

CLINICAL PHYSIOLOGISTS BOARD

in association with

Australian and New Zealand Society of Respiratory Science

Competences Required for Registration: Respiratory Physiology

COMPETENCES REQUIRED FOR REGISTRATION

SPECIALITY:

RESPIRATORY PHYSIOLOGY

EXPERIENCE:	The candidate should be able to demonstrate that he/she has worked in an environment that has enabled the individual to receive training and gain experience relevant to the competences set out below.	
GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	SCIENTIFIC	Be able to demonstrate the rigorous application of scientific methods in his/her experience to date
3a.1p	<ul style="list-style-type: none"> understanding the science that underpins the specialty (modality) and the broader aspects of medicine and clinical practice 	<ul style="list-style-type: none"> must understand the principles of the techniques and investigative procedures undertaken within the discipline of respiratory physiology and in respiratory medicine must be able to advise on the choice of appropriate investigative and therapeutic procedures based on the clinical condition and presenting symptoms of the patient and the results of previous investigations where appropriate must be familiar with the evidence for and limitations of common investigative and therapeutic procedures relevant to respiratory physiology, used in the diagnosis and management of patients must have a basic knowledge of related disciplines in order to be able to integrate relevant results into an overall interpretation of the clinical condition
3a.1g	<ul style="list-style-type: none"> demonstrating a strong base of knowledge appropriate to the specialty and to the investigations and therapeutic options available 	
2b.1g 2b.1p	<ul style="list-style-type: none"> experience of searching for knowledge, critical appraisal of information and integration into the knowledge base 	
2b.1g	<ul style="list-style-type: none"> ability to apply knowledge to problems associated with the routine provision, and development, of the service 	
2a.1p	<ul style="list-style-type: none"> ability to identify the clinical decision which the test/intervention will inform 	
2c.1p	<ul style="list-style-type: none"> ability to make judgements on the effectiveness of procedures 	
3a.2g	<ul style="list-style-type: none"> application of the knowledge base to the specialty (modality) and to the range of procedures/investigations available 	
Codes related to Clinical Physiologists Board General Standards of Proficiency (g=generic; p=profession specific)		
Achievement of:	<ul style="list-style-type: none"> an understanding of the principles, applications and limitations of the physiological measurement and diagnostic techniques employed in the practice of respiratory medicine a detailed understanding of the application of different investigative, diagnostic and therapeutic procedures in the 	

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assessment of the respiratory system and the ability to recognise the necessity for performing specific test procedures where clinically appropriate

- a critical understanding of the integration and interpretation of the results of specific investigative parameters in respiratory physiology with other diagnostic modalities (eg imaging, haematological, immunological) in the overall assessment of the patient

Achieved through:

- a structured taught element and participation in appropriate training and assessment programmes conducted by approved specialist societies (eg ANZSRS/TSANZ)
- continued self-endeavour (eg literature research and critical appraisal) under supervision of a registered clinical physiologist in respiratory physiology

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GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	CLINICAL	Be able to demonstrate the following relevant to the contribution of his/her specialty to patient care:
2b.1p	<ul style="list-style-type: none"> ability to provide interpretation of data and a diagnostic (therapeutic) opinion, including any further action to be taken by the individual directly responsible for the care of the patient 	<ul style="list-style-type: none"> must have a detailed understanding of the normal functioning of the respiratory system and of the human body as a whole, in order to provide a foundation for the understanding of different disease processes that may be encountered within the discipline must understand the underlying mechanisms of the pathophysiology of respiratory disease and the impact that systemic diseases may have on the functioning of the respiratory system must be able to recognise changes in relevant signs, symptoms and measured parameters (ie test results) and relate them to the underlying pathology of specific diseases and conditions associated with the respiratory system must be able to recognise significant changes in relevant signs, symptoms and measured parameters and understand the effects of diagnostic or therapeutic procedures in order to interpret any changes in the clinical condition must be able to contribute to the monitoring and ongoing management of patients with respiratory disease those with respiratory abnormalities must have adequate clinical knowledge in order to be able to communicate effectively with clinical and other professional colleagues with the working environment
3a.1p	<ul style="list-style-type: none"> understanding of the wider clinical situation relevant to the patients presenting to his/her specialty 	
2b.3p	<ul style="list-style-type: none"> ability to develop/devise an investigation strategy taking into account the complete clinical picture 	
3a.2p	<ul style="list-style-type: none"> understanding of the clinical applications of his/her specialty and the consequences of decisions made upon his/her actions/advice 	
3a.2p	<ul style="list-style-type: none"> awareness of the evidence base that underpins the use of the procedures employed by the service 	
Codes related to Clinical Physiologists Board General Standards of Proficiency (g=generic; p=profession specific)		
Achievement of:	<ul style="list-style-type: none"> an understanding of the normal anatomy and physiology of the respiratory system and the effects of different disease processes on the functioning of the respiratory system as a whole an understanding of the mode of action and efficacy of different therapies (both pharmacological and non-pharmacological) and the mechanisms by which they may modulate disease processes in clinical respiratory medicine an understanding of the methods by which different investigative procedures may be utilised in order to achieve an 	

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appropriate clinical interpretation and assessment of the clinical condition	
Achieved through:	<ul style="list-style-type: none">• a structured taught element and participation in appropriate training and assessment programmes conducted by approved specialist societies (eg ANZSRS/TSANZ)• participation in departmental seminars and clinical meetings, audit and clinical report evaluation• continued professional development and self-endeavour (eg literature awareness) under the supervision of a registered clinical physiologist in respiratory physiology
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EXPERIENCE:	The candidate should be able to demonstrate that he/she has worked in an environment that has enabled the individual to receive training and gain experience relevant to the competences set out below.	
GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	TECHNICAL	Be able to demonstrate the following, relevant to the modality or area of specialisation in which he/she wishes to be recognised
3a.2p	<ul style="list-style-type: none"> understanding of the principles associated with a range of techniques employed in the modality 	<ul style="list-style-type: none"> must have a detailed understanding of investigative techniques and therapeutic procedures (eg dynamic lung volumes, static lung volumes, gas transfer, body plethysmography, field exercise testing, challenge testing) with a knowledge of test protocols and recognised national/international standards of practice must be competent to perform investigative and therapeutic investigations in respiratory physiology (eg dynamic lung volumes, static lung volumes, gas transfer, body plethysmography, field exercise testing, challenge testing) using a variety of techniques in a range of patients across the spectrum of disease severity must have detailed understanding of physiological measurement techniques together with knowledge regarding the pathophysiology of lung disease in order to investigate and resolve problems associated with both measurement and calibration errors and those related to respiratory disease must be able to interpret quality control and quality assurance data and take appropriate corrective action where necessary must understand principles and practice with respect to health and safety aspects of work eg sterilisation and disinfection techniques, gas cylinders etc and take appropriate corrective action where necessary
3a.2p	<ul style="list-style-type: none"> knowledge of the standards of practice expected from these techniques 	
2b.4p	<ul style="list-style-type: none"> experience of performing these techniques 	
2b.4p	<ul style="list-style-type: none"> the ability to solve problems that might arise during the routine application of these techniques (troubleshooting) 	
2c.2g	<ul style="list-style-type: none"> understanding of the principles of quality control and quality assurance 	
2c.1p	<ul style="list-style-type: none"> experience of the use of quality control and quality assurance techniques including restorative action when performance deteriorates 	
Codes related to Clinical Physiologists Board General Standards of Proficiency (g=generic; p=profession specific)		
Achievement of:	<ul style="list-style-type: none"> an ability to perform a range of investigative techniques and therapeutic procedures in respiratory medicine to the required standards of an operational protocol as defined for the purposes for laboratory accreditation or under the guidance of the recognised professional body (ANZSRS/TSANZ) a critical ability to review results and relate the findings to both disease pathophysiology and to quality control and assessment information used for measurement procedures within the respiratory function laboratory a detailed understanding of the measurement principles involved in the respiratory function laboratory (operation of 	

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analysers, flow/volume measuring devices etc) in order to facilitate troubleshooting and to develop adequate procedures of preventative maintenance

- an understanding of the hazards (environmental, biological, chemical, physical) associate with the operating of the respiratory function laboratory and knowledge of the appropriate controlling legislation and procedures for risk assessment

- Achieved through:
- a structured taught element and participation in appropriate training and assessment programmes held by the approved specialist societies (ANZSRS/TSANZ)
 - practical instruction and experience (with completion of a log-book) and participation in local courses eg manual handling, fire and electrical safety, basic and hospital life support, VDU awareness
 - continued professional development and self-endeavour (eg literature awareness) under the supervision of a registered clinical physiologist in respiratory physiology

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GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	RESEARCH AND DEVELOPMENT	Be able to demonstrate a training in research which should include:
2b.1p	<ul style="list-style-type: none"> ability to read and critically appraise the literature 	<ul style="list-style-type: none"> must have developed basic research skills and be capable of problem solving, troubleshooting and to undertake investigations of unanswered questions must have basic research skills including the ability to identify potential problems, formulate specific hypotheses and to develop and implement an experimental plan to investigate and resolve the problem must have developed the skills to search appropriate databases for information including use of specific application eg Medline, Embase, BIDS must have an understanding of the ethics of human (medical) research including data protection, ethical approval and responsibility for anonymous data
2b.1p	<ul style="list-style-type: none"> ability to develop the aims and objectives associated with a project 	
2b.1p	<ul style="list-style-type: none"> ability to develop an experimental protocol to meet the aims and objectives in a way that provides reliable and robust data (i.e. free of bias) 	
2b.1p	<ul style="list-style-type: none"> ability to perform the required experimental work and to produce and present the results (including statistical analysis) 	
2b.1p	<ul style="list-style-type: none"> ability to critically appraise results in the light of existing knowledge and the hypothesis developed and to formulate further research questions 	
2b.1p	<ul style="list-style-type: none"> ability to present data and provide a critical appraisal to an audience of peers – both spoken and written 	
2b.1p	<ul style="list-style-type: none"> ability to present data and provide a critical appraisal to an audience of peers – both spoken and written 	
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Achievement of:	<ul style="list-style-type: none"> a critical understanding of scientific and research methodology in order to successfully evaluate, develop and/or modify both current and emerging technologies as routine diagnostic tools in routine respiratory physiological measurement the development of research skills and expertise sufficient to support supervised and collaborative research projects in respiratory physiology and for other related disciplines the development of skills to perform an effective literature survey and to consolidate and evaluate the information obtained from all available sources 	

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Achieved through:	<ul style="list-style-type: none">• participation in departmental seminars and clinical research meetings and evidence of supervised and collaborative research initiatives, potentially leading to a higher degree (MSc/MPhil/PhD)• the presentation of outcomes of method evaluations or clinical investigations, protocol development and research projects of a standard suitable for publication• continued self-endeavour (eg literature research and critical appraisal) under the supervision of a registered clinical physiologist in respiratory physiology
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GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	COMMUNICATION	Be able to communicate in both the written and spoken media to colleagues, peers and patients:
-	<ul style="list-style-type: none"> ability to assess a situation and act accordingly when representing the specialty 	<ul style="list-style-type: none"> must be able to communicate effectively with colleagues within the discipline and in the wider clinical community (including patients, carers and relatives) must be able to present findings of clinical research projects in both written and oral communication through reports, scientific papers, posters, seminars and lectures must be able to educate and train colleagues and be able to undertake the responsibility of supervising junior colleagues must be capable of utilising modern communication media eg PowerPoint
1b.2p	<ul style="list-style-type: none"> ability to respond to enquiries regarding the service provided when dealing with clinical colleagues 	
1b.4g	<ul style="list-style-type: none"> ability to communicate with patients, carers and relatives, the public and other healthcare professionals as appropriate 	
1b.5p	<ul style="list-style-type: none"> ability to communicate the outcome of problem solving and research and development activities 	
2b.1p 1b.5p	<ul style="list-style-type: none"> evidence of presentation of scientific material at meetings and in the literature 	
Codes related to Clinical Physiologists Board General Standards of Proficiency (g=generic; p=profession specific)		
Achievement of:	<ul style="list-style-type: none"> an ability to communicate clearly and with confidence to clinical and other professional colleagues both within and outside the profession of respiratory medicine in both a formal and informal setting an ability to educate and train others both within and outside the respiratory department and to supervise the work of trainees and other staff an understanding of all aspects of information technology pertinent to service provision and support of a respiratory function laboratory and the research function 	
Achieved through:	<ul style="list-style-type: none"> a structured taught element and participation in appropriate training and assessment programmes conducted by the approved specialist societies (eg ANZSRS/TSANZ) presentations in both oral and written format within and outside the department through seminars, tutorials, posters and appropriate peer-reviewed publications participation in local seminars and meetings, clinical audit and clinical report evaluation self endeavour (eg competence in word processing and other PC based applications) 	

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GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	PROBLEM SOLVING	Be able to deal with the unexpected and thus be able:
2a.2g 2c.1g	<ul style="list-style-type: none"> to assess a situation 	<ul style="list-style-type: none"> must have the ability to assess a situation and determine the nature and severity of problems relating to both equipment used in respiratory physiology measurement and those encountered during the testing procedure must have the knowledge and experience to act accordingly in response to a problem encountered with the discipline or within the health care sector in general must have the ability to demonstrate personal initiative to resolve problems associated with respiratory physiology laboratory procedures or in the wider health care context
2b.1g	<ul style="list-style-type: none"> determine the nature and severity of the problem 	
2b.1g	<ul style="list-style-type: none"> call upon the required knowledge and experience to deal with the problem 	
2b.1g	<ul style="list-style-type: none"> initiate resolution of the problem 	
-	<ul style="list-style-type: none"> demonstrate personal initiative 	
Codes related to Clinical Physiologists Board General Standards of Proficiency (g=generic; p=profession specific)		
Achievement of:	<ul style="list-style-type: none"> an ability to critically appraise a situation and implement the required action to resolve problems encountered both in the routine investigative and therapeutic procedures performed in respiratory physiology and in the wider health care context an ability to critically appraise information supplied and implement the required action to resolve problems in the clinical aspects of a respiratory physiology service 	
Achieved through:	<ul style="list-style-type: none"> participation in appropriate training programmes and attendance at relevant scientific meetings supervised experience of problem solving in the laboratory supervised experience of problem solving in relevant aspects of clinical liaison (oral and written) continued self-endeavour (eg literature research and critical appraisal) under the supervision of a registered clinical physiologist in respiratory physiology 	
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GENERIC COMPETENCES		SPECIFIC COMPETENCES
Standards of Proficiency Code	MANAGEMENT	Understand the basic aspects of management of staff, financial and physical resources
-	<ul style="list-style-type: none"> understanding the structure and organisation of the department and how it fits into the local clinical setting 	<ul style="list-style-type: none"> must understand the range of tasks and skills necessary for the effective management of the service including audit must understand the role and contribution of the service in the wider clinical environment must be aware of and understand health and safety issues related to the discipline eg OSH must be aware of personal issues related to training and competence and an understanding of internal relationships within respiratory medicine must understand the basic aspects of financial management, budget planning, resource allocation and service development relevant to the respiratory physiology laboratory, to respiratory medicine in general and in the wider health care context
2c.2g 3a.3g 2c.2p	<ul style="list-style-type: none"> understanding the relevance of health and safety issues, particularly of those relating to the service 	
2c.2g 3a.3g 2c.2p	<ul style="list-style-type: none"> to understand the importance of internal and external quality assessment exercises 	
2c.2g 3a.3g 2c.2p	<ul style="list-style-type: none"> understanding the training framework and to be familiar with the practical aspects of staff management and appraisal 	
-	<ul style="list-style-type: none"> understanding the basic processes of business planning, finance and resource planning 	
Codes related to Clinical Physiologists Board General Standards of Proficiency (g=generic; p=profession specific)		
Achievement of:	<ul style="list-style-type: none"> an understanding of the basic skills required for the management of the respiratory physiological measurement service an understanding of the wider impact of the service provision in relation to other disciplines and the particular requirements of general practice a knowledge of the legislation relevant to health and safety management (eg COSHH) and patient confidentiality and the methods employed to enact and adhere to such legislation an understanding of the departmental structure, personnel assessment through appraisal systems and the identification of training needs an understanding of the components of cost (from planning to test level) in the provision of a comprehensive respiratory measurement service and the ability to use the tools necessary to evaluate costs and financial management 	
Achieved through:	<ul style="list-style-type: none"> a structured taught element and participation in appropriate training and assessment programmes, tutorial, local management and health and safety courses observation at local forums and committee meetings (eg health and safety committee, management team, interview panel) 	

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