

Advanced Training Curricula Renewal

DRAFT Curriculum Standards

**Advanced Training in Respiratory Medicine
(Adult Internal Medicine)**

November 2023



Contents

Program overview	3
Purpose of Advanced Training	3
Specialty Overview	3
Advanced Training curricula standards	5
Professional Practice Framework.....	6
Learning, teaching, and assessment structure	7
Curriculum standards	8
Competencies.....	8
Entrustable Professional Activities	15
Knowledge Guides.....	64

Program overview

Purpose of Advanced Training

The RACP offers Advanced Training in 33 diverse medical specialties as part of Division, Chapter, or Faculty training programs.

The purpose of Advanced Training is to develop a workforce of physicians who:

- have received breadth and depth of focused specialist training, and experience with a wide variety of health problems and contexts
- are prepared for and committed to independent expert practice, lifelong learning, and continuous improvement
- provide safe, quality health care that meets the needs of the communities of Australia and New Zealand.



Specialty Overview

Respiratory medicine is a subspecialty of internal medicine, encompassing diseases of the respiratory system, including the upper airway, the lungs, the pleura, the chest wall and the ventilatory control system. It incorporates knowledge of normal and disordered respiratory structure and function, clinical respiratory diseases and the specialised diagnostic techniques, tests and procedures employed in clinical assessment. It involves an understanding of the interaction of the respiratory system with the external environment.

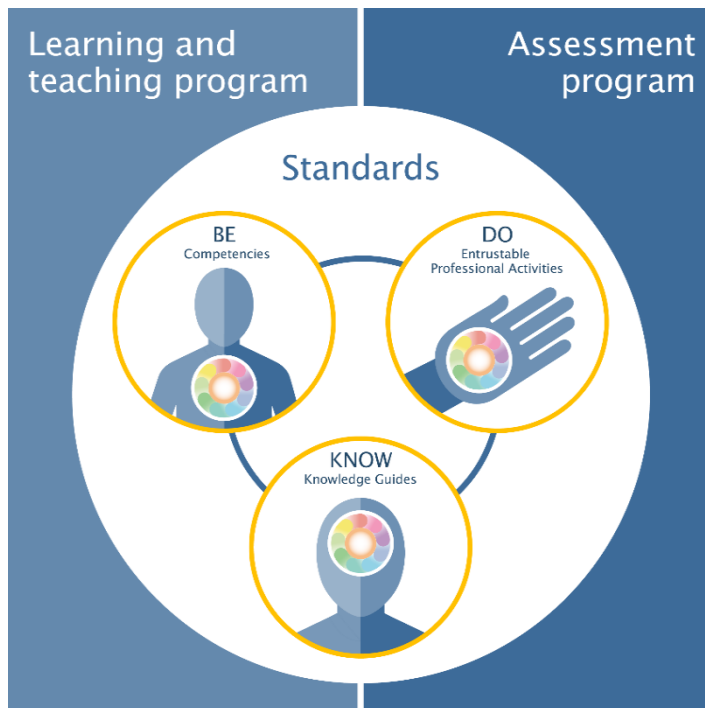
Respiratory diseases are one of the most common diseases in the community and include conditions such as asthma, COPD, pneumonia, sleep disordered breathing, and lung cancer. Respiratory medicine involves the promotion of hygiene and health practices to reduce the transmission and severity of respiratory infections and manage communicable diseases. This includes occupational and environmental causes (including smoking and vaping) of lung disease. Respiratory medicine involves research, education, early detection, and screening for respiratory conditions and sleep disordered breathing, holistic care for people with heritable/chronic conditions including cystic fibrosis and the management of acute and chronic respiratory failure, both at home and in the acute setting.

Respiratory physicians:

- **Diagnose and manage patients in a variety of settings.** Respiratory physicians see patients with a wide range of respiratory and sleep conditions while working across several environments including academic, public hospital, private, metropolitan, and regional.

- **Conduct and interpret clinical, radiological and laboratory investigations** for patients presenting with a variety of respiratory and sleep symptoms, with reference to underlying physiology.
- **Perform interventions** including oxygen therapy, assisted ventilation, aerosol therapy, pleural procedures and bronchoscopy.
- **Provide acute, longitudinal, and end-of-life care.** Respiratory physicians establish long-term therapeutic relationships with patients and their families, using a multidisciplinary approach. They work to manage and ease patient discomfort both acutely and in the practice of end-of-life care.
- **Apply a multidisciplinary approach.** Respiratory physicians are required to work effectively as part of a multidisciplinary team. They may be called upon to be the team leader and have a collaborative approach focused on building relationships.
- **Work sensitively with a variety of patients.** Respiratory physicians work with patients to address determinants of health that affect them and their access to needed health services or resources, providing culturally safe education and support in a professional, empathic, and non-judgemental manner.
- **Demonstrate strong communication skills.** Respiratory physicians must develop an effective interviewing technique and an ability to relate to patients from all walks of life. They appreciate when referral to a more appropriate or more qualified practitioner in a particular subspecialty is necessary.
- **Manage resources for the benefit of patients and communities.** Respiratory physicians apply a biopsychosocial approach to ensure the delivery of efficient, cost-effective, and safe care for the benefit of their patients and communities.
- **Apply a scholarly approach.** Respiratory physicians apply, and at times conduct, research to discover better ways of understanding, diagnosing, treating, and preventing disease.
- **Advocate for improved respiratory health in the community.** Respiratory physicians advocate on both an individual patient and broader community level on issues including occupational lung diseases, lung cancer screening, smoking, and vaping.

Advanced Training curricula standards



The **RACP curriculum model** is made up of curricula standards supported by learning, teaching, and assessment programs.

Learning and teaching programs

outline the strategies and methods to learn and teach curricula standards, including required and recommended learning activities.

Assessment programs outline the planned use of assessment methods to provide an overall picture of the trainee's competence over time.

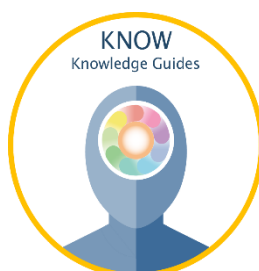
The **curricula standards** outline the educational objectives of the training program and the standard against which trainees' abilities are measured.



- **Competencies** outline the expected professional behaviours, values and practices of trainees in 10 domains of professional practice.



- **Entrustable Professional Activities** (EPAs) outline the essential work tasks trainees need to be able to perform in the workplace.



- **Knowledge guides** outline the expected baseline knowledge of trainees.

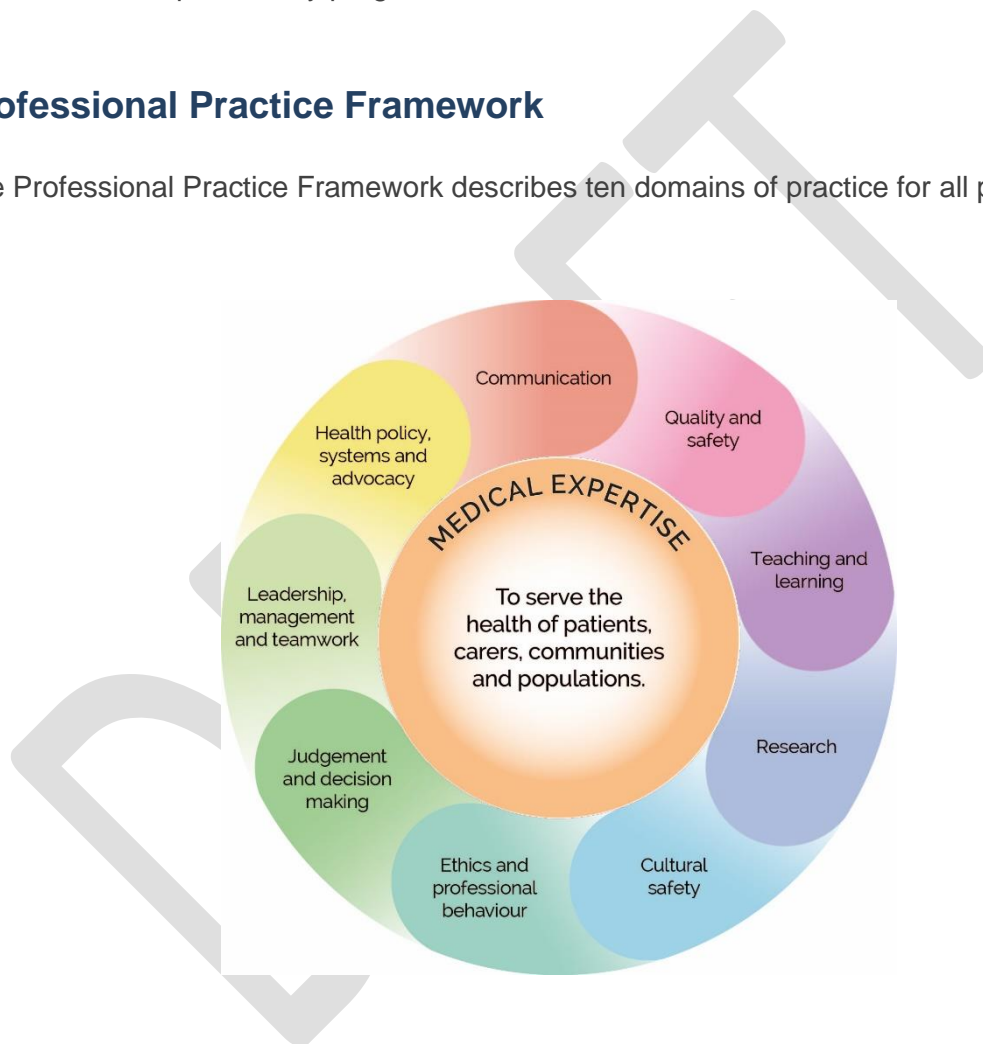
Common curricula standards

The renewed curricula for Advanced Training will consist of a mix of program-specific content and content that is common across Advanced Training programs.

- **Competencies** will be common across Advanced Training programs.
- **Entrustable Professional Activities (EPAs)** will contain a mix of content that is common and content that is program-specific.
- **Knowledge Guides** will be program-specific, although content may be shared between complementary programs.

Professional Practice Framework

The Professional Practice Framework describes ten domains of practice for all physicians.



Learning, teaching, and assessment structure

The learning, teaching, and assessment structure defines the framework for delivery



Advanced Training learning, teaching, and assessment structure

- An **entry decision** is made before entry into the program.
- **Progress decisions**, based on competence, are made at the end of the specialty foundation and specialty consolidation phases of training.
- A **completion decision**, based on competence, is made at the end of the training program, resulting in eligibility for admission to Fellowship.

Advanced Training is a **hybrid time- and competency-based training program**.

There is a minimum time requirement of between three to five years' full-time equivalent experience, depending on the training program undertaken. Progress and completion decisions are based on evidence of trainees' competence.

The Advanced Training program may be started once the prospective trainee has completed the entry requirements. This includes completion of Basic Physician Training required for Divisional Advanced Training programs.

Curriculum standards

Competencies

Competencies outline the expected professional behaviours, values and practices that trainees need to achieve by the end of training.

Competencies are grouped by the 10 domains of the professional practice framework.

Competencies will be common across training programs.



Medical expertise

Professional standard: Physicians apply knowledge and skills informed by best available current evidence in the delivery of high-quality, safe practice to facilitate agreed health outcomes for individual patients and populations.

Knowledge: Apply knowledge of the scientific basis of health and disease to the diagnosis and management of patients.

Synthesis: Gather relevant data via age- and context- appropriate means to develop reasonable differential diagnoses, recognising and considering interactions and impacts of comorbidities.

Diagnosis and management: Develop diagnostic and management plans that integrate an understanding of individual patient circumstances, including psychosocial factors and specific vulnerabilities, epidemiology, and population health factors in partnership with patients, families, or carers¹, and in collaboration with the health care team.

² References to patients in the remainder of this document may include their families and/or carers.



Communication

Professional standard: Physicians collate information, and share this information clearly, accurately, respectfully, responsibly, empathetically, and in a manner that is understandable.

Physicians share information responsibly with patients, families, carers, colleagues, community groups, the public, and other stakeholders to facilitate optimal health outcomes.

Effective communication: Use a range of effective and appropriate verbal, nonverbal, written and other communication techniques, including active listening.

Communication with patients, families, and carers: Use collaborative, effective, and empathetic communication with patients, families, and carers.

Communication with professionals and professional bodies: Use collaborative, respectful, and empathetic clinical communication with colleagues, other health professionals, professional bodies, and agencies.

Written communication: Document and share information about patients to optimise patient care and safety.

Privacy and confidentiality: Maintain appropriate privacy and confidentiality, and share information responsibly.



Quality and safety

Professional standard: Physicians practice in a safe, high-quality manner within the limits of their expertise.

Physicians regularly review and evaluate their own practice alongside peers and best practice standards and conduct continuous improvement activities.

Patient safety: Demonstrate a safety focus and continuous improvement approach to own practice and health systems.

Harm prevention and management: Identify and report risks, adverse events, and errors to improve healthcare systems.

Quality improvement: Participate in quality improvement activities to improve quality of care and safety of the work environment.

Patient engagement: Enable patients to contribute to the safety of their care.



Teaching and learning

Professional standard: Physicians demonstrate a lifelong commitment to excellence in practice through continuous learning and evaluating evidence.

Physicians foster the learning of others in their profession through a commitment to mentoring, supervising, and teaching².

Lifelong learning: Undertake effective self-education and continuing professional development.

Self-evaluation: Evaluate and reflect on gaps in own knowledge and skills to inform self-directed learning.

Supervision: Provide supervision for junior colleagues and/or team members.

Teaching: Apply appropriate educational techniques to facilitate the learning of colleagues and other health professionals.

Patient education: Apply appropriate educational techniques to promote understanding of health and disease amongst patients and populations.



Research

Professional standard: Physicians support creation, dissemination and translation of knowledge and practices applicable to health³. They do this by engaging with and critically appraising research, and applying it in policy and practice to improve the health outcomes of patients and populations.

Evidence-based practice: Critically analyse relevant literature and refer to evidence-based clinical guidelines and apply these in daily practice.

Research: Apply research methodology to add to the body of medical knowledge and improve practice and health outcomes.

² Adapted from Richardson D, Oswald A, Chan M-K, Lang ES, Harvey BJ. Scholar. In: Frank JR, Snell L, Sherbino J, editors. The Draft CanMEDS 2015 Physician Competency Framework – Series IV. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2015 March.

Cultural safety

Professional standard:

Physicians engage in iterative and critical self-reflection of their own cultural identity, power, biases, prejudices, and practising behaviours. Together with the requirement of understanding the cultural rights of the community they serve; this brings awareness and accountability for the impact of the physician's own culture on decision making and health care delivery. It also allows for an adaptive practice where power is shared between patients, family, whānau, and/or community and the physician, to improve health outcomes.



Physicians recognise the patient and population's rights for culturally safe care, including being an ally for patient, family, whānau, and/or community autonomy and agency over their decision making. This shift in the physician's perspective fosters collaborative and engaged therapeutic relationships, allows for strength-based (or mana-enhanced) decisions, and sharing of power with the recipient of the care, optimising health care outcomes.

Physicians critically analyse their environment to understand how colonialism, systemic racism, social determinants of health, and other sources of inequity have and continue to underpin the healthcare context. Consequently, physicians then can recognise their interfacing with, and contribution to, the environment in which they work to advocate for safe, more equitable and decolonised services, and create an inclusive and safe workplace for all colleagues and team members of all cultural backgrounds³.

This is a placeholder for the competencies in the cultural safety domain, which are in development and will be added at a later date.

³ The RACP has adopted the Medical Council of New Zealand's definition of cultural safety (below):
Cultural safety can be defined as:

- the need for doctors to examine themselves and the potential impact of their own culture on clinical interactions and healthcare service delivery
- the commitment by individual doctors to acknowledge and address any of their own biases, attitudes, assumptions, stereotypes, prejudices, structures, and characteristics that may affect the quality of care provided
- the awareness that cultural safety encompasses a critical consciousness where health professionals and health care organisations engage in ongoing self-reflection and self-awareness, and hold themselves accountable for providing culturally safe care, as defined by the patient and their communities.

Curtis et al. "Why cultural safety rather than cultural competency is required to achieve health equity".
International Journal for Equity in Health (2019) 18:174



Ethics and professional behaviour

Professional standard: Physicians' practice is founded upon ethics, and physicians always treat patients and their families in a caring and respectful manner.

Physicians demonstrate their commitment and accountability to the health and wellbeing of individual patients, communities, populations, and society through ethical practice.

Physicians demonstrate high standards of personal behaviour.

Beliefs and attitudes: Reflect critically on personal beliefs and attitudes, including how these may impact on patient care.

Honesty and openness: Act honestly, including reporting accurately, and acknowledging their own errors.

Patient welfare: Prioritise patients' welfare and community benefit above self-interest.

Accountability: Be personally and socially accountable.

Personal limits: Practise within their own limits and according to ethical principles and professional guidelines.

Self-care: Implement strategies to maintain personal health and wellbeing.

Respect for peers: Recognise and respect the personal and professional integrity, roles, and contribution of peers.

Interaction with professionals: Interact equitably, collaboratively, and respectfully with other health professionals.

Respect and sensitivity: Respect patients, maintain appropriate relationships, and behave equitably.

Privacy and confidentiality: Protect and uphold patients' rights to privacy and confidentiality.

Compassion and empathy: Demonstrate a caring attitude towards patients and endeavour to understand patients' values and beliefs.

Health needs: Understand and address patients', families', carers', and colleagues' physical and emotional health needs.

Medical and health ethics and law: Practise according to current community and professional ethical standards and legal requirements.



Judgement and decision making

Professional standard: Physicians collect and interpret information, and evaluate and synthesise evidence, to make the best possible decisions in their practice.

Physicians negotiate, implement, and review their decisions and recommendations with patients, their families and carers, and other health professionals.

Diagnostic reasoning: Apply sound diagnostic reasoning to clinical problems to make logical and safe clinical decisions.

Resource allocation: Apply judicious and cost-effective use of health resources to their practice.

Task delegation: Apply good judgement and decision making to the delegation of tasks.

Limits of practice: Recognise their own scope of practice and consult others when required.

Shared decision-making: Contribute effectively to team-based decision-making processes.



Leadership, management, and teamwork

Professional standard: Physicians recognise, respect, and aim to develop the skills of others, and engage collaboratively to achieve optimal outcomes for patients and populations.

Physicians contribute to and make decisions about policy, protocols, and resource allocation at personal, professional, organisational, and societal levels.

Physicians work effectively in diverse multidisciplinary teams and promote a safe, productive, and respectful work environment that is free from discrimination, bullying, and harassment.

Managing others: Lead teams, including setting directions, resolving conflicts, and managing individuals.

Wellbeing: Consider and work to ensure the health and safety of colleagues and other health professionals.

Leadership: Act as a role model and leader in professional practice.

Teamwork: Negotiate responsibilities within the healthcare team and function as an effective team member.



Health policy, systems, and advocacy

Professional standard: Physicians apply their knowledge of the nature and attributes of local, national, and global health systems to their own practices. They identify, evaluate, and influence health determinants through local, national, and international policy.

Physicians deliver and advocate for the best health outcomes for all patients and populations.

Health needs: Respond to the health needs of the local community and the broader health needs of the people of Australia and New Zealand.

Prevention and promotion: Incorporate disease prevention, health promotion, and health surveillance into interactions with individual patients and their social support networks.

Equity and access: Work with patients and social support networks to address determinants of health that affect them and their access to needed health services or resources.

Stakeholder engagement: Involve communities and patient groups in decisions that affect them to identify priority problems and solutions.

Advocacy: Advocate for prevention, promotion, equity, and access to support patient and population health needs within and outside the clinical environment.

Resource allocation: Understand the factors influencing resource allocation, promote efficiencies, and advocate to reduce inequities.

Sustainability. Manage the use of healthcare resources responsibly in everyday practice.

Entrustable Professional Activities

Entrustable Professional Activities (EPAs) outline the essential work tasks trainees need to be able to perform in the workplace.



#	Theme	Title
1	<u>Team leadership</u>	Lead a team of health professionals
2	<u>Supervision and teaching</u>	Supervise and teach professional colleagues
3	<u>Quality improvement</u>	Identify and address failures in health care delivery
4	<u>Clinical assessment and management</u>	Clinically assess and manage the ongoing care of patients
5	<u>Management of transitions in care</u>	Manage transition of patient care between health professionals, providers, and contexts
6	<u>Acute care</u>	Manage the early care of acutely unwell patients
7	<u>Longitudinal care</u>	Manage and coordinate longitudinal care of patients with chronic illness, disability, and/or long-term health issues
8	<u>Communication with patients</u>	Discuss diagnoses and management plans with patients
9	<u>Prescribing</u>	Prescribe therapies tailored to patients' needs and conditions
10	<u>Procedures</u>	Plan, prepare for, perform, and provide aftercare for important practical procedures
11	<u>Investigations</u>	Select, organise, and interpret investigations
12	<u>Clinic management</u>	Manage an outpatient clinic
13	<u>Palliative care</u>	Manage the care of patients at the end of their lives

EPA 1: Team leadership

Theme	Team leadership	AT-EPA-01
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Title	Lead a team of health professionals
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Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> • prioritise workload • manage multiple concurrent tasks • articulate individual responsibilities, expertise, and accountability of team members • understand the range of team members' skills, expertise, and roles • acquire and apply leadership techniques in daily practice • collaborate with and motivate team members • encourage and adopt insights from team members • act as a role model.
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Behaviours

Professional practice framework domain	Ready to perform without supervision Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Requires some supervision Possible behaviours of a trainee who needs some supervision to perform this activity
Medical expertise	<p>The trainee will:</p> <ul style="list-style-type: none"> • synthesise information with other disciplines to develop optimal, goal-centred plans for patients • use evidence-based care to meet the needs of patients or populations • assess and effectively manage clinical risk in various scenarios • demonstrate clinical competence and skills by effectively supporting team members 	<p>The trainee may:</p> <ul style="list-style-type: none"> • demonstrate adequate knowledge of healthcare issues by interpreting complex information • assess the spectrum of problems to be addressed • apply medical knowledge to assess the impact and clinical outcomes of management decisions • provide coordinated and quality health care for populations or patients as a member of a multidisciplinary team
Communication	<ul style="list-style-type: none"> • provide support and motivate patients or populations and health professionals by effective communication • demonstrate a transparent, consultative style by engaging patients, families, carers, relevant professionals and/or the public in shared decision making • work with patients, families, carers, and other health professionals to resolve conflict that may arise when planning and aligning goals • demonstrate rapport with people at all levels by tailoring messages to different stakeholders 	<ul style="list-style-type: none"> • communicate adequately with colleagues • communicate adequately with patients, families, carers, and/or the public • respect the roles of team members

	<ul style="list-style-type: none"> recognise the cognitive, mental and social impact of illness on patients and their family members and carers and demonstrate appropriate empathy in all aspects of communication. 	
Quality and safety	<ul style="list-style-type: none"> identify opportunities to improve care by participating in surveillance and monitoring of adverse events and 'near misses' identify and participate in activities within systems to reduce errors, improve patient and population safety, and cost-effectiveness. place safety and quality of care first in all decision making 	<ul style="list-style-type: none"> participate in audits and other activities that affect the quality and safety of patients' care participate in interdisciplinary collaboration to provide effective health services and operational change use information resources and electronic medical record technology where available
Teaching and learning	<ul style="list-style-type: none"> regularly self-evaluate personal professional practice, and implement changes based on the results actively seek feedback from supervisors and colleagues on their own performance identify personal gaps in skills and knowledge, and engage in self-directed learning maintain current knowledge of new technologies, health care priorities and changes of patients' expectations teach competently by imparting professional knowledge manage and monitor learner progress, providing regular assessment and feedback 	<ul style="list-style-type: none"> accept feedback constructively, and change behaviour in response recognise the limits of personal expertise, and involve other health professionals as needed demonstrate basic skills in facilitating colleagues' learning
Cultural safety	<ul style="list-style-type: none"> demonstrate culturally competent relationships with professional colleagues and patients demonstrate respect for diversity and difference take steps to minimise unconscious bias, including the impact of gender, religion, cultural beliefs and socioeconomic background on decision making 	<ul style="list-style-type: none"> demonstrate awareness of cultural diversity and unconscious bias work effectively and respectfully with people from different cultural backgrounds
Ethics and professional behaviour	<ul style="list-style-type: none"> promote a team culture of shared accountability for decisions and outcomes encourage open discussion of ethical and clinical concerns respect differences of multidisciplinary team members understand the ethics of resource allocation by aligning optimal patients and organisational care 	<ul style="list-style-type: none"> support ethical principles in clinical decision making maintain standards of medical practice by recognising the health interests of patients or populations as primary responsibilities respect the roles and expertise of other health professionals work effectively as a member of a team

	<ul style="list-style-type: none"> effectively consult with stakeholders, achieving a balance of alternative views acknowledge personal conflicts of interest and unconscious bias act collaboratively to resolve behavioural incidents and conflicts such as harassment and bullying 	<ul style="list-style-type: none"> promote team values of honesty, discipline and commitment to continuous improvement demonstrate understanding of the negative impact of workplace conflict
Judgement and decision making	<ul style="list-style-type: none"> evaluate health services and clarify expectations to support systematic, transparent decision making make decisions when faced with multiple and conflicting perspectives ensure medical input to organisational decision making adopt a systematic approach to analysing information from a variety of specialties to make decisions that benefit health care delivery 	<ul style="list-style-type: none"> monitor services and provide appropriate advice review new healthcare interventions and resources interpret appropriate data and evidence for decision making
Leadership, management, and teamwork	<ul style="list-style-type: none"> combine team members' skills and expertise in delivering patient care and/or population advice develop and lead effective multidisciplinary teams by developing and implementing strategies to motivate others build effective relationships with multidisciplinary team members to achieve optimal outcomes ensure all members of the team are accountable for their individual practice empower self and promote culture amongst colleagues to maintain psychological wellbeing, efficient workload management and distribution, and healthy work-life balance. Identify struggling junior medical officers and take appropriate steps to resolve issues and escalate as appropriate 	<ul style="list-style-type: none"> understand the range of personal and other team members' skills, expertise, and roles acknowledge and respect the contribution of all health professionals involved in patients' care participate effectively and appropriately in multidisciplinary teams seek out and respect the perspectives of multidisciplinary team members when making decisions
Health policy, systems, and advocacy	<ul style="list-style-type: none"> engage in appropriate consultation with stakeholders on the delivery of healthcare advocate for the resources and support for healthcare teams to achieve organisational priorities influence the development of organisational policies and procedures to optimise health outcomes 	<ul style="list-style-type: none"> communicate with stakeholders within the organisation about healthcare delivery understand methods used to allocate resources to provide high-quality care promote the development and use of organisational policies and procedures

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- identify the determinants of health of the population, and mitigate barriers to access to care
 - remove self-interest from solutions to health advocacy issues
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EPA 2: Supervision and teaching

Theme	Supervision and teaching		AT-EPA-02
Title	Supervise and teach professional colleagues		
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> • provide work-based teaching in a variety of settings • teach professional skills • create a safe and supportive learning environment • plan, deliver, and provide work-based assessments • encourage learners to be self-directed and identify learning experiences • supervise learners in day-to-day work, and provide feedback • support learners to prepare for assessments. 		
Behaviours			
Professional practice framework domain	<p>Ready to perform without supervision</p> <p>Expected behaviours of a trainee who can routinely perform this activity without needing supervision</p> <p>The trainee will:</p>	<p>Requires some supervision</p> <p>Possible behaviours of a trainee who needs some supervision to perform this activity</p> <p>The trainee may:</p>	
Medical expertise	<ul style="list-style-type: none"> • combine high-quality care with high-quality teaching • explain the rationale underpinning a structured approach to decision making • consider the patient-centric view during consultations • consider the population health effect when giving advice • encourage the learner to consider the rationale and appropriateness of investigation and management options 	<ul style="list-style-type: none"> • teach learners using basic knowledge and skills 	
Communication	<ul style="list-style-type: none"> • establish rapport and demonstrate respect for junior colleagues, medical students, and other health professionals • communicate effectively when teaching, assessing, and appraising learners • actively encourage a collaborative and safe learning environment with learners and other health professionals • encourage learners to tailor communication as appropriate for different patients, such as younger or older people, and different populations • support learners to deliver clear, concise and relevant information in both verbal and written communication 	<ul style="list-style-type: none"> • demonstrate accessible, supportive, and compassionate behaviour 	

	<ul style="list-style-type: none"> listen and convey information clearly and considerately in a culturally safe way 	
Quality and safety	<ul style="list-style-type: none"> support learners to deliver quality care while maintaining their own wellbeing apply lessons learned about patient safety by identifying and discussing risks with learners assess learners' competence, and provide timely feedback to minimise risks to care maintain the safety of patients and organisations involved with education, and appropriately identify and action concerns 	<ul style="list-style-type: none"> observe learners to reduce risks and improve health outcomes
Teaching and learning	<ul style="list-style-type: none"> demonstrate knowledge of the principles, processes, and skills of supervision provide direct guidance to learners in day-to-day work work with learners to identify professional development and learning opportunities based on their individual learning needs offer feedback and role modelling participate in teaching and supervision professional development activities encourage self-directed learning and assessment develop a consistent and fair approach to assessing learners tailor feedback and assessments to learners' goals seek feedback and reflect on own teaching by developing goals and strategies to improve establish and maintain effective mentoring through open dialogue support learners to identify and attend formal and informal learning opportunities recognise the limits of personal expertise, and involve others appropriately 	<ul style="list-style-type: none"> demonstrate basic skills in the supervision of learners apply a standardised approach to teaching, assessment, and feedback to without considering individual learner needs implement teaching and learning activities that are misaligned to learning goals adopt a teaching style that discourages learner self-directedness
Research	<ul style="list-style-type: none"> clarify junior colleagues' research project goals and requirements, and provide feedback regarding the merits or challenges of proposed research monitor the progress of learners' research projects regularly, and may review research projects prior to submission 	<ul style="list-style-type: none"> guide learners with respect to the choice of research projects ensure that the research projects planned are feasible and of suitable standards

	<ul style="list-style-type: none"> • support learners to find forums to present research projects • encourage and guide learners to seek out relevant research to support practice 	
Cultural safety	<ul style="list-style-type: none"> • role model a culturally safe approach to teaching • encourage learners to seek out opportunities to develop and improve their own cultural competence • encourage learners to consider culturally safe care of Aboriginal and Torres Strait Islander and Māori peoples into patients' management • consider cultural, ethical, and religious values and beliefs in teaching and learning 	<ul style="list-style-type: none"> • function effectively and respectfully when working with and teaching with people from different cultural backgrounds
Ethics and professional behaviour	<ul style="list-style-type: none"> • apply principles of ethical practice to teaching scenarios • act as a role model to promote professional responsibility and ethics among learners • respond appropriately to learners seeking professional guidance 	<ul style="list-style-type: none"> • demonstrate professional values, including commitment to high-quality clinical standards, compassion, empathy, and respect • provide learners with feedback to improve their experiences
Judgement and decision making	<ul style="list-style-type: none"> • prioritise workloads and manage learners with different levels of professional knowledge or experience • link theory and practice when explaining professional decisions • promote joint problem solving • support a learning environment that allows for independent decision making • use sound and evidence-based judgement during assessments and when giving feedback to learners • escalate concerns about learners appropriately 	<ul style="list-style-type: none"> • provide general advice and support to learners • use health data logically and effectively to investigate difficult diagnostic problems
Leadership, management, and teamwork	<ul style="list-style-type: none"> • maintain personal and learners' effective performance and continuing professional development • maintain professional, clinical, research, and/or administrative responsibilities while teaching • create an inclusive environment whereby the learner feels part of the team • help shape organisational culture to prioritise quality and work safety through openness, honesty, 	<ul style="list-style-type: none"> • demonstrate the principles and practice of professionalism and leadership in health care • participate in mentor programs, career advice, and general counselling

	shared learning, and continued improvement	
Health policy, systems, and advocacy	<ul style="list-style-type: none"> • advocate for suitable resources to provide quality supervision and maintain training standards • explain the value of health data in the care of patients or populations • support innovation in teaching and training 	<ul style="list-style-type: none"> • incompletely integrate public health principals into teaching and practice

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EPA 3: Quality improvement

Theme	Quality improvement	AT-EPA-03
Title	Identify and address failures in health care delivery	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> • identify and report actual and potential (near miss) errors • conduct and evaluate system improvement activities • adhere to best practice guidelines • audit clinical guidelines and outcomes • contribute to the development of policies and protocols designed to protect patients and enhance healthcare • monitor one's own practice and develop individual improvement plans. 	
Behaviours		
	Ready to perform without supervision	Requires some supervision
Professional practice framework domain	<p>Expected behaviours of a trainee who can routinely perform this activity without needing supervision</p> <p>The trainee will:</p>	<p>Possible behaviours of a trainee who needs some supervision to perform this activity</p> <p>The trainee may:</p>
Medical expertise	<ul style="list-style-type: none"> • use population health outcomes to identify opportunities for improvement in delivering appropriate care • regularly review patients' or population health outcomes to identify opportunities for improvement in delivering appropriate care • evaluate environmental and lifestyle health risks, and advocate for healthy lifestyle choices • use standardised protocols to adhere to best practice and prevent the occurrence of wrong-site, wrong-patient procedures • regularly monitor personal professional performance 	<ul style="list-style-type: none"> • contribute to processes on identified opportunities for improvement • recognise the importance of prevention and early detection in clinical practice • use local guidelines to assist patient care decision making
Communication	<ul style="list-style-type: none"> • support patients to have access to, and use, easy-to-understand, high-quality information about health care • support patients to share decision making about their own health care, to the extent they choose • assist patients' access to their health information, as well as complaint and feedback systems • discuss with patients any safety and quality concerns they have relating to their care • implement the organisation's open disclosure policy 	<ul style="list-style-type: none"> • demonstrate awareness of the evidence for consumer engagement and its contribution to quality improvement in healthcare • apply knowledge of how health literacy might affect the way patients or populations gain access to, understand, and use health information

<p>Quality and safety</p>	<ul style="list-style-type: none"> demonstrate safety skills, including infection control, adverse event reporting, and effective clinical handover participate in organisational quality and safety activities, including morbidity and mortality reviews, clinical incident reviews, root cause analyses, and corrective action preventative action plans participate in systems for surveillance and monitoring of adverse events and 'near misses', including reporting such events ensure that identified opportunities for improvement are raised and reported appropriately use clinical audits and registries of data on patients' experiences and outcomes, learnings from incidents, and complaints to improve healthcare 	<ul style="list-style-type: none"> demonstrate understanding of a systematic approach to improving the quality and safety of healthcare
<p>Teaching and learning</p>	<ul style="list-style-type: none"> translate quality improvement approaches and methods into practice participate in professional training in quality and safety to ensure a contemporary approach to safety system strategies supervise and manage the performance of junior colleagues in the delivery of high-quality, safe care 	<ul style="list-style-type: none"> work within organisational quality and safety systems for the delivery of clinical care use opportunities to learn about safety and quality theory and systems
<p>Research</p>	<ul style="list-style-type: none"> ensure that any protocol for human research is approved by a human research ethics committee, in accordance with the national statement on ethical conduct in human research 	<ul style="list-style-type: none"> understand that patient participation in research is voluntary and based on an appropriate understanding about the purpose, methods, demands, risks, and potential benefits of the research
<p>Cultural safety</p>	<ul style="list-style-type: none"> undertake professional development opportunities that address the impact of cultural bias on health outcomes 	<ul style="list-style-type: none"> communicate in a manner that is appropriate to patients' language and cultural needs
<p>Ethics and professional behaviour</p>	<ul style="list-style-type: none"> align improvement goals with the priorities of the organisation contribute to developing an organisational culture that enables and prioritises patients' safety and quality 	<ul style="list-style-type: none"> comply with professional regulatory requirements and codes of conduct
<p>Judgement and decision making</p>	<ul style="list-style-type: none"> use decision-making support tools, such as guidelines, protocols, pathways, and reminders analyse and evaluate current care processes to improve healthcare 	<ul style="list-style-type: none"> access information and advice from other health practitioners to identify, evaluate, and improve patients' care management

Leadership,
management,
and teamwork

- formulate and implement quality improvement strategies as a collaborative effort involving all key health professionals
- support multidisciplinary team activities to lower patients' risk of harm, and promote interdisciplinary programs of education
- actively involve clinical pharmacists in the medication-use process
- demonstrate attitudes of respect and cooperation among members of different professional teams
- partner with clinicians and managers to ensure patients receive appropriate care and information on their care

Health policy,
systems, and
advocacy

- participate in the development, implementation, evaluation, and monitoring of governance processes
 - participate regularly in multidisciplinary meetings where quality and safety issues are standing agenda items, and where innovative ideas and projects for improving care are actively encouraged
 - measure, analyse, and report a set of specialty-specific process of care and outcome clinical indicators, and a set of generic safety indicators
 - take part in the design and implementation of the organisational systems for:
 - » defining the scope of clinical practice
 - » performance monitoring and management
 - » clinical, and safety and quality education and training
 - maintain a dialogue with service managers about issues that affect patient care
 - contribute to relevant organisational policies and procedures
 - help shape an organisational culture that prioritises safety and quality through openness, honesty, learning, and quality improvement
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EPA 4: Clinical assessment and management

Theme	Clinical assessment and management		AT-EPA-04
Title	Clinically assess and manage the ongoing care of patients		
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> • identify and access sources of relevant information about patients • obtain patient histories • examine patients • synthesise findings to develop provisional and differential diagnoses • discuss findings with patients, families and/or carers • generate a management plan • present findings to other health professionals. 		
Behaviours			
Professional practice framework domain	<p>Ready to perform without supervision</p> <p>Expected behaviours of a trainee who can routinely perform this activity without needing supervision</p> <p>The trainee will:</p>	<p>Requires some supervision</p> <p>Possible behaviours of a trainee who needs some supervision to perform this activity</p> <p>The trainee may:</p>	
	<ul style="list-style-type: none"> • elicit an accurate, organised, and problem-focused medical history considering physical, psychosocial, and risk factors • perform a full physical examination to establish the nature and extent of problems • synthesise and interpret findings from the history and examination to devise the most likely provisional diagnoses via reasonable differential diagnoses • assess the severity of problems, the likelihood of complications, and clinical outcomes • develop management plans based on relevant guidelines, and consider the balance of benefit and harm by taking patients' personal set of circumstances into account 	<ul style="list-style-type: none"> • take patient-centred histories, considering psychosocial factors • perform accurate physical examinations • recognise and correctly interpret abnormal findings • synthesise pertinent information to direct the clinical encounter and diagnostic categories • develop appropriate management plans 	
Communication	<ul style="list-style-type: none"> • communicate openly, listen, and take patients' concerns seriously, giving them adequate opportunity to ask questions • provide information to patients and their family or carers to enable them to make a fully informed decision from various diagnostic, therapeutic, and management options • communicate clearly, effectively, respectfully, and promptly with 	<ul style="list-style-type: none"> • anticipate, read, and respond to verbal and non-verbal cues • demonstrate active listening skills • communicate patients' situations to colleagues, including senior clinicians 	

	other health professionals involved in patients' care	
Quality and safety	<ul style="list-style-type: none"> demonstrate safety skills, including infection control, adverse event reporting and effective clinical handover recognise and effectively deal with aggressive and violent patient behaviours through appropriate training obtain informed consent before undertaking any investigation or providing treatment (except in an emergency) ensure patients are informed of the material risks associated with any part of proposed management plans 	<ul style="list-style-type: none"> perform hand hygiene, and take infection control precautions at appropriate moments take precaution against assaults from confused or agitated patients, ensuring appropriate care of patients document history and physical examination findings, and synthesise with clarity and completeness
Teaching and learning	<ul style="list-style-type: none"> set defined objectives for clinical teaching encounters, and solicit feedback on mutually agreed goals regularly reflect upon and self-evaluate professional development obtain informed consent before involving patients in teaching activities turn clinical activities into an opportunity to teach, appropriate to the setting 	<ul style="list-style-type: none"> deliver teaching considering learners' level of training
Research	<ul style="list-style-type: none"> search for, find, compile, analyse, interpret, and evaluate information relevant to the research subject 	<ul style="list-style-type: none"> refer to guidelines and medical literature to assist in clinical assessments when required demonstrate an understanding of the limitations of evidence and the challenges of applying research in daily practice
Cultural safety	<ul style="list-style-type: none"> use plain-language patient education materials, and demonstrate cultural and linguistic sensitivity demonstrate effective and culturally competent communication and care for Aboriginal and Torres Strait Islander and Māori peoples, and members of other cultural groups use a professional interpreter, health advocate, or a family or community member to assist in communication with patients, and understand the potential limitations of each acknowledge patients' beliefs and values, and how these might impact on health 	<ul style="list-style-type: none"> display respect for patients' cultures, and attentiveness to social determinants of health display an understanding of at least the most prevalent cultures in society, and an appreciation of their sensitivities appropriately access interpretive or culturally focused services

Ethics and professional behaviour	<ul style="list-style-type: none"> • demonstrate professional values, including compassion, empathy, respect for diversity, integrity, honesty, and partnership to all patients • hold information about patients in confidence, unless the release of information is required by law or public interest • assess patients' capacity for decision making, involving a proxy decision maker appropriately 	<ul style="list-style-type: none"> • demonstrate professional conduct, honesty, and integrity • consider patients' decision-making capacity • identify patients' preferences regarding management and the role of families in decision making • not advance personal interest or professional agendas at the expense of patient or social welfare
Judgement and decision making	<ul style="list-style-type: none"> • apply knowledge and experience to identify patients' problems, making logical, rational decisions, and acting to achieve positive outcomes for patients • use a holistic approach to health considering comorbidity, uncertainty, and risk • use the best available evidence for the most effective therapies and interventions to ensure quality care 	<ul style="list-style-type: none"> • demonstrate clinical reasoning by gathering focused information relevant to patients' care • recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	<ul style="list-style-type: none"> • work effectively as a member of multidisciplinary teams to achieve the best health outcome for patients • demonstrate awareness of colleagues in difficulty, and work within the appropriate structural systems to support them while maintaining patient safety 	<ul style="list-style-type: none"> • share relevant information with members of the health care team
Health policy, systems, and advocacy	<ul style="list-style-type: none"> • participate in health promotion, disease prevention and control, screening, and reporting notifiable diseases • aim to achieve the optimal cost-effective patient care to allow maximum benefit from the available resources 	<ul style="list-style-type: none"> • identify and navigate components of the healthcare system relevant to patients' care • identify and access relevant community resources to support patient care

EPA 5: Management of transitions in care

Theme	Management of transitions in care		AT-EPA-05
Title	Manage the transition of patient care between health professionals, providers, and contexts		
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> manage a transition of patient care to ensure the optimal continuation of care between providers identify the appropriate health care providers and other stakeholders with whom to share patient information exchange pertinent, contextually appropriate, and relevant patient information perform this activity in multiple settings (appropriate to the speciality), including inpatient, ambulatory, and critical care settings. Incorporate an understanding of public and private funding, benefits and drawbacks of both models and local resource availability into optimal management of patients in multiple settings, including inpatient, ambulatory and critical care settings. 		
Behaviours			
	Ready to perform without supervision	Requires some supervision	
Professional practice framework domain	Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Possible behaviours of a trainee who needs some supervision to perform this activity	
	The trainee will:	The trainee may:	
Medical expertise	<ul style="list-style-type: none"> facilitate an optimal transition of care for patients identify and manage key risks for patients during transition anticipate possible changes in patients' conditions, and provide recommendations on how to manage them 	<ul style="list-style-type: none"> understand the details of patients' conditions, illness severity, and potential emerging issues with appropriate actions provide accurate summaries of patients' information with accurate identification of problems or issues 	
Communication	<ul style="list-style-type: none"> write relevant and detailed medical record entries, including clinical assessments and management plans write comprehensive and accurate summaries of care, including discharge summaries, clinic letters, and transfer documentation initiate and maintain verbal communication with other health professionals, when required communicate with patients, families and/or carers about transition of care, and engage and support these parties in decision making 	<ul style="list-style-type: none"> communicate clearly with clinicians and other caregivers use standardised verbal and written templates to improve the reliability of information transfer and prevent errors and omissions communicate accurately and in a timely manner to ensure an effective transition between settings, and continuity and quality of care 	
Quality and safety	<ul style="list-style-type: none"> identify patients at risk of a poor transition of care, and mitigate this risk 	<ul style="list-style-type: none"> ensure that handover is complete, or work to mitigate risks if the handover was incomplete 	

	<ul style="list-style-type: none"> • use electronic tools (where available) to securely store and transfer patient information • use consent processes, including written consent if required, for the release and exchange of information • demonstrate understanding the medicolegal context of written communications 	<ul style="list-style-type: none"> • ensure all outstanding results or procedures are followed up by receiving units and clinicians • keep patients' information secure, adhering to relevant legislation regarding personal information and privacy
Teaching and learning	<ul style="list-style-type: none"> • integrate clinical education in handover sessions and other transition of care meetings • tailor clinical education to the level of the professional parties involved 	<ul style="list-style-type: none"> • take opportunities to teach junior colleagues during handover, as necessary
Cultural safety	<ul style="list-style-type: none"> • communicate with careful consideration to health literacy, language barriers, and culture about patient preferences, and whether they are realistic and possible, respecting patient choices • recognise the timing, location, privacy, and appropriateness of sharing information with patients and their families or carers 	<ul style="list-style-type: none"> • include relevant information regarding patients' cultural or ethnic background in handovers, and whether an interpreter is required
Ethics and professional behaviour	<ul style="list-style-type: none"> • disclose and share only contextually appropriate medical and personal information • demonstrate understanding of the clinical, ethical, and legal rationale for information disclosure • share information about patients' health care in a manner consistent with privacy law and professional guidelines on confidentiality • demonstrate understanding of the additional complexity related to some types of information, such as genetic information and blood-borne-virus status, and seek appropriate advice about disclosure of such information • interacts in a collegiate and collaborative way with professional colleagues during transitions of care 	<ul style="list-style-type: none"> • maintain respect for patients, families, carers, and other health professionals, including respecting privacy and confidentiality
Judgement and decision making	<ul style="list-style-type: none"> • ensure patients' care is in the most appropriate facility, setting, or provider 	<ul style="list-style-type: none"> • use a structured approach to consider and prioritise patients' issues • recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	<ul style="list-style-type: none"> • share the workload of transitions of care appropriately, including delegation 	<ul style="list-style-type: none"> • recognise factors that impact on the transfer of care, and help subsequent health professionals to

	<ul style="list-style-type: none"> • demonstrate understanding of the medical governance of patient care, and the differing roles of team members • show respect for the roles and expertise of other health professionals, and work effectively as a member of professional teams • ensure that multidisciplinary teams provide the opportunity for patients' engagement and participation when appropriate 	<ul style="list-style-type: none"> • understand the issues to continue care • work to overcome the potential barriers to continuity of care, appreciating the role of handover in overcoming these barriers
Health policy, systems, and advocacy	<ul style="list-style-type: none"> • contribute to processes for managing risks, and identify strategies for improvement in transition of care • engage in organisational processes to improve transitions of care, such as formal surveys or follow-up phone calls after hospital discharge 	<ul style="list-style-type: none"> • factor transport issues and costs to patients into arrangements for transferring patients to other settings

EPA 6: Acute care

Theme	Acute care	AT-EPA-06
Title	Manage the early care of acutely unwell patients	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> • assess seriously unwell or injured patients, and initiate management • recognise clinical deterioration, and respond by following the local process for escalation of care • recognise and manage acutely unwell patients who require resuscitation • lead the resuscitation team initially, and involve other necessary services • liaise with transport services and medical teams • perform this activity primarily in inpatient settings. 	
Behaviours		
Professional practice framework domain	<p>Ready to perform without supervision</p> <p>Expected behaviours of a trainee who can routinely perform this activity without needing supervision</p> <p>The trainee will:</p> <ul style="list-style-type: none"> • recognise immediate life-threatening conditions and deteriorating and critically unwell patients, and respond appropriately • perform advanced life support, according to resuscitation council guidelines, to a high level of advanced resuscitation skills • demonstrate knowledge of potential risks and complications of resuscitation • effectively assess, diagnose, and manage acute undifferentiated clinical presentations • select investigations that ensure maximum patient safety through excluding or diagnosing critical patient issues • systematically identify causes of acute deterioration in health status and levels of physical and cognitive functioning • manage escalations or transitions of care in a proactive and timely manner • develop plans of multidisciplinary treatment, rehabilitation, and secondary prevention following acute events • provide clear and effective discharge summaries with recommendations for ongoing care 	<p>Requires some supervision</p> <p>Possible behaviours of a trainee who needs some supervision to perform this activity</p> <p>The trainee may:</p> <ul style="list-style-type: none"> • recognise seriously unwell patients requiring immediate care • apply basic life support as indicated • understand general medical principles of caring for patients with undifferentiated and undiagnosed conditions • identify potential causes of current deterioration, and comply with escalation protocols • facilitate initial tests to assist in diagnosis and develop management plans for immediate treatment • document information to outline the rationale for clinical decisions and action plans • assess perioperative and periprocedural patients
Medical expertise		

	<ul style="list-style-type: none"> • optimise medical management before, during, and after operations 	
Communication	<ul style="list-style-type: none"> • communicate clearly with other team members, and coordinate efforts of multidisciplinary team members • use closed-loop and clear communication with other health care team members during resuscitation • facilitate early communication with patients, families, and health care team members to allow shared decision making • negotiate realistic treatment goals, and determine and explain the expected prognoses and outcomes • employ communication strategies appropriate for younger patients or those with cognitive difficulties • explain the situation to patients in a sensitive and supportive manner, avoiding jargon and confirming their understanding • determine the level of health literacy of individual patients and level of understanding of agreed care decisions 	<ul style="list-style-type: none"> • demonstrate communication skills to sufficiently support the function of multidisciplinary teams • if possible, determine patients' understanding of their diseases and what they perceive as the most desirable goals of care
Quality and safety	<ul style="list-style-type: none"> • maintain up-to-date certification in advanced life support • use clinical information technology systems for conducting prospective and retrospective clinical audits • evaluate and explain the benefits and risks of clinical interventions based on individual patients' circumstances • analyse adverse incidents and sentinel events to identify system failures and contributing factors • identify evidence-based practice gaps using clinical indicators, and implement changes to improve patients' outcomes • coordinate and encourage innovation, and objectively evaluate improvement initiatives for outcomes and sustainability 	<ul style="list-style-type: none"> • evaluate the quality of processes through well-designed audits • recognise the risks and benefits of operative interventions • raise appropriate issues for review at morbidity and mortality meetings • evaluate the quality and safety processes implemented within the workplace, and identify gaps in their structure
Teaching and learning	<ul style="list-style-type: none"> • demonstrate effective supervision skills and teaching methods which are adapted to the context of the training • encourage questioning among junior colleagues and students in 	<ul style="list-style-type: none"> • mentor and train others to enhance team effectiveness • provide constructive feedback to junior colleagues to contribute to improvements in individuals' skills

	<ul style="list-style-type: none"> response to unanswered clinical questions seek guidance and feedback from healthcare teams to reflect on the encounter and improve future patients' care 	<ul style="list-style-type: none"> coordinate and supervise junior colleagues from the emergency department and the wards
Research	<ul style="list-style-type: none"> select studies based on optimal trial design, freedom from bias, and precision of measurement evaluate the value of treatments in terms of relative and absolute benefits, cost, potential patient harm, and feasibility evaluate the applicability of the results of clinical studies to the circumstances of individual patients, especially those with multiple comorbidities specify research evidence to the needs of individual patients 	<ul style="list-style-type: none"> demonstrate efficient searching of literature databases to retrieve evidence use information from credible sources to aid in decision making refer to evidence-based clinical guidelines and protocols on acutely unwell patients demonstrate an understanding of the limitations of the evidence and the challenges of applying research in daily practice
Cultural safety	<ul style="list-style-type: none"> negotiate health care decisions in a culturally appropriate way by considering variation in family structures, cultures, religion, or belief systems integrate culturally appropriate care of Aboriginal and Torres Strait Islander and Māori peoples into patients' management consider cultural, ethical, and religious values and beliefs in leading multidisciplinary teams 	<ul style="list-style-type: none"> practise cultural competency appropriate for the community serviced proactively identify barriers to access to healthcare
Ethics and professional behaviour	<ul style="list-style-type: none"> develop management plans that are based on medical assessments of the clinical conditions and multidisciplinary assessments of functional capacity advise patients of their rights to refuse medical therapy, including life-sustaining treatment consider the consequences of delivering treatment that is deemed futile, directing to other care as appropriate facilitate interactions within multidisciplinary teams respecting values, encouraging involvement, and engaging all participants in decision making demonstrate critical reflection on personal beliefs and attitudes, including how these may affect patient care and health care policy 	<ul style="list-style-type: none"> communicate medical management plans as part of multidisciplinary plans establish, where possible, patients' wishes and preferences about care contribute to building a productive culture within teams
Judgement and decision making	<ul style="list-style-type: none"> recognise the need for escalation of care, and escalate to appropriate staff or services 	<ul style="list-style-type: none"> involve additional staff to assist in a timely fashion when required

	<ul style="list-style-type: none"> integrate evidence related to questions of diagnosis, therapy, prognosis, risks, and cause into clinical decision making reconcile conflicting advice from other specialties, applying judgement in making clinical decisions in the presence of uncertainty use care pathways effectively, including identifying reasons for variations in care 	<ul style="list-style-type: none"> recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	<ul style="list-style-type: none"> work collaboratively with staff in the emergency department, intensive care, and other subspecialty inpatient units manage the transition of acute medical patients through their hospital journey lead a team by providing engagement while maintaining a focus on outcomes 	<ul style="list-style-type: none"> collaborate with and engage other team members, based on their roles and skills ensure appropriate multidisciplinary assessment and management encourage an environment of openness and respect to lead effective teams
Health policy, systems, and advocacy	<ul style="list-style-type: none"> use a considered and rational approach to the responsible use of resources, balancing costs against outcomes prioritise patient care based on need, and consider available healthcare resources collaborate with emergency medicine staff and other colleagues to develop policies and protocols for the investigation and management of common acute medical problems 	<ul style="list-style-type: none"> understand the systems for the escalation of care for deteriorating patients understand the role of clinician leadership and advocacy in appraising and redesigning systems of care that lead to better patient outcomes

EPA 7: Longitudinal care

Theme	Longitudinal care	AT-EPA-07
Title	Manage and coordinate the longitudinal care of patients with chronic illness, disability, and/or long-term health issues	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> develop management plans and goals in consultation with patients, carers, and/or families manage chronic and advanced conditions, complications, disabilities, and comorbidities collaborate with other health care providers ensure continuity of care facilitate patients' and/or families' and/or carers' self-management and self-monitoring engage with the broader health policy context. 	
Behaviours		
	Ready to perform without supervision	Requires some supervision
	Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Possible behaviours of a trainee who needs some supervision to perform this activity
	The trainee will:	The trainee may:
Professional practice framework domain	<ul style="list-style-type: none"> regularly assess and review care plans for patients with chronic conditions and disabilities based on short- and long-term clinical and quality of life goals provide documentation on patients' presentation, management, and progress, including key points of diagnosis and decision making to inform coordination of care ensure patients contribute to their needs assessments and care planning monitor treatment outcomes, effectiveness, and adverse events 	<ul style="list-style-type: none"> assess patients' knowledge, beliefs, concerns, and daily behaviours related to their chronic condition and/or disability and its management contribute to medical record entries on the history, examination, and management plan in a way that is accurate and sufficient as a member of multidisciplinary teams
Medical expertise	<ul style="list-style-type: none"> enable patients to more meaningfully engage in management plans by enhancing health literacy and encouraging positive health related behaviours 	<ul style="list-style-type: none"> provide healthy lifestyle advice and information to patients on the importance of self-management work in partnership with patients to develop and refine management plans
Communication	<ul style="list-style-type: none"> encourage patients' access to self-monitoring devices and assistive technologies communicate with multidisciplinary team members, and involve patients in that dialogue 	
Quality and safety	<ul style="list-style-type: none"> use innovative models of chronic disease care using telehealth and digitally integrated support services 	<ul style="list-style-type: none"> participate in continuous quality improvement processes and clinical audits on chronic disease management

	<ul style="list-style-type: none"> review medicine use and ensure patients understand safe medication administration to prevent errors support patients' self-management by balancing between minimising risk and helping patients to become more independent participate in quality improvement processes impacting on patients' abilities to undertake normal activities of daily living 	<ul style="list-style-type: none"> identify activities that may improve patients' quality of life
Teaching and learning	<ul style="list-style-type: none"> contribute to the development of clinical pathways for chronic diseases management based on current clinical guidelines educate patients to recognise and monitor their symptoms, and undertake strategies to assist their recovery 	<ul style="list-style-type: none"> use clinical practice guidelines for chronic diseases management
Research	<ul style="list-style-type: none"> prepare reviews of literature on patients' encounters to present at journal club meetings search for and critically appraise evidence to resolve clinical areas of uncertainty 	<ul style="list-style-type: none"> search literature using Problem/Intervention/Comparison/Outcome (PICO) format recognise appropriate use of review articles
Cultural safety	<ul style="list-style-type: none"> encourage patients from culturally and linguistically diverse backgrounds to join local networks to receive the support needed for long-term self-management 	<ul style="list-style-type: none"> provide culturally safe chronic disease management
Ethics and professional behaviour	<ul style="list-style-type: none"> share information about patients' health care, consistent with privacy laws and confidentiality and professional guidelines use consent processes for the release and exchange of health information assess patients' decision-making capacity, and appropriately identify and use alternative decision makers 	<ul style="list-style-type: none"> share information between relevant service providers acknowledge and respect the contribution of health professionals involved in patients' care
Judgement and decision making	<ul style="list-style-type: none"> implement stepped care pathways in the management of chronic diseases and disabilities recognise patients' needs in terms of both internal resources and external support on a long-term health care journey 	<ul style="list-style-type: none"> recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	<ul style="list-style-type: none"> coordinate whole-person care through involvement in all stages of the patients' care journey use a multidisciplinary approach across services to manage patients with chronic diseases and disabilities 	<ul style="list-style-type: none"> participate in multidisciplinary care for patients with chronic diseases and disabilities, including organisational and community care on a continuing basis, appropriate to patients' context

	<ul style="list-style-type: none"> • develop collaborative relationships with patients, families, carers, and a range of health professionals 	
Health policy, systems, and advocacy	<ul style="list-style-type: none"> • use health screening for early intervention and chronic diseases management • assess alternative models of healthcare delivery to patients with chronic diseases and disabilities • participate in government initiatives for chronic diseases management to reduce hospital admissions and improve patients' quality of life • help patients access initiatives and services for patients with chronic diseases and disabilities 	<ul style="list-style-type: none"> • demonstrate awareness of government initiatives and services available for patients with chronic diseases and disabilities, and display knowledge of how to access them

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EPA 8: Communication with patients

Theme	Communication with patients		AT-EPA-08
Title	Discuss diagnoses and management plans with patients		
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> select a suitable context and include family and/or carers and other team members adopt a patient-centred perspective, including adjusting for cognition and disabilities select and use appropriate modalities and communication strategies structure conversations intentionally negotiate a mutually agreed management plan verify patient, family or carer understanding of information conveyed develop and implement a plan for ensuring actions occur ensure the conversation is documented. 		
Behaviours			
Professional practice framework domain	Ready to perform without supervision	Requires some supervision	
	Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Possible behaviours of a trainee who needs some supervision to perform this activity	
Medical expertise	The trainee will:	The trainee may:	
	<ul style="list-style-type: none"> anticipate and be able to correct any misunderstandings patients may have about their conditions and/or risk factors inform patients of all aspects of their clinical management, including assessments and investigations, and give them adequate opportunity to question or refuse interventions and treatments seek to understand the concerns and goals of patients, and plan management in partnership with them provide information to patients to enable them to make informed decisions about diagnostic, therapeutic, and management options 	<ul style="list-style-type: none"> apply knowledge of the scientific basis of health and disease to the management of patients demonstrate an understanding of the clinical problem being discussed formulate management plans in partnership with patients 	
Communication	<ul style="list-style-type: none"> use an appropriate communication strategy and modalities for communication, such as emails, face-to-face, or phone calls elicit patients' views, concerns, and preferences, promoting rapport provide information to patients in plain language, avoiding jargon, 	<ul style="list-style-type: none"> select appropriate modes of communication engage patients in discussions, avoiding the use of jargon check patients' understanding of information adapt communication style in response to patients' age, developmental level, and cognitive, 	

	<p>acronyms, and complex medical terms</p> <ul style="list-style-type: none"> • encourage questions, and answer them thoroughly • ask patients to share their thoughts or explain their management plan in their own words, to verify understanding • convey information considerately and sensitively to patients, seeking clarification if unsure of how best to proceed • treat children and young people respectfully, and listen to their views • recognise the role of family or carers and, when appropriate, encourage patients to involve their family or carers in decisions about their care 	<p>physical, cultural, socioeconomic, and situational factors</p> <ul style="list-style-type: none"> • collaborate with patient liaison officers as required
Quality and safety	<ul style="list-style-type: none"> • discuss with patients their condition and the available management options, including potential benefits and harms • provide information to patients in a way they can understand before asking for their consent • consider young people's capacity for decision making and consent • recognise and take precautions where patients may be vulnerable, such as issues of child protection, self-harm, or elder abuse • participate in processes to manage patient complaints 	<ul style="list-style-type: none"> • inform patients of the material risks associated with the proposed management plan • treat information about patients as confidential
Teaching and learning	<ul style="list-style-type: none"> • discuss the aetiology of diseases and explain the purpose, nature, and extent of the assessments to be conducted • obtain informed consent or other valid authority before involving patients in teaching 	<ul style="list-style-type: none"> • respond appropriately to information sourced by patients, and to patients' knowledge regarding their condition
Research	<ul style="list-style-type: none"> • provide information to patients that is based on guidelines issued by the National Health and Medical Research Council and/or Health Research Council of New Zealand • provide information to patients in a way they can understand before asking for their consent to participate in research • obtain an informed consent or other valid authority before involving patients in research 	<ul style="list-style-type: none"> • refer to evidence-based clinical guidelines • demonstrate an understanding of the limitations of the evidence and the challenges of applying research in daily practice
Cultural safety	<ul style="list-style-type: none"> • demonstrate effective and culturally competent 	<ul style="list-style-type: none"> • identify when to use interpreters

	<p>communication with Aboriginal and Torres Strait Islander and Māori peoples</p> <ul style="list-style-type: none"> effectively communicate with members of other cultural groups by meeting patients' specific language, cultural, and communication needs use qualified language interpreters or cultural interpreters to help meet patients' communication needs provide plain language and culturally appropriate written materials to patients when possible 	<ul style="list-style-type: none"> allow enough time for communication across linguistic and cultural barriers
<p>Ethics and professional behaviour</p>	<ul style="list-style-type: none"> encourage and support patients to be well informed about their health, and to use this information wisely when they make decisions encourage and support patients and, when relevant, their families or carers, in caring for themselves and managing their health demonstrate respectful professional relationships with patients prioritise honesty, patients' welfare, and community benefit above self-interest develop a high standard of personal conduct, consistent with professional and community expectations support patients' rights to seek second opinions 	<ul style="list-style-type: none"> respect the preferences of patients communicate appropriately, consistent with the context, and respect patients' needs and preferences maximise patient autonomy, and support their decision making avoid sexual, intimate, and/or financial relationships with patients demonstrate a caring attitude towards patients respect patients, including protecting their rights to privacy and confidentiality behave equitably towards all, irrespective of gender, age, culture, socioeconomic status, sexual preferences, beliefs, contribution to society, illness-related behaviours or the illness itself use social media ethically and according to legal obligations to protect patients' confidentiality and privacy
<p>Leadership, management, and teamwork</p>	<ul style="list-style-type: none"> communicate effectively with team members involved in patients' care, and with patients, families and carers discuss medical assessments, treatment plans, and investigations with patients and primary care teams, working collaboratively with all discuss patient care needs with healthcare team members to align them with the appropriate resources facilitate an environment where all team members feel they can contribute and their opinion is valued 	<ul style="list-style-type: none"> answer questions from team members summarise, clarify, and communicate responsibilities of healthcare team members keep healthcare team members focused on patient outcomes

	<ul style="list-style-type: none"> communicate accurately and succinctly, and motivate others on the healthcare team
Health policy, systems, and advocacy	<ul style="list-style-type: none"> collaborate with other services, such as community health centres and consumer organisations, to help patients navigate the healthcare system communicate with and involve other health professionals as appropriate

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EPA 9: Prescribing

Theme	Prescribing	AT-EPA-09
Title	Prescribe therapies tailored to patients' needs and conditions	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> take and interpret medication histories choose appropriate medicines based on an understanding of pharmacology, taking into consideration age, comorbidities, potential drug interactions, risks, and benefits communicate with patients and families or carers about the benefits and risks of proposed therapies provide instructions on medication administration effects and side effects monitor medicines for efficacy and safety review medicines and interactions, and cease where appropriate collaborate with pharmacists. 	
Behaviours		
Professional practice framework domain	Ready to perform without supervision	Requires some supervision
	Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Possible behaviours of a trainee who needs some supervision to perform this activity
Medical expertise	The trainee will:	The trainee may:
	<ul style="list-style-type: none"> identify the patients' conditions requiring pharmacotherapy consider non-pharmacologic therapies consider age, chronic disease status, lifestyle factors, allergies, potential drug interactions, and patient preference prior to prescribing a new medication plan for follow-up and monitoring consider individualised prescribing and education regarding device/method to optimise drug delivery based on patient factors 	<ul style="list-style-type: none"> be aware of potential side-effects and practical prescription points, such as medication compatibility and monitoring in response to therapies select medicines for common conditions appropriately, safely, and accurately demonstrate understanding of the rationale, risks, benefits, side effects, contraindications, dosage, and drug interactions identify and manage adverse events
Communication	<ul style="list-style-type: none"> discuss and evaluate the risks, benefits, and rationale of treatment options, making decisions in partnership with patients write clear and legible prescriptions in plain language, and include specific indications for the anticipated duration of therapy educate patients about the intended use, expected outcomes, and potential side effects for each prescribed medication, addressing the common, rare, and serious effects at the time of prescribing to improve patients' adherence to pharmacotherapy 	<ul style="list-style-type: none"> discuss and explain the rationale for treatment options with patients, families or carers explain the benefits and burdens of therapies, considering patients' individual circumstances write clearly legible scripts or charts using generic names of the required medication in full, including mg/kg/dose information and all legally required information seek further advice from experienced clinicians or pharmacists when appropriate

- describe how the medication should and should not be administered, including any important relationships to food, time of day, and other medicines being taken, including use of spacers and review of inhaler technique
- ensure patients' understanding by repeating back pertinent information, such as when to return for monitoring and whether therapy continues after this single prescription
- identify patients' concerns and expectations, and explain how medicines might affect their everyday lives

Quality and safety

- review medicines regularly to reduce non-adherence, and monitor treatment effectiveness, possible side effects, and drug interactions, ceasing unnecessary medicines
- use electronic prescribing tools where available, and access electronic drug references to prevent errors caused by drug interactions and poor handwriting
- prescribe new medicines only when they have been demonstrated to be safer or more effective at improving patient-oriented outcomes than existing medicines
- participate in clinical audits to improve prescribing behaviour, including an approach to polypharmacy and prescribing cascade
- report suspected adverse events to the Advisory Committee on Medicines, and record it in patients' medical records
- use national real time prescription monitoring services as required when prescribing drugs of dependence
- check the dose before prescribing
- monitor side effects of medicines prescribed
- identify medication errors and institute appropriate measures
- use electronic prescribing systems safely
- rationalise medicines to avoid polypharmacy

Teaching and learning

- use continuously updated software for computers and electronic prescribing programs
- ensure patients understand management plans, including addressing adherence issues
- use appropriate guidelines and evidence-based medicine resources to maintain a working knowledge of current medicines,
- undertake continuing professional development to maintain currency with prescribing guidelines
- reflect on prescribing, and seek feedback from a supervisor

	keeping up to date on new medicines	
Research	<ul style="list-style-type: none"> critically appraise research material to ensure any new medicine improves patient-oriented outcomes more than older medicines, and not just more than placebo use sources of independent information about medicines that provide accurate summaries of the available evidence on new medicines 	<ul style="list-style-type: none"> make therapeutic decisions according to the best evidence recognise where evidence is limited, compromised, or subject to bias or conflict of interest
Cultural safety	<ul style="list-style-type: none"> explore patients' understanding of and preferences for non-pharmacological and pharmacological management offer patients effective choices based on their expectations of treatment, health beliefs, and cost interpret and explain information to patients at the appropriate level of their health literacy anticipate queries to help enhance the likelihood of medicines being taken as advised ensure appropriate information is available at all steps of the medicine management pathway 	<ul style="list-style-type: none"> appreciate patients' cultural and religious backgrounds, attitudes, and beliefs, and how these might influence the acceptability of pharmacological and non-pharmacological management approaches
Ethics and professional behaviour	<ul style="list-style-type: none"> provide information to patients about: <ul style="list-style-type: none"> » indication of medication » action » potential side effects » administration advice » cessation plan make prescribing decisions based on good safety data when the benefits outweigh the risks involved demonstrate understanding of the ethical implications of pharmaceutical industry-funded research and marketing 	<ul style="list-style-type: none"> consider the efficacy of medicines in treating illnesses, including the relative merits of different non-pharmacological and pharmacological approaches follow regulatory and legal requirements and limitations regarding prescribing follow organisational policies regarding pharmaceutical representative visits and drug marketing
Judgement and decision making	<ul style="list-style-type: none"> use a systematic approach to select treatment options use medicines safely and effectively to get the best possible results choose suitable medicines only if medicines are considered necessary and will benefit patients prescribe medicines appropriately to patients' clinical needs, in doses that meet their individual requirements, for a sufficient 	<ul style="list-style-type: none"> recognise personal limitations and seek help in an appropriate way when required consider the following factors for all medicines: <ul style="list-style-type: none"> » contraindications » cost to patients, families, and the community » funding and regulatory considerations » generic versus brand medicines » interactions

	length of time, with the lowest cost to them	» risk-benefit analysis
	<ul style="list-style-type: none"> • evaluate new medicines in relation to their possible efficacy and safety profile for individual patients 	
Leadership, management, and teamwork	<ul style="list-style-type: none"> • interact with medical, pharmacy, and nursing staff to ensure safe and effective medicine use 	<ul style="list-style-type: none"> • work collaboratively with pharmacists • participate in medication safety and morbidity and mortality meetings
Health policy, systems, and advocacy	<ul style="list-style-type: none"> • choose medicines in relation to comparative efficacy, safety, and cost-effectiveness against medicines already on the market • prescribe for individual patients, considering history, current medicines, allergies, and preferences, ensuring that healthcare resources are used wisely for the benefit of patients 	<ul style="list-style-type: none"> • prescribe in accordance with the organisational policy

EPA 10: Procedures

Theme	Procedures	AT-EPA-10
Title	Plan, prepare for, perform, and provide aftercare for important practical procedures	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> select appropriate procedures in partnership with patients, their families or carers obtain informed consent set up the equipment, maintaining an aseptic field perform procedures manage unexpected events and complications during and after procedures provide aftercare for patients communicate aftercare protocols and instructions to patients and medical and nursing staff maintain logbook of procedures and participate in continuing education perform open disclosure and reporting of incidents when required interpret the results and outcomes of procedures, including imaging and reports to patients and referring doctors. 	
Behaviours		
Professional practice framework domain	Ready to perform without supervision	Requires some supervision
	Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Possible behaviours of a trainee who needs some supervision to perform this activity
Medical expertise	The trainee will:	The trainee may:
	<ul style="list-style-type: none"> select procedures by assessing patient-specific factors, risks, benefits, and alternatives confidently and consistently perform a range of common procedures ensure team members are aware of all allergies/adverse reactions identified, and take precautions to avoid allergies/adverse reactions during procedures ensure patients have complied with pre-procedure preparation confirm the correct position/site/side/level on patients for planned procedures recognise and manage effectively complications arising during or after procedures recognise and correctly interpret normal and abnormal findings of diagnostic procedures demonstrate a level of procedural proficiency in flexible bronchoscopy/intercostal catheter insertion prior to focusing on more advanced procedures (e.g., radial 	<ul style="list-style-type: none"> assess patients and identify indications for procedures check for allergies and adverse reactions consider risks and complications of procedures interpret results of common diagnostic procedures organise and document post-procedure review of patients

	<p>endobronchial ultrasound, rigid bronchoscopy, cryotherapy) or pleural procedures (tunnelled pleural catheter, thoracoscopy) and understand their role in respiratory scope of practice.</p>
<p>Communication</p>	<ul style="list-style-type: none"> • accurately document procedures in the clinical notes, including informed consent, procedures requested and performed, reasons for procedures, medicines given, aseptic technique, and aftercare • explain procedures clearly to patients, families and carers, including reasons for procedures, potential alternatives, and possible risks, to facilitate informed choices • counsel patients sensitively and effectively, and support them to make informed choices • address patients', families' or carers' concerns relating to procedures, providing opportunities to ask questions • tailor language according to individual patients' age and capacity to understand • communicate effectively with team members, patients, families, and carers prior to, during, and after procedures • ensure team members are confident and competent in their assigned roles
<p>Quality and safety</p>	<ul style="list-style-type: none"> • obtain informed consent or other valid authority before undertaking any procedure • set up all necessary equipment, and consistently use universal precautions and aseptic technique • confirm patients' identification, verify the procedure, and, where appropriate, the correct position/site/side/level for the procedure • ensure that information on patients' consent forms matches procedures to be performed • identify, document, and appropriately notify of any adverse events or equipment malfunction • maintain procedural logbooks with incorporation of procedure details, outcomes and adverse events, engage in regular self-audit processes and implement quality improvement changes when required <ul style="list-style-type: none"> • explain the process of procedures to patients without providing a broader context • help patients, families and carers to choose the procedure • communicate with members of procedural teams so all team members understand who each member is • discuss post-procedural care with patients, families and carers • complete relevant patients' documentation, and conduct an appropriate clinical handover <ul style="list-style-type: none"> • provide information in a manner so that patients, families, and carers are fully informed when consenting to any procedures • demonstrate an inconsistent application of aseptic technique • identify patients using approved patients' identifiers before any treatment or intervention is initiated • attempt to perform a procedure in an unsafe environment

Teaching and learning	<ul style="list-style-type: none"> • refer to and/or be familiar with relevant published procedural guidelines prior to undertaking procedures • organise or participate in in-service training on new technology • provide specific and constructive feedback and comments to junior colleagues • initiate and conduct skills training for junior staff and other team 	<ul style="list-style-type: none"> • participate in continued professional development • help junior colleagues to develop new skills • actively seek feedback on personal technique until competent
Cultural safety	<ul style="list-style-type: none"> • consider individual patients' cultural perception of health and illness, and adapt practice accordingly 	<ul style="list-style-type: none"> • respect religious, cultural, linguistic, and family values and differences
Ethics and professional behaviour	<ul style="list-style-type: none"> • confidently perform common procedures • identify appropriate proxy decision makers when required • show respect for knowledge and expertise of colleagues • maximise patient autonomy in decision making 	<ul style="list-style-type: none"> • perform procedures when adequately supervised • follow procedures to ensure safe practice
Judgement and decision making	<ul style="list-style-type: none"> • identify roles and optimal timing for diagnostic procedures • critically appraise information from assessment and evaluation of risk/benefit to prioritise patients on a waiting list • make clinical judgements and decisions based on the available evidence • select the most appropriate and cost-effective diagnostic procedures • adapt procedures in response to assessments of risks to individual patients • select appropriate investigations on the samples obtained in diagnostic procedures 	<ul style="list-style-type: none"> • prioritise which patients receive procedures first (if there is a waiting list) • assess personal skill levels, and seek help with procedures when appropriate • use tools and guidelines to support decision making • recommend suboptimal procedures for patients
Leadership, management, and teamwork	<ul style="list-style-type: none"> • explain critical steps, anticipated events, and equipment requirements to teams on planned procedures • provide staff with clear aftercare instructions, and explain how to recognise possible complications • identify relevant management options with colleagues, according to their level of training and experience, to reduce error, prevent complications, and support efficient teamwork • coordinate efforts, encourage others, and accept responsibility for work done 	<ul style="list-style-type: none"> • ensure all relevant team members are aware that a procedure is occurring • discuss patients' management plans for recovery with colleagues

Health policy,
systems, and
advocacy

- discuss serious incidents at appropriate clinical review meetings
 - initiate local improvement strategies in response to serious incidents
 - use resources efficiently when performing procedures
 - perform procedures in accordance with the organisational guidelines and policies
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Procedure/ investigation	Select and evaluate the anticipated value of the procedure	Obtain informed consent	#Procedural proficiency & competence	Manage/discuss complications	Provide after-care for patients.	Interpret results	Communicate with patients and other health care providers	Maintenance of procedural log- book and continuing education
Arterial Blood Gas	✓	✓	M	✓	✓	✓	✓	
Advanced therapeutic modality usage: APC, Nd-YAG laser, cryotherapy, endobronchial valve insertion	✓	✓	O	✓	✓	✓	✓	✓
Autologous blood patch pleurodesis	✓	✓	D	✓	✓	✓	✓	✓
Bronchoscopy	✓	✓	M	✓	✓	✓	✓	✓
Bronchial thermoplasty	✓	✓	O	✓	✓	✓	✓	✓
Central airway debulking or stent placement	✓	✓	O	✓	✓	✓	✓	✓
Closed pleural biopsy	✓	✓	O	✓	✓	✓	✓	✓
Cryobiopsy	✓	✓	O	✓	✓	✓	✓	✓
Fine bore intercostal catheter insertion	✓	✓	M	✓	✓	✓	✓	✓
Intrapleural fibrinolysis	✓	✓	D	✓	✓	✓	✓	✓
Large bore drain insertion	✓	✓	O	✓	✓	✓	✓	✓
Linear endobronchial ultrasound	✓	✓	D	✓	✓	✓	✓	✓
Navigational bronchoscopic techniques	✓	✓	O	✓	✓	✓	✓	✓
Needle thoracentesis	✓	✓	M	✓	✓	✓	✓	✓
Oesophageal ultrasound with ultrasound bronchoscope (EUS-B)	✓	✓	O	✓	✓	✓	✓	✓
Radial endobronchial ultrasound	✓	✓	D	✓	✓	✓	✓	✓
Rigid bronchoscopy	✓	✓	O	✓	✓	✓	✓	✓
Talc pleurodesis	✓	✓	M	✓	✓	✓	✓	✓
Thoracic and pleural ultrasound	✓	✓	M	✓	✓	✓	✓	✓

Procedure/ investigation	Select and evaluate the anticipated value of the procedure	Obtain informed consent	#Procedural proficiency & competence	Manage/discuss complications	Provide after-care for patients.	Interpret results	Communicate with patients and other health care providers	Maintenance of procedural log- book and continuing education
Transbronchial forceps lung biopsy	✓	✓	D	✓	✓	✓	✓	✓
Tunnelled indwelling pleural catheter insertion and removal	✓	✓	D	✓	✓	✓	✓	✓

These procedures may be considered within scope of practice in Respiratory Medicine, however additional training and demonstration of competence is suggested: M – Mandatory, D – Desired, O – Optional (depending on exposure). Procedural competence includes procedure set up.

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EPA 11: Investigations

Theme	Investigations	AT-EPA-11
Title	Select, organise, and interpret investigations	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> select, plan, and arrange evidence-based clinically appropriate investigations prioritise patients receiving investigations (if there is a waiting list) evaluate the anticipated value of the investigation work in partnership with patients and their families or carers to facilitate choices that are right for them provide aftercare for patients (if needed) interpret the results and outcomes of investigations communicate the outcome of investigations to patients and referring doctors 	
Behaviours		
Professional practice framework Domain	<p>Ready to perform without supervision</p> <p>Expected behaviours of a trainee who can routinely perform this activity without needing supervision</p> <p>The trainee will:</p>	<p>Requires some supervision</p> <p>Possible behaviours of a trainee who needs some supervision to perform this activity</p> <p>The trainee may:</p>
	<p>Medical expertise</p> <ul style="list-style-type: none"> choose evidence-based investigations and frame them as an adjunct to comprehensive clinical assessments assess patients' concerns, and determine the need for specific tests that are likely to result in overall benefit develop plans for investigations, identifying their roles and timing recognise and correctly interpret abnormal findings, considering patients' specific circumstances, and act accordingly 	<ul style="list-style-type: none"> provide rationale for investigations understand the significance of abnormal test results and act on these consider patient factors and comorbidities consider age-specific reference ranges
Communication	<ul style="list-style-type: none"> explain to patients the potential benefits, risks, costs, burdens, and side effects of each option, including the option to have no investigations use clear and simple language, and check that patients understand the terms used and agree to proceed with proposed investigations identify patients' concerns and expectations, providing adequate explanations on the rationale for individual test ordering confirm whether patients have understood the information they have been given and the need for more information before deciding 	<ul style="list-style-type: none"> discuss the indications, risks, benefits, and complications of investigations with patients before ordering investigations explain the results of investigations to patients arrange investigations, providing accurate and informative referrals, and liaise with other services where appropriate

	<ul style="list-style-type: none"> • use written or visual material or other aids that are accurate and up to date to support discussions with patients • explain findings or possible outcomes of investigations to patients, families and carers • give information that patients may find distressing in a considerate way 	
Quality and safety	<ul style="list-style-type: none"> • identify adverse outcomes that may result from a proposed investigation, focusing on patients' individual situations 	<ul style="list-style-type: none"> • consider safety aspects of investigations when planning them • seek help with interpretation of test results for less common tests or indications or unexpected results
Teaching and learning	<ul style="list-style-type: none"> • use appropriate guidelines, evidence sources, and decision support tools • participate in clinical audits to improve test ordering strategies for diagnoses and screening • undertake continuing professional development to maintain currency with investigation guidelines 	<ul style="list-style-type: none"> • undertake professional development to maintain currency with investigation guidelines
Research	<ul style="list-style-type: none"> • provide patients with relevant information if a proposed investigation is part of a research program • obtain written consent from patients if the investigation is part of a research program 	<ul style="list-style-type: none"> • refer to evidence-based clinical guidelines • consult current research on investigations
Cultural safety	<ul style="list-style-type: none"> • understand patients' views and preferences about any proposed investigation and the adverse outcomes they are most concerned about 	<ul style="list-style-type: none"> • consider patients' cultural and religious backgrounds, attitudes, and beliefs, and how these might influence the acceptability of proposed investigations
Ethics and professional behaviour	<ul style="list-style-type: none"> • remain within the scope of the authority given by patients (except for emergencies) • discuss with patients how decisions will be made once the investigation has started, and the patient is not able to participate in decision making • respect patients' decisions to refuse investigations, even if their decisions may not be appropriate or evidence based • advise patients there may be additional costs, which patients may wish to clarify before proceeding • explain the expected benefits as well as the potential burdens and risks of any proposed investigation before obtaining informed consent or other valid authority 	<ul style="list-style-type: none"> • identify appropriate proxy decision makers when required • choose not to investigate in situations where it is not appropriate for ethical reasons • practise within current ethical and professional frameworks • practise within own limits, and seek help when needed • involve patients in decision making regarding investigations, obtaining the appropriate informed consent, including financial consent, if necessary

	<ul style="list-style-type: none"> demonstrate awareness of complex issues related to genetic information obtained from investigations, and subsequent disclosure of such information 	
Judgement and decision making	<ul style="list-style-type: none"> evaluate the costs, benefits, and potential risks of each investigation in a clinical situation adjust the investigative path depending on test results received consider whether patients' conditions may get worse or better if no tests are selected 	<ul style="list-style-type: none"> choose the most appropriate investigation for the clinical scenario in discussion with patients recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	<ul style="list-style-type: none"> consider the role other members of the healthcare team might play, and what other sources of information and support are available ensure results are checked in a timely manner, taking responsibility for following up results 	<ul style="list-style-type: none"> demonstrate understanding of what parts of an investigation are provided by different doctors or health professionals
Health policy, systems, and advocacy	<ul style="list-style-type: none"> select and justify investigations regarding the pathological basis of disease, appropriateness, utility, safety, and cost effectiveness consider resource utilisation through peer review of testing behaviours 	

EPA 12: Clinic management

Theme	Clinic management		AT-EPA-12
Title	Manage an outpatient clinic		
Description	This activity requires the ability to: <ul style="list-style-type: none"> manage medical procedures and treatments manage clinic services oversee quality improvement activities communicate with patients, their families and/or carers liaise with other health professionals and team members demonstrate problem-solving skills responsibly use public resources. 		
Behaviours			
Professional practice framework domain	Ready to perform without supervision	Requires some supervision	
	Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:	
Medical expertise	<ul style="list-style-type: none"> effectively identify and address current clinical concerns, as well as longer-term clinical objectives, as appropriate to patients' context evaluate environmental and lifestyle health risks, and advocate for healthy lifestyle choices create an accurate and appropriately prioritised problem list in the clinical notes or as part of an ambulatory care review update documentation in a time frame appropriate to the clinical situation of patients know when to refer your patient on for specialist review in another specialty or to another member of the MDT 	<ul style="list-style-type: none"> demonstrate understanding of the importance of prevention, early detection, health maintenance, and chronic condition management 	
Communication	<ul style="list-style-type: none"> help patients navigate the healthcare system to improve access to care by collaboration with other services, such as community health centres and consumer organisations link patients to specific community-based health programs and group education programs 	<ul style="list-style-type: none"> wherever practical, meet patients' specific language and communication needs facilitate appropriate use of interpreter services and translated materials 	
Quality and safety	<ul style="list-style-type: none"> practice health care that maximises patient safety adopt a systematic approach to the review and improvement of professional practice in the outpatient clinic setting 	<ul style="list-style-type: none"> take reasonable steps to address issues if patients' safety may be compromised understand a systematic approach to improving the quality and safety of health care 	

	<ul style="list-style-type: none"> identify aspects of service provision that may be a risk to patients' safety ensure that patients are informed about fees and charges 	<ul style="list-style-type: none"> participate in organisational quality and safety activities, including clinical incident reviews
Teaching and learning	<ul style="list-style-type: none"> evaluate their own professional practice demonstrate learning behaviour and skills in educating junior colleagues contribute to the generation of knowledge maintain professional continuing education standards 	<ul style="list-style-type: none"> recognise the limits of personal expertise, and involve other professionals as needed to contribute to patients' care use information technology appropriately as a resource for modern medical practice
Research	<ul style="list-style-type: none"> obtain informed consent or other valid authority before involving patients in research inform patients about their rights, the purpose of the research, the procedures to be undergone, and the potential risks and benefits of participation before obtaining consent 	<ul style="list-style-type: none"> allow patients to make informed and voluntary decisions to participate in research
Cultural safety	<ul style="list-style-type: none"> apply knowledge of the cultural needs of the community serving, and how to shape service to those people mitigate the influence of own culture and beliefs on interactions with patients and decision making adapt practice to improve patient engagement and health outcomes 	<ul style="list-style-type: none"> acknowledge the social, economic, cultural, and behavioural factors influencing health, both at individual and population levels
Ethics and professional behaviour	<ul style="list-style-type: none"> identify and respect the boundaries that define professional and therapeutic relationships respect the roles and expertise of other health professionals comply with the legal requirements of preparing and managing documentation demonstrate awareness of financial and other conflicts of interest 	<ul style="list-style-type: none"> understand the responsibility to protect and advance the health and wellbeing of individuals and communities maintain the confidentiality of documentation, and store clinical notes appropriately ensure that the use of social media is consistent with ethical and legal obligations
Judgement and decision making	<ul style="list-style-type: none"> integrate prevention, early detection, health maintenance, and chronic condition management, where relevant, into clinical practice work to achieve optimal and cost-effective patient care that allows maximum benefit from the available resources 	<ul style="list-style-type: none"> understand the appropriate use of human resources, diagnostic interventions, therapeutic modalities, and health care facilities

Leadership,
management,
and teamwork

- prepare for and conduct clinical encounters in a well-organised and time-efficient manner
- work effectively as a member of multidisciplinary teams or other professional groups
- ensure that all important discussions with colleagues, multidisciplinary team members, and patients are appropriately documented
- review discharge summaries, notes, and other communications written by junior colleagues
- support colleagues who raise concerns about patients' safety
- attend relevant clinical meetings regularly

Health policy,
systems, and
advocacy

- demonstrate capacity to engage in the surveillance and monitoring of the health status of populations in the outpatient setting
 - maintain good relationships with health agencies and services
 - apply the principles of efficient and equitable allocation of resources to meet individual, community, and national health needs within public and private settings.
 - understand common population health screening and prevention approaches
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EPA 13: Palliative care

Theme	End-of-life care	AT-EPA-13
Title	Manage the care of patients with severe or intractable symptoms or at the end of their lives	
Description	<p>This activity requires the ability to:</p> <ul style="list-style-type: none"> manage severe or intractable symptoms recognise the dying phase support patients to plan for their advance care, and document their own wishes manage end-of-life care plans. 	
Behaviours		
Professional practice framework domain	Ready to perform without supervision	Requires some supervision
	Expected behaviours of a trainee who can routinely perform this activity without needing supervision	Possible behaviours of a trainee who needs some supervision to perform this activity
	The trainee will:	The trainee may:
Medical expertise	<ul style="list-style-type: none"> accurately assess patients' physical and psychological symptoms estimate prognosis and communicate this appropriately, if requested, including the uncertainties around such estimates develop and clearly document individualised end-of-life care plans, including patients' preferences for treatment options, resuscitation plans, preferred place of care, and preferred place of death provide holistic symptom management and incorporate multidisciplinary care focusing on psychological and physical distress, according to patients' wishes avoid unnecessary investigations or treatments, ensuring physical and psychosocial support review the goals of care and treatment plans with patients, families, or carers if significant changes in patients' conditions or circumstances occur recognise and manage the terminal phase in a timely way 	<ul style="list-style-type: none"> demonstrate an understanding of the principles of care for patients at the end of their lives provide timely assessment and document patients' care plans manage physical symptoms in alignment with patients' wishes take steps to alleviate patients' symptoms and distress correctly identify patients approaching the end of life, and provide symptomatic treatment adequately manage patients in their terminal phase
Communication	<ul style="list-style-type: none"> establish supportive relationships with patients, families, or carers based on understanding, trust, empathy, and confidentiality 	<ul style="list-style-type: none"> discuss with patients, family, or carers the goals of care and treatment, and document this in patients' clinical records

	<ul style="list-style-type: none"> • explore patients' concerns across physical, spiritual, cultural, and psychological domains thoughtfully • identify opportunities to discuss end-of-life care, aligning it with patients' values and preferences • identify proxy decision makers patients' wish to be involved in discussions about their end-of-life care • identify and document lists of close family members or carers, and develop support plans with and for them • provide bereaved families or carers with written information about access to bereavement support • communicate effectively and in a timely manner with other health professionals involved in patients' care 	<ul style="list-style-type: none"> • ensure consistent messages are given to patients, families, or carers about treatment options, their likelihood of success, risks, and prognosis • provide an honest and clear clinical assessment summary of the situation, using plain language and avoiding medical jargon • discuss with family or carers appropriate support and bereavement care
Quality and safety	<ul style="list-style-type: none"> • conduct medication chart safety audits, and multidisciplinary mortality and morbidity meetings, and provide feedback to colleagues • develop monitoring and evaluation strategies to capture feedback about the quality of care from multidisciplinary team members, patients, families, and carers • review all deaths to determine the safety and quality of patients' end-of-life care and how it could be improved • review technological systems and processes that support safe and high-quality end-of-life care 	<ul style="list-style-type: none"> • collect and review data on the safety and effectiveness of end-of-life care delivery • communicate the content of discussions about prognosis and advance care planning to multidisciplinary teams • ensure that actual care is aligned with patients' documented wishes
Teaching and learning	<ul style="list-style-type: none"> • provide supervision, support, and teaching to develop the skills of junior colleagues on end-of-life care • reflect on personal practice and use this process to guide continuing professional development • ensure all members of multidisciplinary teams receive education on their roles and responsibilities for managing end-of-life care • promote education covering: <ul style="list-style-type: none"> » ethical and medicolegal issues » relevant legislation in the state, territory, or region 	<ul style="list-style-type: none"> • participate in education on disease-specific symptom assessment and evidence-based symptom management • participate in upskilling in best practice of end-of-life care management • encourage junior colleagues to participate in multidisciplinary case reviews, mortality and morbidity meetings, and adverse event reviews

	<ul style="list-style-type: none"> » competencies for providing culturally responsive end-of-life care to Aboriginal and Torres Strait Islander and Māori peoples, and to people from other cultural backgrounds 	
Research	<ul style="list-style-type: none"> • ensure that quality end-of-life care or symptom management processes are evidence based and outcome focused • use systematic reviews or personal reviews and appraisal of the literature as evidence for the appropriate management • support clinical trials to build the end-of-life care evidence base 	<ul style="list-style-type: none"> • recognise that the evidence may be insufficient to resolve uncertainty and make definitive decisions
Cultural safety	<ul style="list-style-type: none"> • practise culturally safe medicine based on understanding the personal, historical, and cultural influences on patients, families and carers • develop strategies for identifying culturally appropriate decision makers, and obtain their input in discussions of patients' end-of-life care • offer support to patients, families and carers to include cultural or religious practices in their care 	<ul style="list-style-type: none"> • understand, respect, and respond to individual preferences and needs of patients, regardless of their culture and religious beliefs • support patients, families and carers with communication difficulties associated with cultural and linguistic diversity
Ethics and professional behaviour	<ul style="list-style-type: none"> • ensure all team members discuss end-of-life care with patients, and act on expressed patient preferences • ensure focus of care is on quality of life for patients before death and minimise pain and suffering caused by ineffective treatments • recognise the complexity of ethical issues related to human life and death, when considering the allocation of scarce resources • recognise feelings of moral distress and burnout in themselves and colleagues 	<ul style="list-style-type: none"> • ensure that information on advance care plans, treatment plans, goals of care, and patients' treatment preferences is available to all involved in patients' care • ensure patients' dignity is preserved • respond appropriately to distress or concerns of colleagues, patients, families, and carers
Judgement and decision making	<ul style="list-style-type: none"> • maximise patients' autonomy and their best interests when making treatment decisions • liaise with other relevant services, providing referrals as necessary 	<ul style="list-style-type: none"> • define and document patients', families' or carers' goals and agreed outcomes
Leadership, management, and teamwork	<ul style="list-style-type: none"> • ensure care plans are communicated to all teams involved in patients' care, including relevant community care providers • define the responsibilities and roles of team members involved in patients' care 	<ul style="list-style-type: none"> • coordinate end-of-life care to minimise fragmentation of care • document multidisciplinary care plans, including the terminal phase

-
- achieve agreement between multidisciplinary teams about patients' treatment options
 - coordinate care and support to be provided in patients' preferred place of care
 - effectively manage personal challenges of dealing with death and grief

Health policy, systems, and advocacy

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- participate in developing frameworks for organisational advance care planning
 - allocate resources according to the organisational strategic plan to support systems for effective delivery of end-of-life care and improvement of quality of life for patients with distressing symptoms
 - advocate for the needs of individual patients, social groups, and cultures within the community who have specific palliative care needs or inequitable access to palliative care services
- allocate scarce health care resources effectively
 - support community-based service providers to build capacity for people to be cared in their preferred place of death
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Knowledge guides

Knowledge guides provide detailed guidance to trainees on the important topics and concepts trainees need to understand to become experts in their chosen specialty.

Trainees are not expected to be experts in all areas or have experience related to all items in these guides.



#	Title
1	Scientific foundations of respiratory medicine
2	Acute respiratory care
3	Chronic respiratory care
4	Thoracic tumours, including mediastinal diseases
5	Pleural disorders
6	Respiratory failure, including sleep disordered breathing

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

Advanced Trainees will have in-depth knowledge of the topics listed under each clinical sciences heading.

For the statistical and epidemiological concepts listed, trainees should be able to describe the underlying rationale, the indications for using one test or method over another, and the calculations required to generate descriptive statistics.

- Structure and function of the respiratory system
 - » Lung development
 - normal development
 - surfactant physiology
 - the effects of early life lung disease on long term health
 - » The normal and abnormal structural components of the respiratory system
 - alveoli (including Type 2 cells, Clara, and Goblet cells etc)
 - chemoreceptors
 - chest wall
 - interstitium
 - lower airway segments (1-19)
 - mediastinal lymph node stations
 - pulmonary vasculature
 - respiratory control centres
 - respiratory muscles
 - smooth muscle and receptors
 - upper airway anatomy
 - » Pulmonary physiology
 - acid-base balance
 - alveolar gas equation
 - control of ventilatory drive
 - diffusion
 - mechanics of breathing
 - metabolic functions of the lung
 - peripheral blood flow, gas transport and oxygen-haemoglobin dissociation
 - physiological changes and compensations under altered states:
 - pulmonary blood flow, vascular resistance and heart-lung circulatory relationships
 - ventilation and gas exchange, including ventilation perfusion relationships
 - ageing
 - diving physiology
 - exercise
 - high altitude physiology
 - pregnancy
 - » Immunology and host defence mechanisms
 - acquired immunity
 - antibody classes and function
 - atopy and hypersensitivity reactions
 - autoimmunity
 - cell mediated immunity
 - effects of systemic and localised immunodeficiency (e.g., GM-CSF antibody syndrome) on lung health
 - humoral immunity
 - innate immunity
 - lung microbiome
 - pulmonary defence mechanisms
 - pulmonary defence mechanisms, particularly the role, makeup and function of mucus, cilia, cough
 - transplant immunology
 - vaccines and vaccine responses
- Pharmacology

- » aerosol drug delivery
 - aerosol delivery through different interfaces
e.g., spacers, facemasks, high flow circuits, invasive and non-invasive positive pressure ventilation
 - mechanisms and adverse effects of aerosol treatments
 - principles of aerosol delivery to the lungs
 - principles of infection control in aerosol therapy
 - principles of pressurised metered dose inhalers, dry powder inhalers, and nebulisers
- » biologics in respiratory disease
- » dosing and side-effects
- » drug interactions and contra-indications of medications
- » effects of non-respiratory medications on the respiratory system
- » formulations of medications
- » mechanism of action
- » monitoring of drug levels
- » pharmacodynamics
- » screening for adverse effects
- Environmental factors
 - » air pollution
 - » effect of altitude and diving on lung disease
 - » occupational and environmental toxins, including silica dust and asbestos
 - medico-legal implications of occupational dust exposure
 - methods for screening for occupational dust exposure and related disease
 - » smoking (tobacco and marijuana) and vaping
 - the adverse effects on health
 - the specific effects on respiratory health
 - methods for screening for exposure to environmental tobacco smoke, including urinary/salivary cotinine
- Principles of statistics and epidemiology
 - » basic statistics
 - » critical appraisal of published research and appropriate application towards clinical care.
 - » levels of evidence and classes of recommendations
 - » population risk determinants of respiratory disease

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Advanced Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the reported results of each investigation or procedure. Advanced Trainees will know how to explain the investigation or procedure to patients, families, and carers, and be able to explain procedural risk and

Investigations

- Radiological, serological, cytological, histological, and ancillary testing for primary lung disease and systemic disorders with pulmonary overlap
 - » sweat test and genotyping for cystic fibrosis
 - » allergy and delayed hypersensitivity tests
 - » cilia studies
 - ciliary function testing
 - electron microscopy for ciliary ultrastructure
 - nasal nitric oxide testing
- Blood gas analysis, including interpretation of arterial, venous, capillary samples.
- Lung function tests
 - » spirometry, including office/ bedside testing
 - » bronchodilator response
 - » lung volume assessment techniques
 - » diffusion assessment
 - » bronchial provocation testing, including direct and indirect methods
 - » fraction of exhaled nitric oxide

obtain informed consent where applicable.

- » respiratory muscle testing, including maximal inspiratory and expiratory pressures, sniff nasal inspiratory pressures, supine spirometry, cough peak flow
- » calculations of shunt fraction
- » high altitude simulation tests
- » forced oscillometry testing
- » six-minute walk test
- » cardiopulmonary exercise testing
- Technical aspects of lung function testing
 - » clinical interpretation of test results, and appreciation of clinically meaningful change.
 - » clinical versus research role of the above investigations.
 - » margins of error, operator-dependant and patient-related factors and their implications
 - » methods of performing tests
 - » reference values and their limitations
- Radiological investigations
 - » chest x-ray
 - » computed tomography of the chest
 - » scintigraphy/nuclear medicine tests
 - positron emission tomography (PET) with/without integrated computer tomography
 - ventilation/ perfusion scans
 - » ultrasonography
 - doppler ultrasound imaging and flow studies
 - thoracic and pleural ultrasound
 - trans-thoracic echocardiography
 - » fluoroscopy
 - » magnetic resonance imaging of the chest
 - » contrast swallow tests
- Oximetry, including continuous/ overnight studies
- Oesophageal manometry and pH monitoring
- Positive airway pressure device downloads
- Capnography, including exhaled and transcutaneous samples.
- Polysomnography
 - » address the benefits and limitations of different levels of polysomnography testing

Procedures

- Bronchoscopy
 - » Anatomy:
 - airway anatomy
 - normal anatomical variants of airways
 - visual appearance of upper and lower airway pathology (e.g. subglottic lesions, tumours)
 - » Techniques:
 - anaesthesia, airway protection and ventilation strategies for bronchoscopic procedures
 - methods of introduction of bronchoscopes, including nasal intubation, oral intubation with mouth/bite guard, laryngeal mask airway (LMA), endotracheal tube (ETT), and direct tracheostomy approaches
 - rigid bronchoscopy, flexible bronchoscopy including single use instrumentation, linear and radial endobronchial ultrasound
 - navigational techniques: bronchial branch tracing (Kurimoto technique), electromagnetic navigation, robotic navigation, navigational software, fluoroscopy, cone beam CT
 - » Investigations:
 - cytology and/or microbiology from washings/ bronchoalveolar lavage fluid

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- cytology and/or microbiology from brushings
 - histology and/or microbiology from forceps bronchial and transbronchial biopsies
 - histology and/or microbiology from cryobiopsy
 - cytology and/or microbiology from fine needle aspiration and transbronchial core needle biopsies
 - collateral ventilation assessment
 - assessment and quantification of dynamic airway collapse
 - » Therapeutic techniques:
 - bronchoscopic drug delivery
 - large airway debulking or stent placement
 - endobronchial lung volume reduction
 - foreign body removal
 - advanced therapeutic modalities: APC, Nd-YAG laser, cryotherapy
 - management of persistent air leak
 - therapeutics under investigation including thermal vapour, microwave ablation,
 - » the processes for sterilisation and maintenance of bronchoscopic equipment
 - » applications and use of single-use/disposable bronchoscopes
 - » management of intra- and postoperative complications
 - Pleural procedures
 - » physiology and biochemistry of pleural fluid
 - » normal and abnormal anatomy of the pleura
 - » diagnostic and therapeutic indications for pleural procedures
 - » risks and benefits of each of the diagnostic/therapeutic interventions
 - » selection and assessment of patients for procedural intervention
 - » sedation, topical anaesthesia and analgesia
 - » utility of ultrasonography in assessment and management of pleural disorders
 - » Procedure techniques:
 - anaesthesia (local, regional and general approaches)
 - closed pleural biopsy (Abrams and image-guided techniques)
 - indwelling tunnelled pleural catheter insertion and removal
 - large bore intercostal catheter insertion
 - needle thoracentesis,
 - small bore intercostal catheter insertion
 - thoracoscopy
 - underwater seal drainage systems, including digital ambulatory systems
 - » Therapeutic interventions:
 - pleural fluid drainage
 - pleural infection management using intrapleural fibrinolytic plus mucolytic therapy, saline irrigation, and basic knowledge of surgical options.
 - pleurodesis (slurry and poudrage)
 - pneumothorax management
 - advanced management of persistent air leak, including talc insufflation, blood patch pleurodesis, endobronchial interventions, and basic knowledge of surgical options

IMPORTANT SPECIFIC ISSUES

Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis, management and outcomes.

The following issues apply to all knowledge guides:

- Procedural competence for respiratory interventions:
 - » flexible bronchoscopy
 - » intercostal catheter insertion
 - » linear endobronchial ultrasound
 - » thoracic and pleural ultrasound
- Advanced certification or training (generally beyond scope of advanced training) for advanced procedural interventions, including:
 - » advanced bronchoscopic therapeutic interventions
 - » endobronchial lung volume reduction
 - » indwelling tunnelled pleural catheter insertion and removal
 - » large airway management
 - » navigational techniques
 - » radial endobronchial ultrasound
- Patient care considerations for specific patient groups and those with culturally diverse backgrounds, including:
 - » Aboriginal and Torres Strait Islander background, ethnic minorities, religious ideologies (e.g., Jehovah's witness), refugees, overseas travellers, low socio-economic background, non-English speaking background
 - » adolescent, elderly, pregnant and peripartum states
- Recognise the inter-relationship and impact of comorbidities and respiratory conditions on each other, with respect to clinical presentation, diagnostics, management, prognostics and impact of illness.
- Engage in preventive and adjunctive care for patients with respiratory disease, including a focus on smoking cessation, vaccinations, and pulmonary rehabilitation.
- Incorporate principles of entrustable professional activities into clinical management of respiratory disease

KEY PRESENTATIONS AND CONDITIONS

Advanced Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Abnormal chest radiology (including chest x-ray or computed tomography)
- Chest pain
- Chest tightness
- Cough
- Dyspnoea
- Fatigue
- Fever
- Haemoptysis
- Hypercapnia
- Night sweats
- Orthopnoea
- Respiratory failure, including Hypoxaemia
- Sleep disruption
- Snoring
- Somnolence
- Sputum production
- Stertor
- Stridor
- Symptoms related to occupational or environmental exposure
- Tachypnoea
- Weight loss
- Wheeze

Conditions

Airways disorders

- Acute exacerbation of obstructive airways disease, including:
 - » asthma,
 - » chronic obstructive pulmonary disease
 - » bronchiolitis, bronchiectasis (CF and non-CF related)
 - » allergic bronchopulmonary aspergillosis

Large airways disorders

- Acute/subacute or critical upper airway obstruction, including:
 - » Malignant central airway obstruction
 - » Tracheo- and broncho-oesophageal fistula
 - » Subglottic stenosis
 - » Tracheal stenosis
 - » Foreign body aspiration

For each presentation and condition, Advanced Trainees will **know how to**:

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, prevalence, pathophysiology, and clinical science
- » take a comprehensive clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients and their quality of life when developing a management plan

Manage

- » provide evidence-based management
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

Diffuse parenchymal lung disorders

- Acute eosinophilic pneumonia
- Acute exacerbation of connective tissue disease-related and other interstitial lung disease
- Acute exacerbation of idiopathic pulmonary fibrosis
- Acute hypersensitivity pneumonitis
- Acute interstitial pneumonia
- Acute pulmonary oedema
- Acute rejection post lung transplantation
- Acute respiratory distress syndrome
- Drug induced pneumonitis
- Organising pneumonia
- Radiation pneumonitis

Pulmonary vascular disorders

- Pulmonary vasculitis
- Diffuse alveolar haemorrhage
- Acute or massive haemoptysis
- Pulmonary embolism
- Acute right ventricular failure secondary to lung disease/ pulmonary arterial hypertension
- Pulmonary arterial hypertension

Pulmonary infections

- Respiratory viral infections, including influenza and SARS-CoV-2
- Community or healthcare-acquired pneumonia
- Aspiration pneumonitis
- Tuberculosis with pulmonary and extrapulmonary manifestations
- Non-tuberculous mycobacterial infections
- Fungal infections, including aspergillus, cryptococcus and pneumocystis jirovecii
- Infections in patients with underlying structural lung disease and airways disease
- Infections in patients who are immunocompromised
- Parapneumonic effusions, pleural infections and empyema
- Infections related to inserted devices

Thoracic malignancy and mediastinal disorders

- Large airway obstruction or endobronchial disease with associated symptoms
Mediastinal mass effect
- Superior vena cava obstruction
- Complications relating to thoracic malignancies

Pleural disorders

- Pneumothorax
- Persistent air leak, including bronchopleural fistula formation
- Pleural effusions
- Empyema
- Chylothorax
- Haemothorax

Respiratory failure

- Acute hypoxaemic respiratory failure
- Acute hypercapnic respiratory failure secondary to exacerbation of airways diseases, especially chronic obstructive pulmonary disease
- Acute and acute-on-chronic hypercapnic respiratory failure in chronic respiratory conditions including airways diseases, neuromuscular diseases, obesity hypoventilation, kyphoscoliosis
- Acute pulmonary oedema
Post-extubation respiratory failure
- Drug-induced or over-sedation related respiratory failure

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Advanced Trainees will understand these presentations and conditions.

Advanced Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Conditions

Diffuse parenchymal lung disorders

- Alveolar proteinosis
- Barotrauma
- High altitude and diving related lung injury, including drowning.
- Post haematopoietic bone marrow transplant syndromes: graft versus host disease, engraftment syndrome
- Traumatic lung injury, including contusions
- Vaping and inhalation-related acute lung injury

Pulmonary infections

- Parasitic lung infections, e.g. strongyloides, hydatid

- Pulmonary infections endemic only to certain geographical locations in Australia, New Zealand or globally
 - » histoplasmosis
 - » toxoplasmosis
 - » burkholderia mellioid
 - » strongyloidiasis

Thoracic malignancy and mediastinal disorder

- Extra-pulmonary complications of thoracic malignancy, including:
 - » spinal cord compression
 - » oesophageal obstruction
 - » pericardial tamponade

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.

Airways disorders

- Apply knowledge of epidemiology and pathophysiology of airways disease in the appropriate diagnosis and personalised management for patients

Diffuse parenchymal lung disorders

- Apply knowledge of epidemiological factors, diagnostic sensitivity/specificity of investigations (serology, bronchoscopic and surgical specimens), and pathophysiology of autoantibody syndromes (e.g. MDA-5, Jo-1), in determining appropriate diagnosis and treatment options for undifferentiated or new presentations of acute interstitial pneumonia

Pleural disorders

- Apply epidemiology and pathophysiology in determining appropriate diagnosis, requirement for intervention and management options for undifferentiated unilateral and bilateral pleural effusion

Pulmonary infections

- Apply local epidemiology of prevalence of microbes and drug susceptibility patterns in aiding appropriate diagnosis and management avenues
 - » apply local epidemiology and risk factors for diagnosis of legionella infections
 - » empirical antimicrobial choice in treatment of latent tuberculous infection or culture-negative tuberculosis
- Apply knowledge of timings of opportunistic infections and radiological patterns in guiding appropriate diagnosis and management, especially if empiric therapy is utilised
 - » empirical antimicrobial choice in treatment of suspected fungal disease in post-HSCT lung infections

Respiratory failure

- Apply knowledge of epidemiology and various pathophysiological mechanisms contributing towards respiratory failure in determining appropriate positive airway pressures, additional non-invasive ventilation settings, and adjunct treatment modalities (e.g., cough assist device)

Thoracic malignancy and mediastinal disorders

- Apply epidemiological risk factors in determining asymptomatic individuals suitable for lung cancer screening with low dose CT chest
- Apply epidemiological risk factors in determining individuals at high risk of harbouring driver or targetable mutations, and therefore

suitable most suitable for advanced testing, including molecular analysis, next generation sequencing and/or liquid biopsy

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Advanced Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the reported results of each investigation or procedure.

Advanced Trainees will know how to explain the investigation or procedure to patients, families, and carers, and be able to explain procedural risk and obtain informed consent where applicable

Investigations

- Serological, cytological, and histological biomarkers (e.g., utility of serology, cultures, PCR techniques and histology for diagnosis of pulmonary infections)
- Blood gas analysis, including interpretation of arterial, venous, capillary, exhaled and transcutaneous samples.
- Lung Function Tests
 - » spirometry, including pre- and post-bronchodilator, and in erect and supine positions
 - » plethysmography
 - » gas transfer assessment
 - » peak flow monitoring and assessment
 - » cough peak flow and sniff nasal inspiratory pressures
 - » calculation of shunt fraction
- Radiological investigations
 - » chest x-ray
 - » computed tomography, including pulmonary angiogram and high-resolution protocols
 - » scintigraphy/nuclear medicine tests e.g. ventilation/perfusion scans and positron emission tomography
 - » ultrasonography
 - doppler ultrasound imaging and flow studies
 - thoracic and pleural ultrasound
 - trans-thoracic echocardiography
 - » right heart catheterisation and haemodynamic measurements (basic knowledge and interpretation)
- Oximetry, including continuous/overnight studies
- Positive airway pressure device downloads
- Capnography

Procedures

- Bronchoscopy - flexible bronchoscopy (including single use), rigid bronchoscopy, endobronchial ultrasound (linear and radial modalities)
 - » advanced therapeutic modalities: APC, Nd-YAG laser, cryotherapy, endoscopic lung volume reduction
 - » bronchial brushings
 - » bronchoscopic drug delivery
 - » collateral ventilation assessment
 - » cryobiopsy
 - » cytology and microbiology from washings/bronchoalveolar lavage fluid
 - » differential cell counts from bronchoalveolar lavage fluid
 - » fine needle aspiration
 - » forceps endobronchial and transbronchial biopsy
 - » foreign body removal
 - » large airway debulking or stent placement
 - » management of persistent air leak
 - Pleural procedures
 - » Procedure techniques:
 - ambulatory and underwater seal drainage
-

-
- indwelling tunnelled pleural catheter
 - large bore drain insertion
 - needle thoracentesis,
 - pleural ultrasound
 - small bore intercostal catheter insertion
 - thoracoscopy
 - » Therapeutic interventions:
 - advanced management of persistent air leak, including talc insufflation, blood patch pleurodesis, endobronchial interventions, and basic knowledge of surgical options
 - intrapleural fibrinolysis and irrigation
 - pleural fluid drainage
 - pleurodesis
 - pneumothorax management
-

IMPORTANT SPECIFIC ISSUES

Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management and integrate these into care.

- Appreciation for multi-disciplinary team management (including allied health, medical, surgical, and critical care specialties) of severe or life-threatening presentations, particularly with large airway compromise, severe asthma, acute interstitial pneumonias, respiratory tract infections, pulmonary emboli, haemoptysis, decompensated respiratory failure and pneumothorax
- Investigation and management of undifferentiated hypercapnia, with understanding of pathophysiological mechanisms, various modalities of management and positive airway pressure delivery, and subsequent monitoring methods
- Investigation and management of undifferentiated hypoxaemia, with understanding of utility of various diagnostic modalities, different oxygen delivery modalities and use of controlled oxygen therapy
- Knowledge of appropriate timings and methods for investigations, as well as their diagnostic yield, in management of patients with pulmonary infections, especially those that are severe or associated with underlying lung disease or concurrent immunocompromise.
- Principles of mandatory reporting, contact tracing, treatment observation and other public measures in management of communicable diseases, particularly tuberculosis
- Understanding of the interplay between various acute concurrent pathologies and comorbidities in contributing towards a patient's clinical presentation, as well as treatment implications

KEY PRESENTATIONS AND CONDITIONS

Advanced Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Allergy
- Chest pain
- Chest tightness
- Cough
- Dyspnoea
- Fatigue
- Fever
- Haemoptysis
- Hypercapnia
- Hypoxia
- Night sweats
- Orthopnoea
- Recurrent infections
- Sleep disruption
- Snoring
- Somnolence
- Sputum production
- Stridor
- Symptoms related to environment or occupation exposures
- Tachypnoea
- Weight loss
- Wheeze

Conditions

Airways disorders

- Asthma
- Bronchiectasis
- Bronchiolitis
- Bronchitis
- Chronic obstructive pulmonary disease
- Cystic Fibrosis
- Primary ciliary dyskinesia

Diffuse parenchymal lung disorders

- Granulomatous disorders (e.g., Sarcoidosis)
- Diffuse disorders of a known cause:
 - » connective tissue disease-related lung disease
 - » drug-induced (medications and drugs of abuse) pneumonitis
 - » inflammatory bowel disease-related lung disease
 - » inflammatory myopathy-related lung disease

For each presentation and condition, Advanced Trainees will **know how to**:

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, prevalence, pathophysiology, and clinical science
- » take a comprehensive clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients and their quality of life when developing a management plan

Manage

- » provide evidence-based management
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

- » organising pneumonia
- Interstitial pneumonia with autoimmune features
- Hypersensitivity pneumonitis
- Idiopathic interstitial pneumonias
 - » acute interstitial pneumonia
 - » cryptogenic organising pneumonia
 - » desquamative interstitial pneumonia
 - » idiopathic nonspecific interstitial pneumonia
 - » idiopathic pulmonary fibrosis
 - » respiratory bronchiolitis interstitial lung disease

Pulmonary infections

- Latent tuberculous infection
- Non-tuberculous mycobacterial infections
- Recurrent infections or pathogen colonisation in persons with underlying structural lung or airways disease or underlying immunocompromise

Pulmonary vascular disorders

- Pulmonary embolic disease
- Pulmonary hypertension – as per WHO classification
- Pulmonary vasculitides

Smoking related lung disorder

- Tobacco, vaping, and marijuana related lung disease

Environmental and occupational lung disorders

- Pneumoconiosis
 - » silicosis
 - » asbestos-related lung disease
 - » coal workers pneumoconiosis
 - » farmers lung

End-stage lung disease and transplantation

- Chronic hypoxic and/or hypercapnic respiratory failure
- Severe pulmonary hypertension with right heart failure/core pulmonale
- Lung transplantation

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Advanced Trainees will understand these presentations and conditions.

Advanced Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Large airways disorders

- Subglottic stenosis
- Tracheal stenosis
- Tracheobronchomalacia, including excessive dynamic airway collapse
- Tracheo- and broncho-oesophageal fistula

Diffuse parenchymal lung disorders

- Pulmonary Langerhans Cell Histiocytosis
- Lymphangiomyomatosis
- Lymphocytic interstitial pneumonia
- Eosinophilic lung diseases
- Alpha-1 antitrypsin disease
- Pulmonary alveolar proteinosis and granulocyte-macrophage colony-stimulating factor auto-antibody disease
- Pulmonary amyloidosis

Pulmonary vascular disorders

- Diffuse alveolar haemorrhage syndromes
- Pulmonary vascular anomalies, including arteriovenous malformations

Systemic disorders with pulmonary overlap

- Ovarian hyperstimulation syndrome
- Chronic liver disease
- Histiocytic disorders
- Telomere disorders
- Nonspecific airway changes, including lymphocytic bronchiolitis, lymphoid hyperplasia, and mild constrictive changes
- Trafficking and lysosomal storage disorders

Environmental and occupational lung disorders

- Indoor and outdoor pollution-related lung injuries
- Other exposure-related lung disease

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.

Small airways disorders

- Epidemiology of airways disorders, and causative risk factors
- Principles of pathophysiological mechanisms and pharmacological management of airways disorders
- Pathophysiology and genetics of cystic fibrosis, including knowledge of systemic manifestations, assessments of severity, and management approaches, including use of CFTR modulators

Diffuse parenchymal lung disorders

- Understanding of epidemiology, knowledge of heterogeneity in clinical, radiological, and histological presentations, and appreciation of multimodality assessment and multidisciplinary discussion in appropriate diagnosis and management of interstitial pneumonias

Pulmonary infections

- Apply local epidemiology of prevalence of microbes and drug susceptibility patterns in aiding appropriate diagnosis and management avenues, e.g. appropriate antimicrobial treatment for latent tuberculous infections

Environmental and occupational lung disorders

- Application of epidemiological risk factors in assessment and screening of persons suspected of having exposure-related or occupational lung disease

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Advanced Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the reported results of each investigation or procedure.

Advanced Trainees will know how to explain the investigation or procedure to patients, families, and carers, and be able to explain procedural risk and obtain informed consent where applicable

Investigations

- Serological, cytological, histological and ancillary testing for primary lung disease and systemic disorders with pulmonary overlap
- Blood gas analysis, including interpretation of arterial, venous, capillary samples.
- Lung function tests
 - » bronchial provocation testing, including direct and indirect methods
 - » bronchodilator response
 - » calculations of shunt fraction
 - » cardiopulmonary exercise testing
 - » diffusion assessment
 - » forced oscillometry testing
 - » fraction of exhaled nitric oxide
 - » high altitude simulation tests
 - » lung volume assessment techniques
 - » respiratory muscle testing, including maximal inspiratory and expiratory pressures, sniff nasal inspiratory pressures, supine spirometry, cough peak flow
 - » six-minute walk test
 - » spirometry, including office/bedside testing
- Radiological investigations
 - » chest x-ray
 - » computed tomography of the chest
 - » scintigraphy/nuclear medicine tests
 - positron emission tomography (PET) with/without integrated computer tomography
 - ventilation/perfusion scans
 - » ultrasonography
 - doppler ultrasound imaging and flow studies
 - thoracic and pleural ultrasound
 - trans-thoracic echocardiography
 - » fluoroscopy
 - » magnetic resonance imaging of the chest
 - » contrast swallow tests
 - » oesophageal manometry and pH monitoring
 - » right heart catheterisation and haemodynamic measurements (basic knowledge and interpretation)
- Oximetry, including continuous/overnight studies
- Positive airway pressure device downloads
- Capnography, including exhaled and transcutaneous samples
- Polysomnography
 - » address the benefits and limitations of different levels of polysomnography testing

Procedures

- Bronchoscopy - flexible bronchoscopy (including single use), rigid bronchoscopy, endobronchial ultrasound (linear and radial modalities)
 - » advanced therapeutic modalities: APC, Nd-YAG laser, cryotherapy
 - » bronchoscopic drug delivery
 - » brushings
 - » collateral ventilation assessment
 - » cryobiopsy
 - » cytology and microbiology from washings/bronchoalveolar lavage fluid
 - » fine needle aspiration
 - » forceps bronchial and transbronchial biopsy
 - » large airway debulking or stent placement
- Pleural procedures
 - » Procedure techniques:
 - ambulatory and underwater seal drainage
 - indwelling tunnelled pleural catheter
 - large bore drain insertion
 - needle thoracentesis
 - small bore intercostal catheter insertion
 - thoracoscopy
 - » Therapeutic interventions:
 - intrapleural fibrinolysis and irrigation
 - pleural fluid drainage
 - pleurodesis

IMPORTANT SPECIFIC ISSUES

Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management and integrate these into care.

- Role of various bronchoscopic techniques and lung biopsy in achieving diagnostic and therapeutic outcomes for undifferentiated and established diagnoses
- Role of multidisciplinary teams and various subspecialty practitioners in diagnostic and therapeutic elements of patient care
- Apply national and international evidence-base and guidelines towards achieving optimal patient care
- Australian and local context and resource availability for delivering inpatient and outpatient personalised care
- Role of advanced care planning, multidisciplinary care, pharmacotherapy, supplemental oxygen and positive airway pressure, and transplantation in management of severe or end-stage chronic respiratory disorders
- Pulmonary rehabilitation:
 - » evidence base supporting pulmonary rehabilitation in COPD and other lung diseases
 - » selection of patients most likely to benefit from pulmonary rehabilitation
 - » components of a successful pulmonary rehabilitation program
- Role of shared decision making in management of chronic respiratory disorders
- Understand role of chest physiotherapy techniques in management of sputum clearance
- Provide appropriate evidence-based prescription of preventive inhaler therapy for management of chronic airways disease
- Apply knowledge of genetics and pathophysiology of Cystic Fibrosis, evidence-based and guideline recommendations in the treatment and management of and in the prescription of CFTR modulator therapy for persons with Cystic Fibrosis
- Understand the evidence-base and provide appropriate prescription of domiciliary oxygen with use of appropriate interface and delivery devices

-
- Inter-relationship between systemic disorders, comorbidities and pulmonary disease and their impact on presentation and treatment options
 - Importance of timing, forward planning, and principals of treatments for patients with respiratory disease in relation to palliative care referral. Further understand the indications and importance of patient selection of who will benefit from palliative care involvement
 - Role of community and integrated care pathways in providing integrated care of chronic respiratory disease

DRAFT

KEY PRESENTATIONS AND CONDITIONS

Advanced Trainees will have a comprehensive depth of knowledge of common and atypical presentations of thoracic malignancy.

Presentations

- Cough
- Dyspnoea
- Extrapulmonary complications of malignancy
 - » acute neurological change
 - » acute spinal cord compression
 - » central airway obstruction
 - » oesophageal obstruction/tracheo-oesophageal fistula
 - » paraneoplastic phenomenon
 - » pathological fracture
 - » SVC obstruction
 - » venous thromboembolism
- Haemoptysis
- Incidental pulmonary nodule or mass
- Pleural effusion
- Weight loss
- Wheeze/stridor

Conditions

- Epithelial tumours
 - » adenocarcinomas
 - » adenomas
 - » adenosquamous carcinomas
 - » large cell carcinomas
 - » other epithelial tumours
 - » papilloma's
 - » precursor glandular lesions
 - » salivary gland-type tumours
 - » sarcomatoid tumours
 - » squamous cell carcinomas
 - » squamous precursor lesions
- Lung neuroendocrine neoplasms
 - » neuroendocrine carcinomas
 - » neuroendocrine tumours
 - » precursor lesion

For each presentation and condition, Advanced Trainees will **know how to**:

Synthesise

- » recognise the common and atypical clinical presentation
- » identify relevant epidemiology, prevalence, pathophysiology, and clinical science
- » take a comprehensive clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients and their quality of life when developing a management plan

Manage

- » provide evidence-based management
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

- Tumours of ectopic tissues e.g., melanoma, meningioma
- Mesenchymal tumours specific to the lung
- Haematolymphoid tumours, e.g. diffuse large B cell lymphoma, Langerhans cell histiocytosis
- Metastatic pulmonary tumours
- Pleural malignancy
 - » mesothelioma
 - » metastatic disease
 - » primary lung malignancy
- Mediastinal tumours
 - » Chest wall tumours e.g. neurofibromas
 - » mediastinal germ cell tumours
 - » mesenchymal neoplasms
 - » thymomas, thymic carcinomas and thymic neuroendocrine tumours

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Advanced Trainees will understand these presentations and conditions.

Advanced Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Presentations

- Extrapulmonary complications of malignancy
 - » acute cord compression
 - » acute neurological change
 - » oesophageal obstruction
 - » paraneoplastic phenomenon, including hyponatraemia, neurological change (e.g. Lambert-Eaton syndrome, seizure activity)
 - » pathological fracture
 - » SVC obstruction

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.

- Cause and classification of lung tumours according to WHO criteria
- Staging and prognosis of lung cancer, including the role of genetic factors, according to IASLC criteria
- Role of diagnostic procedures, including bronchoscopy, endobronchial ultrasound, pleural fluid cytology and thoracoscopy, surgical biopsy, as well as emerging modalities including liquid biopsy.
- Compare and contrast investigations for staging of lung cancer, including the role of PET-CT and mediastinal lymph node sampling (EUS, EBUS and surgical techniques)

- Principles of screening for lung cancer and assess suitable patients for low dose CT screen based on evidence-base and local funding.
 - » incorporate the role of smoking and vaping cessation counselling, management of concurrent respiratory disease, vaccinations and pulmonary rehabilitation in management of patients identified for screening.

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Advanced Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the reported results of each investigation or procedure.

Advanced Trainees will know how to explain the investigation or procedure to patients, families, and carers, and be able to explain procedural risk and obtain informed consent where applicable

Investigations

- Lung function tests for peri-operative assessment
- Advanced testing for serological, cytological and histological samples.
 - » basic staining, slide preparation and interpretation of cytological (e.g. EBUS) samples
 - » flow cytometry
 - » immunohistochemistry, fluorescent in situ hybridisation, PCR and next generation sequencing techniques
 - » liquid biopsy
- Radiological investigations:
 - » chest x-ray
 - » computed tomography of the chest
 - » fluoroscopy
 - » magnetic resonance imaging of the chest
 - » positron emission tomography (PET) with/without integrated computer tomography
 - » ultrasonography

Procedures

- Bronchoscopy - flexible bronchoscopy (including single use), rigid bronchoscopy, endobronchial ultrasound (linear and radial modalities)
 - » advanced therapeutic modalities: APC, Nd-YAG laser, cryotherapy
 - » bronchoscopic drug delivery
 - » brushings
 - » cryobiopsy
 - » cytology and microbiology from washings/ bronchoalveolar lavage fluid
 - » fine needle aspiration
 - » forceps bronchial and transbronchial biopsy
 - » large airway debulking or stent placement
- Pleural procedures:
 - » Procedure techniques:
 - ambulatory and underwater seal drainage
 - anaesthesia (local, regional, and general approaches)
 - closed pleural biopsy
 - indwelling tunnelled pleural catheter
 - large bore drain insertion
 - needle thoracentesis,
 - small bore intercostal catheter insertion
 - thoracoscopy
 - therapeutic interventions:
 - intrapleural fibrinolysis and irrigation
 - pleural fluid drainage
 - pleurodesis

IMPORTANT SPECIFIC ISSUES

Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management and integrate these into care.

- Define performance status, clinical frailty scores, operability, and respectability, and apply appropriately towards patient care
- Understand the indications, benefits, risks and diagnostic yield of various diagnostic modalities, and utilise appropriately for investigation and management of peripheral pulmonary lesions
- Understand the role of multidisciplinary care, palliative care and psychological support for holistic management of patients with thoracic malignancy
- Understand the function and have first-hand experience attending and presenting patients at Lung Cancer MDT meetings
- Identify and engage community supports and services

DRAFT

KEY PRESENTATIONS AND CONDITIONS

Advanced Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Chest pain/pleurisy
- Cough
- Dyspnoea
- Fever
- Hypoxia
- Pleural effusion
- Pleural plaque
- Pleural thickening
- Pneumothorax
- Tachypnoea

Conditions

Conditions with risk of pneumothorax

- Emphysema/bullous disease
- Interstitial lung disease
- Cystic lung disease
 - » Birt-Hogg-Dube
 - » lymphangioleiomyomatosis
 - » lymphocytic interstitial pneumonia
 - » Langerhans Cell Histiocytosis
- Marfan's syndrome and other connective tissue disorders
- Iatrogenic pneumothorax
 - » procedure-related
 - » barotrauma

Conditions with risk of pleural effusion

- Predominantly transudative processes:
 - » congestive cardiac failure
 - » hypoalbuminemia
 - » liver cirrhosis
 - » hypothyroidism
 - » renal disease (nephrotic syndrome, peritoneal dialysis)
- Predominantly exudative processes:
 - » benign asbestos-related pleural effusion
 - » chyle leak
 - » connective tissue disease-related pleural effusion
 - » infections
 - » malignancy – primary lung, metastatic disease, pleural mesothelioma
 - » oesophageal rupture
 - » pancreatitis

For each presentation and condition, Advanced Trainees will **know how to:**

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, prevalence, pathophysiology, and clinical science
- » take a comprehensive clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients and their quality of life when developing a management plan

Manage

- » provide evidence-based management
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

	<ul style="list-style-type: none"> » post-pulmonary embolism with infarction » yellow nail syndrome
<p>COMPLEX ISSUES WITH THE MANAGEMENT OF PLEURAL DISEASE</p> <p>Advanced Trainees will understand these presentations and conditions.</p>	<p>Presentations</p> <ul style="list-style-type: none"> • Recurrent undifferentiated effusion • Persistent air leak • Non-expanding/trapped lung
<p>EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES</p> <p>Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.</p>	<ul style="list-style-type: none"> • Normal anatomy and physiology of the pleura and pleural space • Normal biochemistry of pleural fluid • Diagnostic and therapeutic indications for pleural procedures • Investigations to differentiate between transudates and exudates
<p>INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS</p> <p>Advanced Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the reported results of each investigation or procedure.</p> <p>Advanced Trainees will know how to explain the investigation or procedure to patients, families, and carers, and be able to explain procedural risk and obtain informed consent where applicable</p>	<p>Investigations</p> <ul style="list-style-type: none"> • Serological testing for primary pleural pathology and systemic disorders of interest • Pleural fluid analysis, including biochemistry, cultures, cytology, PCR and investigational approaches, including liquid biopsy • Pleural biopsy for culture and histopathology specimens, including closed pleural biopsy, image-guided and thoracoscopic approaches • Assessment of severity of air-leak using analogue meters or digital drainage systems • Thoracic and pleural ultrasound • Chest X-Ray • Computed tomography (CT) of the chest including pleural phase CT • Positron emission tomography <p>Procedures</p> <ul style="list-style-type: none"> • Procedure techniques: <ul style="list-style-type: none"> » anaesthesia (local, regional and general approaches) » closed pleural biopsy (Abrams and image-guided) » indwelling tunnelled pleural catheter insertion and removal » large bore intercostal catheter insertion » needle thoracentesis, » small bore intercostal catheter insertion » thoracoscopy » underwater seal drainage systems (including digital ambulatory systems) • Therapeutic interventions: <ul style="list-style-type: none"> » advanced management of persistent air leak, including talc insufflation, blood patch pleurodesis, endobronchial interventions » indications and knowledge of surgical options in the management of pleural infection (washout +/- decortication)

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- » indications and knowledge of surgical options in the management of pneumothorax
 - » one-way valve systems such as Heimlich valve
 - » pleural fluid drainage
 - » pleural infection management including intrapleural fibrinolytic plus mucolytic (tPA + DNase) therapy and saline irrigation.
 - » pneumothorax management including pleurodesis (talc slurry and poudrage)
-

IMPORTANT SPECIFIC ISSUES

Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management and integrate these into care.

- Incorporate knowledge of pleural fluid physiology and benefits and drawbacks of Light's criteria and Heffner rules in classifying pleural effusions and providing differential diagnoses for aetiology
- Understand the role and limitations of pleural fluid biochemistry, cultures, and cytology in diagnosing aetiology of pleural effusions, and appropriately consider advanced testing (e.g. PCR, biopsy) for further investigations as required
- Appropriately diagnose complicated pleural effusions and empyema based on clinical, radiological, and biochemical markers and manage with pleural interventions including intercostal catheter insertion, irrigation, fibrinolytic +/- mucolytic therapy or surgical options as guided by evidence-base and guidelines
- Interpret evidence-base and manage various presentations of pneumothorax, including primary spontaneous pneumothorax, secondary spontaneous pneumothorax, iatrogenic pneumothorax, persistent air-leak, and non-expanding/trapped lung
- Understand limitations of cytology in diagnosis of pleural mesothelioma and incorporate evidence-base for novel biomarkers as well as knowledge of imaging and biopsy techniques in diagnosis.
- Understand risks and benefits of each of the diagnostic/therapeutic interventions
- Demonstrate competence in thoracic/pleural ultrasound and pleural interventions prior to independently performing procedures
- Ability to identify, manage and troubleshoot chest drains
- Knowledge of digital drainage systems

KEY PRESENTATIONS AND CONDITIONS

Advanced Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Acute Hypercapnia
- Acute-on-chronic and chronic hypercapnia
- Chest pain
- Chest tightness
- Dyspnoea
- Hypoxaemia
- Nocturnal hypoventilation
- Orthopnoea
- Sleep-disordered breathing
- Snoring
- Somnolence
- Sputum production
- Tachypnoea
- Wheeze

Conditions

- Acute pulmonary oedema and left-heart failure
- Central sleep apnoea syndromes
- Chest wall disorders including kyphoscoliosis
- Chronic obstructive pulmonary disease
- Decompensation
- High spinal cord injuries
- Neuromuscular diseases, including motor neurone disease
- Obesity hypoventilation syndrome
- Obstructive sleep apnoea
- Sedative/ drug-induced hypoventilation

For each presentation and condition, Advanced Trainees will **know how to**:

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, prevalence, pathophysiology, and clinical science
- » take a comprehensive clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients and their quality of life when developing a management plan

Manage

- » provide evidence-based management
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Advanced Trainees will understand these presentations and conditions.

Advanced Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Conditions

- Central disorders of ventilation:
 - » brainstem disease
 - » cerebral palsy
 - » congenital central alveolar hypoventilation and other disorders of ventilatory control
 - » encephalitis
 - » hypothyroidism
 - » paraneoplastic phenomena
 - » stroke
- Respiratory muscle disorders:
 - » cervical spine injury
 - » Guillain-Barré syndrome
 - » muscular dystrophy
 - » myasthenia gravis
 - » myotonic dystrophy
 - » phrenic nerve or diaphragmatic palsy
 - » poliomyelitis
 - » polymyositis
- Thoracic cage disorders:
 - » ankylosing spondylitis
 - » chest trauma, flail chest
 - » pectus excavatum
 - » thoracoplasty

» identify individual and social factors and the impact of these on diagnosis and management

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.

- Recognise the often-multifactorial contributors towards acute hypercapnic respiratory failure, and the significant morbidity and mortality associated with this presentation
- Pathophysiological mechanisms of hypercapnic respiratory failure, and apply these towards obtaining diagnoses, and tailoring personalised treatment options and prescriptions.
 - » differentials for normal vs. high A-a gradient in workup of undifferentiated hypercapnia
 - » comorbid role of left heart failure in contributing towards acute hypercapnia

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Advanced Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the reported results of each investigation or procedure.

Core Investigations

- Relevant serological biomarkers
- Blood gas analysis, including interpretation of arterial, venous, capillary samples.
- Oximetry, including continuous/overnight studies (Level 4 sleep study)
- Diagnostic sleep studies (Level 1 – 3 sleep studies)
- Capnography, including exhaled and transcutaneous samples.
- Lung function tests
 - » cough peak flow
 - » gas transfer assessment
 - » plethysmography
 - » respiratory muscle testing: maximal inspiratory and expiratory pressures, sniff nasal inspiratory pressures
 - » spirometry (erect and supine)
- Chest X-Ray
- Fluoroscopy for diaphragmatic assessment

Advanced Trainees will know how to explain the investigation or procedure to patients, families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.

- Computed tomography, including high resolution protocols
- Positive airway pressure device downloads

Investigations (understand basics for interpretation)

- Electrocardiography and Holter monitoring
- Lumbar puncture
- Magnetic resonance imaging
- Maintenance of wakefulness tests and Mean sleep latency tests
- Nerve conduction studies/ electromyography
- Pleural/ diaphragmatic ultrasound
- Polysomnography, including positive airway titration studies
- Relevant histological biomarkers (e.g., muscle biopsy)
- Trans-thoracic echocardiogram

IMPORTANT SPECIFIC ISSUES

Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management and integrate these into care.

- Be able to identify the significant factors contributing towards undifferentiated or first presentation of acute hypercapnia, and integrate all into the management approach
- Identify patients suitable for invasive ventilation, non-invasive ventilation and supportive care
- Differentiate the need for acute only vs. chronic NIV, based on evidence base (e.g. obesity hypoventilation, chronic obstructive pulmonary disease)
- Utilise blood gas analysis, oximetry, capnography, polysomnography, and lung function tests in determining suitability of commencing NIV for a spectrum of respiratory failure disorders
- Appreciate the circuitry for acute and chronic NIV, with appreciation of the role of correct mask interface and controlled leak in delivering effective therapy
- Identify poor NIV tolerance or suboptimal comfort and troubleshoot to improve patient experience and usage.
- Identify bulbar involvement in motor neurone disease, and approach management accordingly
- Appreciate novel therapies in the area of motor neurone disease and muscular dystrophies
- Appreciate the role of multidisciplinary teams (e.g. respiratory failure service, MND team, sleep trained physicians) and additional subspecialties (e.g. Neurology, Palliative Care) in providing comprehensive care to patients with hypercapnic respiratory failure
- Referral to a sleep trained physicians for patients with complex respiratory failure and non-respiratory sleep disorders