The Past, Present and Future Directions of Radiotherapy in Asia: Linking Technology and the Fight Against Cancer

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INTRODUCTION

1950s
- Delivery of Radiotherapy using Cobalt Machines

1960s
- First prototype of medical linear accelerators

1980s
- CT scanning for 3-Dimensional Radiotherapy planning

1990s
- Beam Shaping and Intensity Modulation using Multi-leaf collimator technology

Early 2000s
- Cone Beam CT scanning for on-board imaging and image-guidance

TODAY
- Intensity Modulated Radiation Therapy (IMRT), Image Guided Radiotherapy (IGRT), Stereotactic Radiotherapy (SRS/SBRT)

MODERN RADIOTHERAPY
## Total Number of RT Facilities in the FARO Region

<table>
<thead>
<tr>
<th>RT Facility</th>
<th>Number of Units</th>
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<tbody>
<tr>
<td>Radiation Facilities</td>
<td>7,984</td>
</tr>
<tr>
<td>Megavoltage units (Linac &amp; Cobalt)</td>
<td>3,969</td>
</tr>
<tr>
<td>Brachytherapy units (HDR &amp; LDR)</td>
<td>2,972</td>
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<tr>
<td>Planning systems (CT &amp; Xray simulator)</td>
<td>1,007</td>
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Data from the Participants of the FARO First Council Meeting 2015, Japan
Current trends in Asia Include:

- SRS - IGBT
- SBRT/SABR - IORT
- IGRT

Radiation Oncology Societies in Asia:

- SEAROG
- FARO
- JASTRO, PROS, THASTRO, etc.
Future Directions in Radiotherapy in Asia

PROTON CENTERS IN ASIA

China

Japan

South Korea

Taiwan

Proton therapy facilities in operation (Asia) by Particle Therapy Co-operative Group (last update: Sep-2016)
• Radiotherapy in Asia continues to evolve in order to address the demands of the growing cancer burden.

• Treatment-related toxicities are important issues that need our attention.

• Socioeconomic factors in an ever-increasing population are adding to the complexities of the cancer problem in the region.

• Strategic and concrete planning is necessary in order to assure the availability of these advancements in every place in Asia.