Certification System of Medical Physicists in Japan

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The certification system in Japan has a long history, which started from the certification of 70 medical physicists in 1986. However, the activities of medical physicist were not performed in clinical site but limited largely to the research and education.
Background 2

- As a result, the number of medical physicists in Japan did not increase for a long time.
Background 3

• Since 2000, many accidents of radiation therapy have been revealed.
Accidents in radiation therapy in Japan

<table>
<thead>
<tr>
<th>Institute</th>
<th>City</th>
<th>Date</th>
<th>Period</th>
<th>Fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. H.</td>
<td>Tokyo</td>
<td>2001/4</td>
<td>98/7-00/12 (2Y5M)</td>
<td>Input error of wedge factor&gt;Errorneous irradiation to 23 pts.</td>
</tr>
<tr>
<td>K.Univ. H.</td>
<td>Kanazawa</td>
<td>2002/7</td>
<td>00/6-02/7 (2Y1M)</td>
<td>Input error of wedge factor&gt;Errorneous irradiation to 12 pts.</td>
</tr>
<tr>
<td>H. H.</td>
<td>Hirosaki</td>
<td>2003/10</td>
<td>95/4-99/10 (4Y6M)</td>
<td>Discrepancy in understanding evaluation point between physician and therapist&gt;Errorneous irradiation to 276 pts.</td>
</tr>
<tr>
<td>Y.Univ. H.</td>
<td>Yamagata</td>
<td>2004/2</td>
<td>99/4-03/11 (4Y7M)</td>
<td>Input error of field factor&gt;Errorneous irradiation to 63 pts.</td>
</tr>
<tr>
<td>Y.City.H.</td>
<td>Yamagata</td>
<td>2004/3</td>
<td>02/10-04/3 (1Y5M)</td>
<td>Operation mistake of planning system&gt;Errorneous irradiation to 25 pts.</td>
</tr>
<tr>
<td>W.Univ.H.</td>
<td>Wakayama</td>
<td>2004/5</td>
<td>03/9</td>
<td>Operation mistake of planning system&gt;Errorneous irradiation to 1 pts.</td>
</tr>
<tr>
<td>I.Univ.H.</td>
<td>Iwate</td>
<td>2004/5</td>
<td>98/9-04/2 (5Y5M)</td>
<td>Input error of wedge factor&gt;Errorneous irradiation to 111 pts.</td>
</tr>
</tbody>
</table>
Establishment of JORQM

• To meet the societal safety demand for radiotherapy, Japanese Organization of Radiotherapy Quality Management (JORQM) was established in 2004 under the agreement among Japanese Medical Physics Society (JSMP), Japan Radiological Society (JRS), The Japan Association of Radiological Technologies (JART), Japanese Society of Radiological Technology (JSRT), and Japan Society for Therapeutic Radiology and Oncology (JASTRO).

• JORQM certifies experienced radiology technologists and medical physicists as "Radiotherapy Quality Manager" who is responsible for quality assurance of radiotherapy.

• At this time medical physicists could not lead QA/QC for radiotherapy because the number of medical physicists was not large and some radiotherapists opposed it.

- Visit poster presentation of “RADIOThERAPY QUALITY MANAGER AND MEDICAL PHYSICIST”

PO2-ED-15
Background 4

- Meanwhile, In 2002, the qualifying standards for medical physicist were changed so that radiology technologist can obtain qualification for examine.

Because they worked for parts of medical physics practice such as QA/QC.
Background 5

- Since then, the number of medical physicists has increased steadily.
Establishment of JBMP

• In these surroundings, Japanese Board for Medical Physicist Qualification (JBMP) was established in 2009 under the agreement between Japan Radiological Society (JRS) and Japanese Medical Physics Society (JSMP).
Purposes of JBMP

• Certification of medical physicist and renewal of the certification.

• Certification of educational facilities of medical physicist and renewal of the certification.

• Formulation of guidelines of educational curriculum for medical physicist.

• Holding seminars to foster medical physicists and to maintain medical physicist’s ability.
Certification of medical physicist

• Eligibility for admission to credentialing examination
  – Master’s degree of science, technology and health science (including future graduates)
  – Medical physics accomplishments

• Eligibility for application for certification
  – Pass of credentialing exam.
  – 3 years of medical physics experience for master’s degree, 1 year for doctor’s degree

*There are many exceptional regulations to rescue medical physicists certified by old certification system.
Renewal of certification

requires over 60 units within 5 years from following categories.

• Category I
  Practical accomplishments relevant to medical physics

• Category II (mandatory)
  Attendance of continuing education (training session) of medical physics

• Category III
  Research and educational performance of medical physics
Formulation of guidelines of educational curriculum for medical physicist

In progress

• Radiation therapy (almost completed)

• Diagnosis

• Nuclear medicine
Certification of educational facilities of medical physicist and renewal of the certification

- will depends on that the level of medical physics education is achieved compared to the guidelines of educational curriculum for medical physicist.

- Certified educational facilities will obtain the merit in the certification of medical physicist. They can take examination during master’s course, and so on.
Summary 1

- The certification system in Japan has a long history since 1986.

- Because the activities of medical physicist were not performed in clinical site, the number of medical physicist in Japan did not increase for a long time.

- In 2002, the qualifying standards for medical physicist were changed so that radiology technologist can obtain qualification for examine. Since then, the number of medical physicists has increased steadily.

- In these surroundings, Japanese Board for Medical Physicist Qualification (JBMP) was established in 2009.
Summary 2

• The dominant purposes of JBMP are as follows.
  – Certification of medical physicist and renewal of the certification.

  – Certification of educational facilities of medical physicist and renewal of the certification. (in progress)

  – Formulation of guidelines of educational curriculum for medical physicist. (almost completed)

  – Holding seminars to foster medical physicists and to maintain medical physicist’s ability. (planning)
Thank you for your attention.

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Thank you for support to Japan from all over the world.