



## ROMP Registration Assessment Form Competency for Medical-Scientific Expert Domain Radiation Oncology Medical Physics Speciality

<b>Applicant surname:</b>	
<b>Applicant given names:</b>	
<b>Applicant speciality:</b>	Radiation Oncology <input type="checkbox"/>

This form is to provide information about the areas considered when assessing Competency for Medical-Scientific Expert Domain, for applications for entry to the ACPSEM Register of Qualified Medical Physics Specialists.

### Competency for Medical Scientific Expert Domain

Demonstration of competence in relevant key clinical activities in the following areas is assessed:

- i. Scientific knowledge in a medical context
- ii. Practical skills in a medical context
- iii. Application of relevant theory to novel situations
- iv. Scientific judgment and responsibility
- v. Provision of high-quality and safe care

### Application requirements including evidence of expertise

Please fill in as much detail as possible against each subtopic area specified in the tables on the following pages. Inclusion of evidence to support statements of knowledge and experience is critical for candidates not holding overseas registrations/certifications as outlined in clause 5.2 of the ACPSEM registration policy. Providing comprehensive information will greatly assist and expedite the assessment of your application.

Separate attachments of reports, presentations, certificates, published papers, or other documents should be included.

Author :	edited by Brendan Hill from DIMP template	Changed by:	Kylie Clarke	Reviewed by:	
Authorised by:		Issue date:		Version No:	V2.0
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### Competency for Radiation Oncology Medical Physics Speciality

Demonstration of competence in relevant key clinical activities in the following areas is assessed:

- (i) Radiation Safety and Protection
- (ii) Dosimetry
- (iii) Linear Accelerator-Based Treatment
- (iv) MV External Beam Treatment Planning
- (v) Superficial and Orthovoltage Therapy
- (vi) Imaging for Radiation Oncology
- (vii) Brachytherapy

For each TEAP module specified for a topic there are three possible outcomes:

<b>Acceptable (A)</b>	Candidate meets the knowledge and skills expected of a minimally competent person based on the portfolio assessment.
<b>Not Acceptable (N)</b>	Candidate does not demonstrate the knowledge and skills expected of a minimally competent person
<b>Revise and resubmit (R)</b>	<p>Candidate has not provided enough evidence for a determination. Ask to revise portfolio in specific areas and resubmit for further consideration</p> <p>Only a single opportunity to revise and resubmit is available, after the revised material is received a final decision is made, based on the latest submission, about the suitability to proceed to the next phase.</p>

#### Possible overall outcomes

- Suitable to proceed to structured interview
- Revise and resubmit with more evidence (NB: only one resubmission allowed)
- Refusal (prescribed work – one chance only); Portfolio reassessed following submission of prescribed work
- Reject (TEAP suggested, with recognition of prior experience as appropriate);
- Dismiss



### Medical Scientific Expert Domain Assessment

#### Medical-Scientific Expert Subdomain i.

i. Scientific knowledge in a medical context
<b>Discussion of</b> Postgraduate Education and/or clinical practice experience that aligns to this domain. Details of experience in this topic area and evidence available.

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### Medical-Scientific Expert Subdomain ii.

ii. Practical skills in a medical context

**Discussion of** Postgraduate Education and/or clinical practice experience that aligns to this domain.  
Details of experience in this topic area and evidence available.



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### Medical-Scientific Expert Subdomain iii.

iii. Application of relevant theory to novel situations

**Discussion of** Postgraduate Education and/or clinical practice experience that aligns to this domain.  
Details of experience in this topic area and evidence available.



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### Medical-Scientific Expert Subdomain iv.

iv. Scientific judgment and responsibility

**Discussion of Postgraduate Education and/or clinical practice experience that aligns to this domain.**  
Details of experience in this topic area and evidence available.

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**Medical-Scientific Expert Subdomain v.**

v. Provision of high-quality and safe care

**Discussion of** Postgraduate Education and/or clinical practice experience that aligns to this domain.  
Details of experience in this topic area and evidence available.

Empty text box for discussion of postgraduate education and/or clinical practice experience.



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### Detailed Topic Area Assessment

#### Radiation Oncology Essential Scientific criteria (ACPSEM ROMP TEAP Curriculum Framework)

Practice and advise on radiation protection		ACPSEM TEAP Module Reference	LO 2.1.4
Knowledge	<ul style="list-style-type: none"> <li>• The principal requirements of radiation protection management</li> <li>• Evaluating compliance processes in radiation protection</li> <li>• Assessing radiation protection risks in relation to medical, occupational, and public exposure to ionizing radiation</li> <li>• Comparing risk information from ethics committees, clinical trial dose and risk assessments for patients undergoing radiation therapy in radiation oncology vs nuclear medicine therapy patients</li> </ul>		
Skills	<ul style="list-style-type: none"> <li>•</li> </ul>		
Details of experience in this topic area and evidence available			





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Perform radiation surveys and compare to design calculations		ACPSEM TEAP Module Reference	LO 2.2.2
Knowledge	<ul style="list-style-type: none"><li>• Selection of appropriate radiation protection instrumentation (e.g. survey meter and dosimeters)</li><li>• Evaluating survey results and providing recommendations</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Describe and practice key actions and considerations for radiation incidents and accidents		ACPSEM TEAP Module Reference	LO 2.3.2
Knowledge	<ul style="list-style-type: none"><li>• Identifying unsafe situations</li><li>• The required communication with those involved incidents, including relevant authorities</li><li>• Determining any dose estimations</li><li>• Long-term action requirements</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Describe and practice commissioning or QA for detectors		ACPSEM TEAP Module Reference	LO 3.1.2
Knowledge	<ul style="list-style-type: none"><li>• Commissioning or QA for an ion chamber</li><li>• Commissioning or QA for a dosimeter other than an ion chamber</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Describe and practice commissioning or QA for dosimetry systems		ACPSEM TEAP Module Reference	LO 3.1.4
Knowledge	<ul style="list-style-type: none"><li>• Commissioning or QA for water tank dosimetry systems</li><li>• Commissioning or QA for other phantoms or ancillary components</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Describe and practice absorbed dose measurement under reference conditions		ACPSEM TEAP Module Reference	LO 3.1.6
Knowledge	<ul style="list-style-type: none"><li>• The radiation quality for MV photons and electrons</li><li>• The cross calibration of ion chambers</li><li>• Reference dosimetry under reference conditions</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Clinically apply measurements in conditions of disequilibrium		ACPSEM TEAP Module Reference	LO 3.1.9
Knowledge	<ul style="list-style-type: none"><li>• Perform measurements in conditions of disequilibrium</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Describe and practice in-vivo dosimetry for the department		ACPSEM TEAP Module Reference	LO 3.2.2
Knowledge	<ul style="list-style-type: none"><li>• Performing in-vivo dosimetry measurements for the department</li><li>• Interpreting and making clinical recommendations based on in-vivo dosimetry measurements in the department</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			







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Manage a linear accelerator for clinical use		ACPSEM TEAP Module Reference	LO 4.1.5
Knowledge	<ul style="list-style-type: none"><li>• Recommending requirements for commissioning, ongoing QA programs and testing after fault repair</li><li>• Evaluating the role and function of quality systems in the linac context including periodic review, incident reporting and feedback</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			







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Practice acceptance, commissioning, and QA for an external beam radiation therapy treatment planning system		ACPSEM TEAP Module Reference	LO 5.1.3
Knowledge	<ul style="list-style-type: none"><li>• Commissioning measurements for planning reference data</li><li>• Acceptance, commissioning, clinical implementation, and QA on an external beam radiation therapy treatment planning system</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



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Practice treatment planning checks		ACPSEM TEAP Module Reference	LO 5.3.3
Knowledge	<ul style="list-style-type: none"><li>• Quality control checks of individual treatment plans</li><li>• Dose/MU/time accuracy with an independent dosimetry calculation system</li><li>• Dosimetric measurements to verify the accuracy of treatment plans for individual patients - patient specific QA</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			



Manage the quality of treatment plans		ACPSEM TEAP Module Reference	LO 5.3.5
Knowledge	<ul style="list-style-type: none"><li>• Determining recommendations for clinical application of external beam radiation therapy treatment planning systems for safe patient treatment</li><li>• Evaluating parameters that influence common problems that arise in development of a treatment plan and providing solutions for these</li></ul>		
Skills	<ul style="list-style-type: none"><li>•</li></ul>		
Details of experience in this topic area and evidence available			





Radiation Oncology Desirable Scientific criteria (ACPSEM ROMP TEAP Curriculum Framework)

\*\*Note: If clinical experience cannot be shown in these areas, then the applicant must provide a brief (2-3 page) report for each criteria, indicating their understanding of the key components of the topic

Describe the principles of kV external beam radiation therapy treatment planning**		ACPSEM TEAP Module Reference	LO 6.4.1
Knowledge	<ul style="list-style-type: none"> <li>The effects of energy, field size, field shape, beam modifiers, source to surface distance, penumbra, and normalisation on kV dose distributions, including their impact on beam profile, depth dose and skin dose</li> <li>The effects of patient related factors on kV dose distributions</li> <li>Suitable materials and their thicknesses for patient shielding</li> <li>Performing treatment time or monitor-units (MUs) calculations and quality assurance for planning calculations</li> <li>The decision making influencing the choice of kV photon treatment techniques over other modalities for achieving desired dose distributions</li> </ul>		
Skills	<ul style="list-style-type: none"> <li></li> </ul>		
Details of experience in this topic area and evidence available			





