Mei Ling Yap

**Title:** Radiation oncologist.  
**Organisation:** Collaboration for Cancer Outcomes, Research and Evaluation, Ingham Institute for Applied Medical Research, Liverpool, NSW, Australia; Liverpool Cancer Therapy Centre, Liverpool Hospital, Liverpool, NSW, Australia; Macarthur Cancer Centre, Campbelltown Hospital, Campbelltown, NSW, Australia; University of Sydney, Camperdown, NSW, Australia; Western Sydney University, Campbelltown, NSW, Australia; University of New South Wales, Kensington, NSW, Australia

Danielle Rodin

**Title:** Radiation oncologist  
**Organisation:** Radiation Medicine Program, Princess Margaret Cancer Centre, Toronto, Ontario, Canada
Supriya Chopra
Title: Radiation oncologist
Organisation: Department of Radiation Oncology, Advanced Centre for Treatment, Research and Education in Cancer, Tata Memorial Centre, Homi Bhabha National Institute, Kharghar, Navi Mumbai, India

Surbhi Grover
Title: Radiation oncologist
Organisation: Department of Radiation Oncology, University of Pennsylvania Perelman School of Medicine, Philadelphia, Pennsylvania, USA

Yavuz Anacak
Title: Radiation oncologist
Organisation: EGE University, Izmir, Turkey.

Additional Course Faculty
Jan Wondergem
Jake Van Dyk
Timothy Hanna
Lisbeth Cordero
Kamal Akbarov
Kirsten Hopkins