KH Ng

Medical Physics Certification in Asia-Pacific

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Asia-Oceania region: diverse geographically, culturally, economically & technologically.

IOMP Regional Organizations in Asia

AFOMP: 24 members
SEAFOMP: 10 members
Guidance on education and training. The policy is compatible with the standards being promoted by the IOMP and the IMPCB (International Medical Physics Certification Board).

Factors stimulating the certification process:
- Explosion of advanced technology in both diagnosis and therapy
- Unnecessary patient exposures/overexposures to radiation in diagnosis & therapy
- Adoption of the IAEA Basic Safety Standard. Patient protection is ensured when the physical and technical aspects of radiation medicine are under the supervision of a qualified clinical medical physicist.
Collaborating/supporting international organizations e.g. IAEA initiatives on strengthening medical physics in radiation medicine. These include defining the role and responsibilities of medical physicists; education, training, and professional certification of clinical medical physicists; staffing levels of medical physicists; and raising awareness of the profession.

<table>
<thead>
<tr>
<th>Country</th>
<th>Post-grad Programs (MS, PhD)</th>
<th>Required on-the-job training</th>
<th>Certification or Accreditation</th>
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<tbody>
<tr>
<td>Australia</td>
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<td>Bangladesh</td>
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<td>China</td>
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<td>Hong Kong</td>
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<td>India</td>
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<td>Thailand</td>
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</table>

The post-graduate education and clinical training of medical physicists.

Certification Status in Asia-Pacific
Australia/ New Zealand

1977 ACPSEM formed


2019 Currently 441 certified MPs and 8 RPS

Eligibility to certifying examination of medical physicists

Since 2018, MPs now complete TEAP (a structured 3-5 yr in-service training program) to be eligible for certification.

Certification Requirements:

• Masters (or PhD) in Medical Physics
• Undergraduate degree majoring in physics
• Completion of TEAP (3-5 yr ACPSEM in-service clinical training program)
• Pass in both written and practical examinations
• Research and publication in a peer reviewed journal
• Presentation at a national/international conference

Hong Kong

Hong Kong Association of Medical Physics (HKAMP)

• Organization founded in 1985
• Professional certification scheme started in 2006
• No. of medical physicists certified as in June 2019: 58
• IMPCB accreditation: April 2018
• Certification specialties:
  ➢ Radiotherapy Physics
  ➢ Imaging Physics
  ➢ Medical Health Physics

Courtesy of Angela Wong

Courtesy of Angela Wong
Hong Kong

Hong Kong Institution of Physicists in Medicine (HKIPM)
- Organization founded in 2011
- Medical Physicists Certification Board established in 2013
- IMPCB accreditation on 11 November 2015
- Certification specialties:
  - Radiation Oncology Physics
  - Medical Imaging Physics
- Number MP certified as in June 2018: 28

Photos taken during IMPCB accreditation visit in Nov 2018

Courtesy of KY Cheung

Japan

1987 started by JRS. Number of medical physicists first certified was 70. The number was around 100 for 15 years.

2000 JSMP formed.

2003 certification emphasied.

The government supports certified medical physicists is necessary for reimbursement for high-precision therapy (such as IMRT).

2019 ~1180 certified MPs

Revision of eligibility to certifying examination of medical physicists (2003 & 2017)

Before 2003:
- Master (or Ph D) of Physical Sciences
  + Clinical experience (more than 2 y)

After 2003:
1. As above
2. Master (or PhD) of Radiological Technology
   + Clinical experience (more than 2 years)
3. Bachelor of Radiological Technology
   + Paper presentations to medical physics related meetings
   + Clinical experience (more than 5 y)

since 2009 JBMP

2017 onwards
- 1. On going
- 2. On going
- 3. Phased out

Courtesy of Hajime MONZEN
South Korea

1990 started by KSMP.

- Number of medical physicists first certified was 3.
- The number was around 87 for 25 years.

The government partially supports to reimburse medical physicist working for some high-precision radiotherapy (e.g. IMRT, SRS, and SBRT).

Eligibility to certifying examination of medical physicists

Those who hold a master's degree or higher and have a clinical career of 3 years or more from among the following:

1. Those who have completed a graduate degree program approved by the KSMP
2. Those who have completed a clinical academy/resident program approved by the KSMP
3. Those who have obtained the international qualifications approved by the KSMP
4. Those who have completed Basic Medical Physics course supervised by KSMP

Taiwan

1996 - Chinese Society of Medical Physicist, Taipei (CSMPT) established
1999 - Number of first certified medical physicists was 22.
2019 - almost 400 members in CSMPT, more than 230 certified therapeutic medical physicists and about 10 diagnostic medical physicists servicing in hospitals and universities.
Eligibility and Renewal

The prerequisite for medical physicist board certification examination requires 3 to 4 years of clinical training after attaining master’s degree, and 2 years of clinical training after PhD degree.

All certification renewal requires 500 course points of continuing education every 5 years. e.g. annual meeting 30 points/day, monthly meeting 15 points/2hrs, general education 2 points/hr.

IAEA

Education and Training of Medical Physicists
Competency of Clinically Qualified Medical Physicists
Certification Structure

Two key outcomes from RAS6038
2003-2012

<table>
<thead>
<tr>
<th>Objective</th>
<th>Progress</th>
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<tbody>
<tr>
<td>Development of guides for clinical training of medical physicists in the disciplines of ROMP, DRMP or NMP.</td>
<td>The 3 guides developed Available in English, Russian, French and Spanish</td>
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<tr>
<td>Trialling of the programs in a number of member states.</td>
<td>4 ROMP trials 3 DRMP trials 3 NMP trials</td>
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</table>
Clinical training guidelines

Addressing regional issues in RAS6077 2014-2017

RECOMMENDATIONS FOR CERTIFICATION OF MEDICAL PHYSICISTS

Certification process flow chart.

IAEA: Recommendations for accreditation and certification of medical physics education and clinical training programmes in the RCA region

Certification process flow chart.
Four year IAEA/RCA project 2018-2021 on medical physics clinical training. Emphasis on TCDC, continuing the development of AMPLE, setting guidelines for clinical training.

Asian countries

Medical Physics Certification in Asia-Pacific

Steady Growth