NEW CURRICULA

Curriculum standards

Advanced Training in Haematology (Paediatrics & Child Health)

February 2025

RACP Specialists. Together

About this document

The new Advanced Training in Haematology (PCH) curriculum consists of curriculum standards and learning, teaching, and assessment (LTA) programs.

This document outlines the curriculum standards for Advanced Training in Haematology (PCH) for trainees and supervisors. The curriculum standards should be used in conjunction with the Advanced Training in Haematology (PCH) LTA programs.

The new curriculum was approved by the College Education Committee in February 2025. Please refer to the College website for details on its implementation.

Contents

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 Aotearoa New Zealand.

Specialty overview

A paediatric haematologist specialises in the diagnosis, treatment, prevention, and investigation of disorders of the haematopoietic, haemostatic, and lymphatic systems, and disorders of the interaction between blood and the blood vessel wall. These disorders may be primary blood disorders or the consequence of diseases in other systems. Paediatric haematology also includes transfusion medicine. A paediatric haematologist will cover these disorders in neonates, children, and adolescents.

Paediatric haematologists emphasise comprehensive diagnosis, personalised treatment plans, and compassionate patient- and family-centred care, including palliative care. They provide care in a range of diverse settings, including:

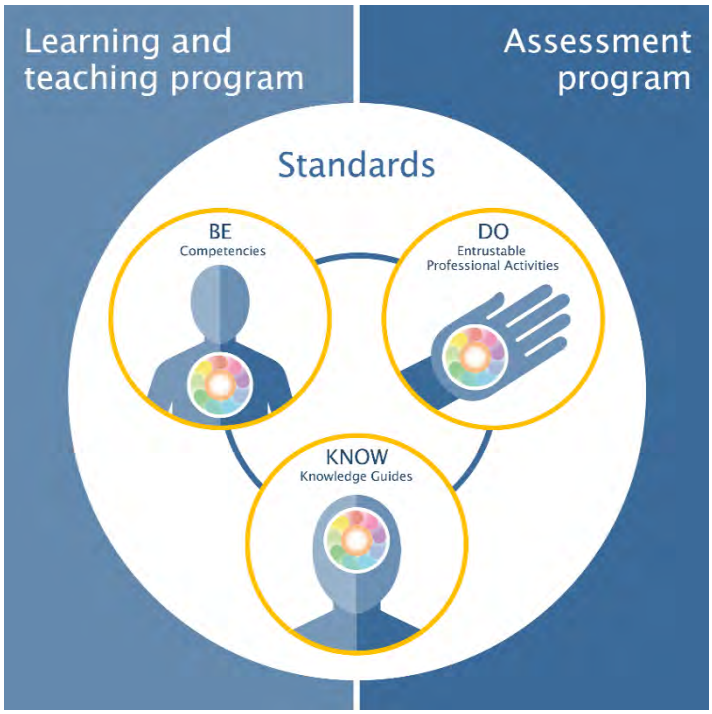
- **the investigation and treatment of a wide range of non-malignant diseases**. This can include bone marrow failure syndromes and cytopenias, inherited and acquired coagulation abnormalities, abnormalities of haemoglobin and red cells, cellular therapy, and transfusion medicine.
- **the use of a broad scientific knowledge base.** This can include the relevant aspects of biochemistry, genetics, haematology, immunology, pathology, and pharmacology.
- **providing acute, longitudinal, and palliative care of patients.** Paediatric haematologists work with a broad range of individuals and their carers, including neonates, children, adolescents, and those who require emergency and end-of-life care.
- **the use of clinical, laboratory, and procedural skills.** This can include:
  - » diagnosing and managing many acquired and inherited disorders that lead to blood cell abnormalities, bleeding, and/or thrombosis
  - » diagnosing and managing some lymphoproliferative and myeloproliferative disorders in neonates, children, and adolescents
  - » interpreting abnormalities in test results and consulting with other medical practitioners, guiding appropriate patient care or further investigations
  - » medically managing some vascular anomalies and their complications
  - » performing bone marrow biopsies and working with the laboratory to manage bone marrow disorders. This involves consideration of ancillary testing, such as cytogenetic or molecular analysis

- overseeing the transfusion of blood products, providing advice about appropriate and safe transfusion practices in many situations.

Paediatric haematologists provide clinical expertise, analytical acumen in interpretation of laboratory investigations, and effective communication, including:

- **working in close cooperation with many professional groups.** This includes biomedical scientists, clinical laboratory scientists, dietitians, haematology specialist nurses, laboratory haematologists, pharmacists, physiotherapists, and many professionals allied to medicine. Care of paediatric haematology patients requires close liaison with other medical specialists, such as clinical oncology, intensive care microbiology, obstetrics, palliative care, pathology, renal medicine, and surgery. Paediatric haematologists frequently contribute to the diagnosis and management of patients in both community and hospital settings.
- **working sensitively with a variety of patients.** Paediatric haematologists develop an ability to deal with children with haematological conditions, their parents, and/or carers in a professional and empathetic manner.
- **strong communication and interpersonal skills.** Paediatric haematologists must have effective communication and interpersonal skills for building rapport with patients and collaborating with multidisciplinary healthcare teams. It is also essential that they appreciate when referral to a more appropriate or more qualified practitioner in a particular subspecialty is necessary. Paediatric haematologists must be able to explain complex medical concepts in a clear and empathetic manner, address patients'/carers' concerns, and involve them in shared decision making regarding treatment.
- **managing resources for the benefit of patients and communities.** Paediatric haematologists apply a biopsychosocial approach to ensure the delivery of efficient, cost-effective, and safe care for the benefit of their patients and communities.
- **applying a scholarly approach.** Paediatric haematologists conduct academic research to discover better ways of understanding, diagnosing, treating, and preventing disease. Many paediatric haematologists engage in academic teaching, clinical research, and scholarly activities to contribute to the advancement of knowledge in haematology, improvement of treatment modalities, and management of patients.
- **leadership and management skills.** Paediatric haematologists may assume leadership roles within healthcare institutions, research organisations, or professional societies. Effective leadership and management skills are necessary for overseeing clinical programs, mentoring junior staff, advocating for resources, and driving quality improvement initiatives to enhance patient care and outcomes.

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.

Professional Practice Framework

The Professional Practice Framework describes 10 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.

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, whānau, or carers[1], and in collaboration with the healthcare team.

[1] References to patients in the remainder of this document may include their families, whānau, 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 teaching.[2]

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 health.[2]

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 healthcare 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 backgrounds.[3]

Critical reflection. Engage in iterative and critical self-reflection and demonstrate cultural safety in the context of their own cultural identity, power, biases, prejudices and practising behaviours.

Allyship. Recognise the patient and population's rights to culturally-safe care, including being an ally for patient, family, whānau and/or community autonomy and agency over their decision-making.

Inclusive communication. Apply culturally-safe communication, acknowledging the sharing of power, and cultural and human rights to enable patients, families and whānau to engage in appropriate patient care decisions.

Culturally-safe environment. Contributes to a culturally-safe learning and practice environment for patients and team members. Respect patients may feel unsafe in the healthcare environment.

[3] The RACP has adopted the Medical Council of New Zealand's definition of cultural safety (below):
Cultural safety can be defined as[1].

- 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 healthcare professionals and healthcare 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.

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

EPA 1: Team leadership

Theme	Team leadership	AT-EPA-01
Title	**Lead a team of health professionals**	
Description	This activity requires the ability to: • prioritise workload • manage multiple concurrent tasks • articulate individual responsibilities, expertise, and accountability of team members • recognise 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.	
Behaviours		
Professional practice framework domain	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• synthesise information with other disciplines to develop optimal, goal-centred plans for patients[4] • 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	• 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	• 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	• communicate adequately with colleagues • communicate adequately with patients, families, carers, and/or the public • respect the roles of team members

[5] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• demonstrate rapport with people at all levels by tailoring messages to different stakeholders	
Quality and safety	• identify opportunities to improve care by participating in surveillance and monitoring of adverse events and 'near misses' • identify activities within systems to reduce errors, improve patient and population safety, and implement cost-effective change • place safety and quality of care first in all decision making	• 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	• 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	• 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	• 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	• demonstrate awareness of cultural diversity and unconscious bias • work effectively and respectfully with people from different cultural backgrounds
Ethics and professional behaviour	• 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 • recognise the ethics of resource allocation by aligning optimal patients and organisational care • effectively consult with stakeholders, achieving a balance of alternative views	• 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 • promote team values of honesty, discipline, and commitment to continuous improvement

	• acknowledge personal conflicts of interest and unconscious bias • act collaboratively to resolve behavioural incidents and conflicts such as harassment and bullying	• demonstrate understanding of the negative impact of workplace conflict
Judgement and decision making	• 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	• monitor services and provide appropriate advice • review new health care interventions and resources • interpret appropriate data and evidence for decision making
Leadership, management, and teamwork	• 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	• 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	• engage in appropriate consultation with stakeholders on the delivery of health care • 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 • identify the determinants of health of the population, and mitigate barriers to access to care • remove self-interest from solutions to health advocacy issues • be aware of potentially relevant health impacts of climate change	• communicate with stakeholders within the organisation about health care delivery • understand methods used to allocate resources to provide high-quality care • promote the development and use of organisational policies and procedures

EPA 2: Supervision and teaching

Theme	Supervision and teaching	AT-EPA-02
Title	**Supervise and teach professional colleagues**	
Description	This activity requires the ability to: • 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	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• 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 learners to consider the rationale and appropriateness of investigation and management options	• teach learners using basic knowledge and skills
Communication	• 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[5], such as younger or older people, and different populations	• demonstrate accessible, supportive, and compassionate behaviour

[6] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• support learners to deliver clear, concise, and relevant information in both verbal and written communication • listen and convey information clearly and considerately	
Quality and safety	• support learners to deliver quality care while maintaining their own wellbeing • apply lessons learnt 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	• observe learners to reduce risks and improve health outcomes
Teaching and learning	• 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	• demonstrate basic skills in the supervision of learners • apply a standardised approach to teaching, assessment, and feedback without considering individual learners' needs • implement teaching and learning activities that are misaligned to learning goals • adopt a teaching style that discourages learner self-directedness
Research	• clarify junior colleagues' research project goals and requirements, and provide feedback regarding the merits or challenges of proposed research	• guide learners with respect to the choice of research projects • ensure that the research projects planned are feasible and of suitable standards

	• monitor the progress of learners' research projects regularly, and may review research projects prior to submission • support learners to find forums to present research projects • encourage and guide learners to seek out relevant research to support practice	
Cultural safety	• role model a culturally appropriate approach to teaching • encourage learners to seek out opportunities to develop and improve their own cultural safety • encourage learners to consider culturally appropriate care of Aboriginal and Torres Strait Islander peoples and Māori into patients' management • consider cultural, ethical, and religious values and beliefs in teaching and learning	• function effectively and respectfully when working with and teaching with people from different cultural backgrounds
Ethics and professional behaviour	• 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	• 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	• 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	• provide general advice and support to learners • use health data logically and effectively to investigate difficult diagnostic problems
Leadership, management, and teamwork	• maintain personal and learners' effective performance and continuing professional development • maintain professional, clinical, research, and/or administrative responsibilities while teaching • create an inclusive environment in which learners feel part of the team	• demonstrate the principles and practice of professionalism and leadership in health care • participate in mentor programs, career advice, and general counselling

	• help shape organisational culture to prioritise quality and work safety through openness, honesty, shared learning, and continued improvement	
Health policy, systems, and advocacy	• 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	• incompletely integrate public health principals into teaching and practice

EPA 3: Quality and clinical research

Theme	Quality and clinical research	AT-EPA-03
Title	**Identify and address failures in health care delivery**	
Description	This activity requires the ability to demonstrate measurement of health outcomes within quality and clinical research frameworks. Example activities include being able to: • 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[6] and enhance health care • monitor one's own practice and develop individual improvement plans • recognise the role of clinical research and the associated potential benefits to patients and the community (clinical research may involve but is not limited to clinical trials and registry activities) • contribute to the process involved in the generation and collection of clinical research data and the use of clinical research protocols and reporting systems.	
Behaviours		
Professional practice framework domain	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• 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 • identify opportunities for clinical research within their work setting • identify clinical research that may be suitable and of benefit to their patients • 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	• 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 • demonstrate awareness of clinical research and potential benefits to patients and the community

[6] References to patients in the remainder of this document may include their families, whānau and/or carers.

	• maintain Good Clinical Practice (GCP) certification to participate in clinical trials	
Communication	• 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 • outline potential benefits and risks of involvement in clinical research, supporting informed decision making by patients • liaise with clinical trials staff, and arrange timely referrals for patients to be screened for eligible trials • 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	• demonstrate awareness of the evidence for consumer engagement and its contribution to quality improvement in health care • apply knowledge of how health literacy might affect the way patients or populations gain access to, understand, and use health information
Quality and safety	• 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 clinical research safety processes, such as adverse event reporting • demonstrate awareness of EVOLVE recommendations in their work and health services • 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 care	• demonstrate awareness of a systematic approach to improving the quality and safety of health care • demonstrate awareness of the role clinical research plays in advancing the quality and range of health care options available to patients and the community

Teaching and learning	• 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	• work within organisational quality and safety systems for the delivery of clinical care • use opportunities to learn about safety and quality theory and systems
Research	• demonstrate awareness of the ethical framework that governs clinical research in Australia and New Zealand • 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 • undertake appropriate certification to participate in clinical research in their own institution	• recognise 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
Cultural safety	• undertake professional development opportunities that address the impact of cultural bias on health outcomes • incorporate appropriate LGBTQIA+ safe language, including gender affirming language	• communicate effectively with patients from culturally and linguistically diverse backgrounds
Ethics and professional behaviour	• align improvement goals with the priorities of the organisation • contribute to developing an organisational culture that enables and prioritises patients' safety and quality care • ensure that patients' decisions to participate in clinical trials are informed and unbiased	• comply with professional regulatory requirements and codes of conduct
Judgement and decision making	• use decision-making support tools, such as guidelines, protocols, pathways, and reminders • analyse and evaluate current care processes to improve care delivery	• 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	• 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

	• actively involve clinical research staff, such as nurses and research assistants, in clinical research implementation and conduct • actively involve clinical pharmacists in the medication-use process	
Health policy, systems, and advocacy	• participate in all aspects of 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: » clinical education and training » defining the scope of clinical practice » performance monitoring and management » 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

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	This activity requires the ability to: • identify and access sources of relevant information about patients[7] • obtain patient histories • examine patients • synthesise findings to develop provisional and differential diagnoses • discuss findings with patients, families, and/or carers • generate management plans • present findings to other health professionals.	
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
	The trainee will:	The trainee may:
Medical expertise	• elicit accurate, organised, and problem-focused medical histories considering physical, psychosocial, and risk factors • perform full physical examinations to establish the nature and extent of problems • synthesise and interpret findings from histories and examinations to devise the most likely provisional diagnoses via reasonable differential diagnoses • develop management plans based on relevant guidelines, and consider the balance of benefit and harm by taking patients' personal sets of circumstances into account • recognise the impact of hormonal treatments, particularly gender-affirming hormone therapy (GAHT), on haematological parameters such as haemoglobin, haematocrit, and thrombotic risk • monitor conditions for testosterone therapy in transgender men (such as polycythemia), and the potential impact on thrombotic risk in transgender women taking oestrogen	• take patient-centred histories, considering psychosocial factors • perform accurate physical examinations • recognise and correctly interpret abnormal findings • synthesise pertinent information to direct clinical encounters and diagnostic categories • develop appropriate management plans

[7] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• assess the severity of problems, the likelihood of complications, and clinical outcomes	
Communication	• 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 fully informed decisions from various diagnostic, therapeutic, and management options • communicate clearly, effectively, respectfully, and promptly with other health professionals involved in patients' care	• anticipate, read, and respond to verbal and nonverbal cues • demonstrate active listening skills • communicate patients' situations to colleagues, including senior clinicians
Quality and safety	• 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 • incorporate appropriate LGBTQIA+ safe language, including gender affirming language	• 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	• 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	• set unclear goals and objectives for self-learning • self-reflect infrequently • deliver teaching considering learners' level of training
Research	• search for, find, compile, analyse, interpret, and evaluate information relevant to the research subject	• refer to guidelines and medical literature to assist in clinical assessments when required • recognise the limitations of evidence and the challenges of applying research in daily practice

Cultural safety	• 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 peoples and Māori, 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	• display respect for patients' cultures, and attentiveness to social determinants of health • be cognisant 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	• 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	• 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	• 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	• 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	• work effectively as a member of multidisciplinary teams to achieve the best health outcomes for patients • demonstrate awareness of colleagues in difficulty, and work within the appropriate structural systems to support them while maintaining patient safety	• share relevant information with members of the healthcare team
Health policy, systems, and advocacy	• participate in health promotion, disease prevention and control, screening, and reporting notifiable diseases	• identify and navigate components of the healthcare system relevant to patients' care

	• aim to achieve the optimal cost-effective patient care to allow maximum benefit from the available resources • recognise key equity determinants as they pertain to clinical care, and devise strategies to address them	• identify and access relevant community resources to support patients' 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	This activity requires the ability to: • manage transitions of patients' care to ensure the optimal continuation of care between providers • consider adolescent to adult care, and problems that may occur regarding independence, consent, and compliance • identify the appropriate care providers and other stakeholders with whom to share patient information • exchange pertinent, contextually appropriate, and relevant patient[8] information • perform this activity in multiple settings, appropriate to the speciality, including ambulatory, critical care, and inpatient settings.	
Behaviours		
Professional practice framework domain	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• 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	• recognise 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	• 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 transitions of care, and engage and support these parties in decision making	• 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 effective transitions between settings, and continuity and quality of care

[8] References to patients in the remainder of this document may include their families, whānau, and/or carers.

Quality and safety	• identify patients at risk of poor transitions of care, and mitigate this risk • 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 • be cognisant of the medicolegal context of written communications	• ensure that handover is complete, or work to mitigate risks if incomplete • 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	• integrate clinical education in handover sessions and other transition of care meetings • tailor clinical education to the level of the professional parties involved	• take opportunities to teach junior colleagues during handover, as necessary
Cultural safety	• communicate with careful consideration to health literacy, language barriers, and culture regarding patient preferences, and whether they are realistic and possible, respecting patient choices • incorporate appropriate LGBTQIA+ safe language, including gender affirming language • recognise the timing, location, privacy, and appropriateness of sharing information with patients and their families or carers	• include relevant information regarding patients' cultural or ethnic background in handovers, and whether an interpreter is required
Ethics and professional behaviour	• disclose and share only contextually appropriate medical and personal information • recognise the clinical, ethical, and legal rationale for information disclosure • share information about patients' care in a manner consistent with privacy laws and professional guidelines on confidentiality • recognise 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 • interact in a collegiate and collaborative way with professional colleagues during transitions of care	• maintain respect for patients, families, carers, and other health professionals, including respecting privacy and confidentiality

Judgement and decision making	• recognise the respective abilities of the public and private systems and facilitate transfers of care when necessary • ensure patients' care is in the most appropriate facility, setting, or provider	• 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	• share the workload of transitions of care appropriately, including delegation • recognise 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	• recognise factors that impact on the transfer of care, and help subsequent health professionals 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	• contribute to processes for managing risks, and identify strategies for improvement in transitions of care • engage in organisational processes to improve transitions of care, such as formal surveys or follow-up phone calls after hospital discharge • recognise key equity determinants as they pertain to clinical care, and devise strategies to address them	• 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	This activity requires the ability to: • assess seriously unwell or injured patients[9], 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	**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
	The trainee will:	The trainee may:
Medical expertise	• 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 • recognise pain, and manage it using appropriate therapy and referral services	• recognise seriously unwell patients requiring immediate care • apply basic life support as indicated • recognise 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

[9] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• develop plans for multidisciplinary treatment, rehabilitation, and secondary prevention following acute events • optimise medical management before, during, and after operations	
Communication	• communicate clearly with other team members, and coordinate efforts of multidisciplinary team members • use closed-loop and clear communication with other healthcare team members during resuscitation • facilitate early communication with patients, families, and healthcare team members to allow shared decision making • negotiate realistic treatment goals, and determine and explain the expected prognoses and outcomes • provide clear and effective discharge summaries with recommendations for ongoing care • 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 their level of understanding of agreed care decisions	• demonstrate communication skills to sufficiently support the function of multidisciplinary teams • determine patients' understanding of their diseases, if possible, and what they perceive as the most desirable goals of care
Quality and safety	• 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	• 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

	• coordinate and encourage innovation, and objectively evaluate improvement initiatives for outcomes and sustainability	
Teaching and learning	• demonstrate effective supervision skills and teaching methods adapted to the context of the training • encourage questioning among junior colleagues and students in response to unanswered clinical questions • seek guidance and feedback from healthcare teams to reflect on encounters and improve future patients' care	• mentor and train others to enhance team effectiveness • provide constructive feedback to junior colleagues to contribute to improvements in individuals' skills • coordinate and supervise junior colleagues from the emergency department and the wards
Research	• select studies based on optimal trial design, freedom from bias, and precision of measurement • demonstrate awareness of consent depending on age • 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	• 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 • recognise the limitations of the evidence and the challenges of applying research in daily practice
Cultural safety	• 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 peoples and Māori into patients' management • consider cultural, ethical, and religious values and beliefs in leading multidisciplinary teams	• practise cultural competency appropriate for the community serviced • proactively identify barriers to healthcare access
Ethics and professional behaviour	• develop management plans 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	• 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

	• consider the consequences of delivering treatment that is deemed futile, directing to other care as appropriate • recognise and demonstrate the key elements of open disclosure • facilitate interactions within multidisciplinary teams that respect values, encourage involvement, and engage all participants in decision making • demonstrate critical reflection on personal beliefs and attitudes, including how these may affect patient care and healthcare policy	
Judgement and decision making	• recognise the need for escalation of care, and escalate to appropriate staff or services • 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	• involve additional staff to assist in a timely fashion when required • recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	• 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 journeys • lead a team by providing engagement while maintaining a focus on outcomes	• 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	• use a considered and rational approach to the responsible use of resources, balancing costs against outcomes • prioritise patients' 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 • identify equity determinants as they pertain to acute care and devise strategies to address them	• recognise systems for the escalation of care for deteriorating patients • recognise 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	This activity requires the ability to: • develop management plans and goals in consultation with patients[10], families, and/or carers • manage chronic and advanced conditions, complications, disabilities, and comorbidities • collaborate with other 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		
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
	The trainee will:	The trainee may:
Medical expertise	• 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 • recognise chronic pain, and manage it using appropriate therapy and referral services	• 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 histories, examinations, and management plans in a way that is accurate and sufficient as a member of multidisciplinary teams
Communication	• encourage patients' self-management through education to take greater responsibility for their care, and support problem solving • encourage patients' access to self-monitoring devices and assistive technologies	• provide healthy lifestyle advice and information to patients on the importance of self-management • work in partnership with patients, and motivate them to comply with agreed care plans

[10] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• communicate with multidisciplinary team members, and involve patients in that dialogue	
Quality and safety	• use innovative models of chronic disease care, using telehealth and digitally integrated support services • review medicine use, and ensure patients understand safe medication administration to prevent errors • support patients' self-management by balancing between minimising risk and helping them become more independent • participate in quality improvement processes impacting on patients' abilities to undertake normal activities of daily living	• participate in continuous quality improvement processes and clinical audits on chronic disease management • identify activities that may improve patients' quality of life
Teaching and learning	• 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	• use clinical practice guidelines for chronic diseases management
Research	• 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	• search literature using problem / intervention / comparison / outcome (PICO) format • recognise appropriate use of review articles
Cultural safety	• encourage patients from culturally and linguistically diverse backgrounds to join local networks to receive the support needed for long-term self-management • incorporate appropriate LGBTQIA+ safe language, including gender affirming language	• provide culturally safe chronic disease management
Ethics and professional behaviour	• share information about patients' health care, consistent with privacy laws and professional guidelines on confidentiality • use consent processes for the release and exchange of health information • assess patients' decision-making capacity, and appropriately identify and use alternative decision makers	• share information between relevant service providers • acknowledge and respect the contribution of health professionals involved in patients' care
Judgement and decision making	• implement stepped care pathways in the management of chronic diseases and disabilities	• recognise personal limitations and seek help in an appropriate way when required

	• recognise patients' needs in terms of both internal resources and external support on long-term health care journeys	
Leadership, management, and teamwork	• coordinate whole-person care through involvement in all stages of patients' care journeys • use a multidisciplinary approach across services to manage patients with chronic diseases and disabilities • develop collaborative relationships with patients, families, carers, and a range of health professionals	• participate in multidisciplinary care for patients with chronic diseases and disabilities, including organisational and community care, on a continuing basis, appropriate to patients' context
Health policy, systems, and advocacy	• use health screening for early intervention and chronic diseases management • assess alternative models of health care delivery for 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	• demonstrate awareness of government initiatives and services available for patients with chronic diseases and disabilities, and display knowledge of how to access them

EPA 8: Communication with patients

Theme	Communication with patients	AT-EPA-08
Title	**Discuss diagnoses and management plans with patients**	
Description	This activity requires the ability to: • select suitable contexts 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 mutually agreed management plans • verify patients'[11], family members', or carers' understanding of information conveyed • develop and implement plans for ensuring actions occur • ensure conversations are documented.	
Behaviours		
Professional practice framework domain	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• 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	• apply knowledge of the scientific basis of health and disease to the management of patients • demonstrate awareness of clinical problems being discussed • formulate management plans in partnership with patients
Communication	• use an appropriate communication strategy and modalities for communication, such as emails, face-to-face, or phone calls	• select appropriate modes of communication • engage patients in discussions, avoiding the use of jargon

[11] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• elicit patients' views, concerns, and preferences, promoting rapport • provide information to patients in plain language, avoiding jargon, acronyms, and complex medical terms • encourage questions, and answer them thoroughly • ask patients to share their thoughts or explain their management plans 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 • support and respect patients if they elect for palliative care	• check patients' understanding of information • adapt communication style in response to patients' age, developmental level, and cognitive, physical, cultural, socioeconomic, and situational factors • collaborate with patient liaison officers as required
Quality and safety	• 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 patients' complaints	• inform patients of the material risks associated with proposed management plans • treat information about patients as confidential
Teaching and learning	• 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	• respond appropriately to information sourced by patients, and to patients' knowledge regarding their condition
Research	• 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	• refer to evidence-based clinical guidelines • recognise the limitations of the evidence and the challenges of applying research in daily practice

	• 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	
Cultural safety	• demonstrate effective and culturally competent communication with Aboriginal and Torres Strait Islander peoples and Māori • effectively communicate with members of other cultural groups by meeting patients' specific language, cultural, and communication needs • consider culturally safe practices when treating transgender patients, including respectful communication and awareness of transgender health care 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 • incorporate appropriate LGBTQIA+ safe language, including gender affirming language	• identify when to use interpreters • allow enough time for communication across linguistic and cultural barriers
Ethics and professional behaviour	• encourage and support patients to be well informed about their health, and to use 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	• 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 • 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

		• respect patients, including protecting their rights to privacy and confidentiality
Leadership, management, and teamwork	• communicate effectively with team members involved in patients' care, and with patients, families and carers • communicate accurately and succinctly, and motivate others on the healthcare team • discuss medical assessments, treatment plans, and investigations with patients and primary care teams, working collaboratively with all • discuss patients' care needs with healthcare team members to align them with the appropriate resources • facilitate an environment in which all team members feel they can contribute and their opinion is valued	• answer questions from team members • summarise, clarify, and communicate responsibilities of healthcare team members • keep healthcare team members focused on patient outcomes
Health policy, systems, and advocacy	• collaborate with other services, such as community health centres and consumer organisations, to help patients navigate the healthcare system • demonstrate awareness of equity determinants and how these may impact on shared decision making	• communicate with and involve other health professionals as appropriate

EPA 9: Prescribing

Theme	Prescribing	AT-EPA-09
Title	**Prescribe therapies tailored to patients' needs and conditions**	
Description	This activity requires the ability to: • take and interpret medication histories • choose appropriate medicines based on an understanding of pharmacology, taking into consideration age, benefits, comorbidities, potential drug interactions, and risks • communicate with patients[12], and families, and/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** 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
	The trainee will:	The trainee may:
Medical expertise	• identify patients' disorders requiring pharmacotherapy • consider non-pharmacologic therapies • consider age, allergies, chronic disease status, lifestyle factors, patients' preference, and potential drug interactions prior to prescribing new medications • plan for follow-up and monitoring	• 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 accurately, appropriately, and safely • recognise the benefits, contraindications, dosage, drug interactions, rationale, risks, and side effects • identify and manage adverse events
Communication	• discuss and evaluate the benefits, rationale, and risks 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 • recognise and apply the principles of chemotherapy prescribing, including consultation with and obtaining agreement from a colleague for off-protocol management	• 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

[12] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• educate patients about the expected outcomes, intended use, and potential side effects for each prescribed medication, addressing the common, rare, and serious side effects at the time of prescribing to improve patients' adherence to pharmacotherapy • describe how the medication should and should not be administered, including any important relationships to food, time of day, and other medicines being taken • 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	• seek further advice from experienced clinicians or pharmacists when appropriate
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	• 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 appropriate guidelines and evidence-based medicine resources to maintain a working knowledge of current medicines, keeping up to date on new medicines	• undertake continuing professional development to maintain currency with prescribing guidelines • reflect on prescribing, and seek feedback from a supervisor

	• use continuously updated software for computers and electronic prescribing programs • ensure patients understand management plans, including adherence issues	
Research	• 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	• make therapeutic decisions according to the best evidence • recognise where evidence is limited, compromised, or subject to bias or conflict of interest
Cultural safety	• 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	• be aware of 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	• provide information to patients about prescribed medicines and: » how to take the medicine » potential side effects » what the medicine does » what the medicine is for » when it should be stopped • make prescribing decisions based on good safety data when the benefits outweigh the risks involved • recognise the ethical implications of pharmaceutical industry-funded research and marketing	• 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	• use a systematic approach to select treatment options • use medicines safely and effectively to get the best possible results	• recognise personal limitations and seek help in an appropriate way when required • consider the following factors for all medicines:

	• 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 length of time, with the lowest cost to them • evaluate new medicines in relation to their possible efficacy and safety profile for individual patients	» contraindications » cost to patients, families, and the community » funding and regulatory considerations » generic versus brand medicines » interactions » risk-benefit analysis
Leadership, management, and teamwork	• interact with medical, pharmacy, and nursing staff to ensure safe and effective medicine use	• work collaboratively with pharmacists • participate in medication safety and morbidity and mortality meetings
Health policy, systems, and advocacy	• choose medicines in relation to comparative efficacy, safety, and cost-effectiveness against medicines already on the market • prescribe for individual patients, considering allergies, current medicines, history, and preferences, ensuring that resources are used wisely for the benefit of patients • identify and address equity determinants as they pertain to prescribing	• 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	This activity requires the ability to: • select appropriate procedures in partnership with patients[13], 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 • interpret the results and outcomes of procedures, including imaging and reports • communicate the outcome of procedures and associated investigations to patients • perform this activity across multiple relevant settings.	
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
	The trainee will:	The trainee may:
Medical expertise	• select procedures by assessing patient-specific factors, including alternatives, benefits, and risks • confidently and consistently perform a range of common procedures • ensure team members are aware of all allergies and adverse reactions identified, and take precautions to avoid allergies and 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 effectively manage complications arising during or after procedures	• 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 postprocedural review of patients

[13] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• recognise and correctly interpret normal and abnormal findings of diagnostic procedures	
Communication	• 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	• explain the process of procedures to patients without providing a broader context • help patients, families, and carers choose procedures • communicate with members of procedural teams so all team members understand who each member is • discuss postprocedural care with patients, families, and carers • complete relevant patients' documentation, and conduct appropriate clinical handovers
Quality and safety	• 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	• 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	• 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	• participate in continued professional development • help junior colleagues develop new skills • actively seek feedback on personal technique until competent

	• provide specific and constructive feedback and comments to junior colleagues • initiate and conduct skills training for junior staff	
Cultural safety	• consider individual patients' cultural perception of health and illness, and adapt practice accordingly	• respect religious, cultural, linguistic, and family values and differences
Ethics and professional behaviour	• confidently perform common procedures • identify appropriate proxy decision makers when required • show respect for the knowledge and expertise of colleagues • maximise patient autonomy in decision making	• perform procedures when adequately supervised • follow procedures to ensure safe practice
Judgement and decision making	• identify roles and optimal timing for diagnostic procedures • critically appraise information from assessment and evaluation of risks and benefits to prioritise patients on waiting lists • 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	• 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	• 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 errors, prevent complications, and support efficient teamwork • coordinate efforts, encourage others, and accept responsibility for work done	• 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	• perform procedures in accordance with organisational guidelines and policies

	• initiate local improvement strategies in response to serious incidents • use resources efficiently when performing procedures

EPA 11: Investigations

Theme	Investigations	AT-EPA-11
Title	**Select, organise, and interpret investigations**	
Description	This activity requires the ability to: • select, plan, and use evidence-based clinically appropriate investigations • prioritise patients receiving investigations (if there is a waiting list) • evaluate the anticipated value of investigations • work in partnership with patients[14], their families, and/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 • report and communicate haematology laboratory results.	
Behaviours		
Professional practice framework Domain	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• 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 report and interpret abnormal findings, considering patients' specific circumstances, and act accordingly • consider the impact of hormonal treatments, particularly gender-affirming hormone therapy (GAHT), in line with laboratory monitoring standards specific to transgender patients	• provide rationale for investigations • demonstrate awareness of the significance of abnormal test results, and act on these • consider patient factors and comorbidities • consider age-specific reference ranges
Communication	• explain to patients the potential benefits, burdens, costs, risks, and side effects of each option, including the option to have no investigations	• discuss the benefits, complications, indications, and risks of investigations with patients before ordering investigations • explain the results of investigations to patients

[14] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• 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 understand the information they have been given, and whether they need more information before they make decisions • 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	• arrange investigations, providing accurate and informative referrals, and liaise with other services where appropriate
Quality and safety	• identify adverse outcomes that may result from proposed investigations, focusing on patients' individual situations	• consider the 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	• use appropriate guidelines, evidence sources, and decision support tools • participate in clinical audits to improve test ordering strategies for diagnoses and screening	• undertake professional development to maintain currency with investigation guidelines
Research	• 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	• refer to evidence-based clinical guidelines • consult current research on investigations
Cultural safety	• demonstrate awareness of patients' views and preferences about any proposed investigations, and the adverse outcomes they are most concerned about	• consider patients' cultural and religious backgrounds, attitudes, and beliefs, and how these might influence the acceptability of proposed investigations
Ethics and professional behaviour	• remain within the scope of the authority given by patients (with the exception of 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	• 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

	• respect patients' decisions to refuse investigations, even if their decisions may not be appropriate or evidence based • recognise and conduct investigations in accordance with institution / department protocols, legal responsibilities, ethical practices, and guidelines around investigations, including urgent treatment for patients that may go against the wishes of family members or carers • advise patients there may be additional costs, which they may wish to clarify before proceeding • explain the expected benefits as well as the potential burdens and risks of any proposed investigations before obtaining informed consent or other valid authority • demonstrate awareness of complex issues related to genetic information obtained from investigations, and subsequent disclosure of such information	• involve patients in decision making regarding investigations, obtaining the appropriate informed consent, including financial consent, if necessary
Judgement and decision making	• 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 • identify the need for escalation of care, and escalate to appropriate staff or services when needed • analyse laboratory investigations and timely communication with treating clinicians	• choose the most appropriate investigation for clinical scenarios in discussion with patients • recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	• 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	• demonstrate awareness of what parts of an investigation are provided by different doctors or health professionals
Health policy, systems, and advocacy	• select and justify investigations regarding the pathological basis of disease, appropriateness, cost effectiveness, safety, and utility • 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: • manage medical procedures and treatments • manage clinic services • oversee quality improvement activities • communicate with patients[15], 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** Expected behaviours of a trainee who can routinely perform this activity without needing supervision The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• 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 accurate and appropriately prioritised problem lists in clinical notes or as part of ambulatory care reviews	• recognise the importance of prevention, early detection, health maintenance, and chronic condition management
Communication	• help patients and carers 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 • update documentation in a time frame appropriate to the clinical situation of patients	• wherever practical, meet patients' specific language and communication needs • facilitate appropriate use of interpreter services and translated materials
Quality and safety	• practice health care that maximises patient safety • adopt a systematic approach to the review and improvement of professional practice in the outpatient clinic setting	• take reasonable steps to address issues if patients' safety may be compromised • participate in organisational quality and safety activities, including clinical incident reviews

[15] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• identify aspects of service provision that may be a risk to patients' safety • ensure that patients and carers are informed about fees and charges	• demonstrate awareness of the systematic approach to improving the quality and safety of health care
Teaching and learning	• 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	• 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	• obtain informed consent or other valid authority before involving patients in research • inform patients and carers about their rights, the purpose of the research, the procedures to be undergone, and the potential risks and benefits of participation before obtaining consent • assess and manage patients enrolled in clinical trials as per protocol and in partnership with the patient, family, and/or carer, and clinical research staff • identify adverse events in clinical research patients, and understand the process of reporting adverse events	• allow patients to make informed and voluntary decisions to participate in research
Cultural safety	• 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 • incorporate appropriate LGBTQIA+ safe language, including gender affirming language	• acknowledge the social, economic, cultural, and behavioural factors influencing health, both at individual and population levels
Ethics and professional behaviour	• 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	• recognise 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

	• demonstrate awareness of financial and other conflicts of interest	
Judgement and decision making	• integrate chronic condition management, early detection, health maintenance, and prevention, where relevant, into clinical practice • work to achieve optimal and cost-effective patient care that allows maximum benefit from the available resources	• demonstrate awareness of the appropriate use of diagnostic interventions, health care facilities, human resources, and therapeutic modalities
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	• recognise common population health screening and prevention approaches

EPA 13: End-of-life care

Theme	End-of-life care	AT-EPA-13
Title	**Manage the care of patients at the end of their lives**	
Description	This activity requires the ability to: • recognise the dying phase • support patients[16] 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** 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
	The trainee will:	The trainee may:
Medical expertise	• 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 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	• recognise 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	• establish supportive relationships with patients, families, or carers based on understanding, trust, empathy, and confidentiality	• discuss with patients, family, and/or carers the goals of care and treatment, and document this in patients' clinical records

[16] References to patients in the remainder of this document may include their families, whānau, and/or carers.

	• 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 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	• ensure consistent messages are given to patients, families, or carers about treatment options, their likelihood of success, risks, and prognosis • provide honest and clear clinical assessment summaries, using plain language and avoiding medical jargon • discuss with family or carers appropriate support and bereavement care
Quality and safety	• 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	• 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	• provide supervision, support, and teaching to develop the skills of junior colleagues on end-of-life care • promote education covering: » competencies for providing culturally responsive end-of-life care to Aboriginal and Torres Strait Islander peoples and Māori, and to people from other cultural backgrounds » ethical and medicolegal issues » relevant legislation in the state, territory, or region	• 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

	• 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	
Research	• ensure that quality end-of-life care management processes are evidence based and outcome focused • use systematic reviews or personal reviews and appraisal of literature as evidence for appropriate management • support clinical trials to build the end-of-life care evidence base	• recognise that the evidence may be insufficient to resolve uncertainty and make definitive decisions
Cultural safety	• practise culturally responsible 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	• recognise, 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	• ensure all team members discuss end-of-life care with patients, and act on expressed patient preferences • enhance the quality of life for patients at the end of life to 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	• 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	• maximise patients' autonomy and their best interests when making treatment decisions • liaise with other relevant services, providing referrals as necessary	• define and document patients', family members', or carers' goals and agreed outcomes
Leadership, management, and teamwork	• ensure care plans are communicated to all teams involved in patients' care, including relevant community care providers	• coordinate end-of-life care to minimise fragmentation of care

	• define the responsibilities and roles of team members involved in patients' care • 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	• document multidisciplinary care plans, including the terminal phase
Health policy, systems, and advocacy	• 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 • 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 for in their preferred place of death

Knowledge Guides

Knowledge guides (KGs) 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	Anaemia and iron disorders
2	Haemoglobin disorders
3	Bleeding
4	Thrombosis
5	Malignancy, cytopenia, and bone marrow failure
6	Transfusion medicine
7	Neonatal haematology
8	Myeloproliferative disorders
9	Laboratory haematology in clinical practice

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Bleeding
- Fatigue
- Growth and developmental issues
- Heart failure
- Jaundice
- Organomegaly
- Pallor

Conditions

- Anaemia due to:
  - » chronic disease
  - » deficiencies, such as:
    - o B12
    - o folate
    - o iron:
      - ▪ with anaemia
      - ▪ without anaemia
  - » kidney impairment
- Haematology in infectious diseases, such as:
  - » cytomegalovirus (CMV)
  - » Epstein–Barr virus (EBV)
  - » human immunodeficiency virus (HIV)
  - » malaria
  - » parvovirus
  - » sepsis
- Haemoglobinopathies, including unstable haemoglobins
- Haemolytic conditions:
  - » autoimmune haemolytic anaemia
  - » mechanical
  - » microangiopathic haemolytic anaemias
  - » oxidative haemolysis
  - » red cell enzyme deficiencies
  - » red cell membrane disorders
- Primary marrow causes of anaemia:
  - » bone marrow failure syndromes
  - » malignant and clonal disorder, such as:
    - o myelodysplastic syndrome
    - o paroxysmal nocturnal hemoglobinuria (PNH)
  - » red cell aplasia:
    - o acquired
    - o congenital

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[17] 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

[17] References to patients in the remainder of this document may include their families, whānau, and/or carers.

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** • Confusion • Critical care / Acutely unwell patients • Haemorrhage • Hypoxia • Neurological symptoms • Sepsis **Conditions** • Haemochromatosis and iron overload disorders • Metabolic disorder associated with anaemia: » congenital dyserythropoietic anaemia (CDA) • Sideroblastic anaemia	diagnosis and management
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	**Clinical sciences** • Haemoglobin structure and function • Iron metabolism • Mechanisms of erythropoiesis, including: » haematinic pathways » the ontogeny of red cell precursors » the role of erythropoietin • Red cell enzyme pathways • Red cell membrane structure and function **Epidemiology** • Causes and characteristics of anaemia of inflammation • Characteristics, epidemiology, and genetics of haemoglobinopathies as a cause of anaemia, such as: » sickle cell anaemia » thalassemia » unstable haemoglobins • Different causes of anaemia based on the age of the child as well as changes in red cell parameters with age	
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.	• Anaemia: » appropriate selection of treatment modalities » history, signs, and the underlying cause • Investigative techniques: » clinical » pathological » radiological **Procedures** • Assays of haematinic factors • Bone marrow examination • Flow cytometery for anaemias: » paroxysmal nocturnal hemoglobinuria (PNH) testing » red cell eosin 5 maleimide (E5M) • Full blood count (FBC) and blood film interpretation • Haemolytic screen: » direct antiglobulin test (DAT) haptoglobin » lactate dehydrogenase (LDH) » serum bilirubin (SBR)	

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.	• Infectious disease: » bacterial, such as: o sepsis » parasitic, such as: o malaria » viral, such as: o HIV o parvovirus • Metabolic screen • Red cell enzyme assays: » glucose-6-phosphate dehydrogenase (G6PD) » pyruvate kinase (PK) • Red cell membrane testing • Reticulocyte count
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.	• Genomic testing for rare anaemias • Management of acute and chronic complications of chronic anaemia disorders • Management of patients with rare anaemias requiring chronic transfusion therapy • Role and risk of transfusion in the management of complicated patients with anaemia **Iron metabolism** • Common causes and management of iron deficiency • Iron metabolism and causes of iron overload • Managing iron overload, including: » chelation therapy » monitoring » therapeutic venesection • Rare enzyme disorders

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Anaemia / Haemolysis
- Bone complications
- Growth and development issues
- Sickle cell

Conditions

- Complications of thalassaemia:
  - » anaemia
  - » iron overload
- Sickle cell disease (SCD), including:
  - » acute vaso-occlusive crisis, including:
    - o acute chest syndrome
    - o priapism
    - o splenic sequestration
    - o stroke
  - » chronic complications
  - » infection
- Thalassaemia:
  - » all forms of alpha thalassaemia and alpha globin variants
  - » beta thalassaemia
  - » non-transfusion dependent thalassaemia (NTDT)
  - » other beta globin variants
  - » transfusion dependent thalassaemia (TDT)

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

- Rare haemoglobin variants, including:
  - » high oxygen affinity variants
  - » methaemoglobin variants
  - » unstable haemoglobin

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[18] 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

[18] References to patients in the remainder of this document may include their families, whānau, and/or carers.

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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

- Complication changes with time
- Normal physiological changes to haemaglobin (Hb) types with age, and how this relates to the diagnosis of Hb disorders at different ages
- Pathophysiology of NTDT and TDT:
  - » iron overload in NTDT patients, and role of monitoring
  - » iron overload physiology, and investigations to assess iron overload
  - » pathophysiology of NTDT
  - » role of chronic anaemia and haemolysis on vascular metabolism
- Pathophysiology of SCD
- Role of haemolysis in acute and chronic presentations
- Role of Hb in oxygen / carbon dioxide (CO_2) delivery to tissue, and factors that impact on this function
- Role of vaso-occlusion and vascular remodelling

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.

- Electrophoresis:
  - » capillary
  - » gel
- High performance liquid chromatography (HPLC)
- Molecular testing for haemoglobin disorders
- Role of blood film
- Role of full blood count (FBC) and red cell parameters in diagnosis of Hb disorders
- Sickle testing
- Testing for alpha thalassaemia
- Unstable Hb testing

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.

Management of SCD

- Adequacy of prophylaxis in patients with SCD
- Approaches to minimise sickling, including hydroxyurea treatment
- Different cultural beliefs surrounding SCD
- Emerging therapies in haemoglobinopathies, including gene therapy
- Management of hyposplenia
- Management of sickle crisis
- Prenatal diagnosis of haemoglobinopathies
- Role of bone marrow transplant in haemoglobinopathy
- Social impacts of disease, and potential marginalisation in certain cultures
- Surveillance requirements
- Transfusion regimens including red cell apheresis

Management of TDT

- Management of patients with TDT, including:
  - » chelation therapy and monitoring of adherence
  - » diagnosis and management of iron overload complications
  - » management of splenectomised patients
  - » psychological aspects of chronic illness

- transfusion management, and non-iron-related complications of chronic transfusion

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Anaemia
- Bleeding
- Bruising
- Joint haemarthrosis
- Menorrhagia
- Neurological symptoms
- Renal dysfunction
- Sepsis

Conditions

- Acquired bleeding disorders:
  - » coagulopathy associated with liver and renal disease
  - » drug-induced bleeding, including:
    - o anticoagulants
    - o antithrombotic therapy
  - » haemophilia
  - » heparin-induced thrombocytopenia
  - » massive bleeding in:
    - o obstetrics
    - o surgery
    - o trauma
  - » von Willebrand disease
- Disseminated intravascular coagulation
- Inherited bleeding disorders:
  - » congenital platelet disorders
  - » haemophilia:
    - o A
    - o B
  - » von Willebrand disease
- Thrombocytopenia:
  - » immune
  - » medication-related

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[19] 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

[19] References to patients in the remainder of this document may include their families, whānau and/or carers.

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** • Bleeding • Kidney dysfunction • Neurological symptoms **Conditions** • Haemolytic uraemic syndromes • Inherited bleeding disorders: » other (rare) congenital clotting factor disorders • Microangiopathies: » thrombotic thrombocytopenic purpura (TTP) • Pregnancy-related bleeding disorders and effects on neonate: » maternal and fetal carrier status » thrombocytopenia	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.	**Acquired bleeding disorders** • Adverse effects, indications of use, and mechanisms of action of available haemostatic agents, including: » anti-fibrinolytics » blood and coagulation factor products » desmopressin (DDAVP) » other adjunctive agents • Normal haemostasis and fibrinolytic mechanisms • Pathophysiology of acquired bleeding disorders, such as: » acquired factor deficiency, especially: o factor VIII (FVIII) coagulant o von Willebrand factor (vWF) » disseminated intravascular coagulation (DIC) » hepatic disease » immune thrombocytopenia » kidney disease » massive transfusion » obstetric complications **Inherited bleeding disorders** • Complications, diagnostic strategies, natural history, and presentation of: » coagulation factor inhibitors » inherited coagulation disorders, in particular deficiencies of: o factor II (FII) o factor VII (FVII) o FVIII o factor IX (FIX) o factor X (FX) o factor XIII (FXIII) o vWF • Diagnostic methods used in assessment of inherited coagulation disorders, including specific assays • Indications for use, mechanisms of action, and side effects of available coagulation factor concentrates and relevant haemostatic agents • Physiology of normal haemostasis and changes that occur with age • Use of molecular biological techniques to identify genetic disorders	

Platelet disorders

- Aetiology, diagnosis, management, and natural history of congenital and acquired disorders of platelet number and/or function
- Importance of the complement system relating to atypical haemolytic uremic syndrome
- Mechanism of action and adverse effects of compounds / medications with antiplatelet activity
- Platelet structure and function
- Techniques for, and limitations of, measuring platelet number and function

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

- Coagulation and inhibitor studies
- Factor levels:
  - » chromogenic studies
  - » one-phase studies
- Heparin-induced thrombocytopenia screen and confirmation
- Imaging
- Kidney function
- Liver function tests
- Molecular testing for factor deficiencies, platelet disorders, and other inherited bleeding disorders
- Platelet:
  - » count and haemoglobin
  - » function tests
  - » glycoprotein analysis

Procedures

- Blood transfusion
- Complement inhibitors:
  - » supportive care
- Delivery and potential risks of desmopressin
- Factor replacement and use of other haemostatic therapies
- Management of patients with bleeding disorders prior to and during surgery
- Management of spontaneous bleeding
- Management of trauma in patients with bleeding disorders
- Plasmapheresis
- Treatment of idiopathic thrombocytopenic purpura (ITP) and platelet disorders
- Use of reversal agents for anticoagulant therapies

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.

- Appropriate prophylaxis and treatment of inherited coagulation disorders
- Appropriate use of haemostatic agents in acquired bleeding disorders
- Clinical advice on the use of antiplatelet agents in medical and surgical contexts
- Clinical and laboratory evaluation of patients with possible bleeding tendency
- Impact of the condition on patients and their families
- Management plans for patients with inhibitors, including liaison with the clinical team

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Cough
- Pain, including:
  - chest
- Swelling

Conditions

- Arterial thrombosis and paediatric stroke
- Thrombophilia:
  - acquired
  - congenital
- Thrombotic thrombocytopenic purpura (TTP) and thrombosis
- Venous thromboembolism:
  - provoked
  - unprovoked

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

- Antiphospholipid syndrome
- Antithrombin III deficiency:
  - thrombophilias of minimal significance
- Paroxysmal nocturnal haemoglobinuria
- Protein C and S deficiency, including:
  - purpura fulminans
- Vascular malformation

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[20] 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

[20] References to patients in the remainder of this document may include their families, whānau, and/or carers.

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Acquired and inherited risk factors and associations in patients with thromboembolic disease • Anticoagulant medications: » appropriate choice of agent » dosing » duration of therapy » mechanism of action » monitoring reversal • Complications, diagnostic strategies, natural history, and presentation of inherited and acquired thrombophilia • Pathophysiology of arterial and venous thrombosis, including epidemiology and molecular basis of thrombophilia • Pathophysiology of vascular anomalies, and how this relates to medical therapies • Techniques for the measurement of recognised laboratory thrombophilia
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.	• Clinical and laboratory investigation, such as: » anticoagulant levels » anticoagulant therapy monitoring » antiphospholipid antibody testing » dilute Russell viper venom time screen and confirmation » lupus anticoagulant testing » thrombophilia screening and limited indications • Nuclear medicine, such as: » ventilation perfusion (VQ) scan • Radiological investigations, such as: » CT: o angiography o venography » MRI » magnetic resonance angiography (MRA) » magnetic resonance venography (MRV) » ultrasound, including: o doppler
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.	**Anti-thrombotic therapy** • Follow-up of patients receiving anticoagulants • Heparin and oral anticoagulant therapy • Heparin-induced thrombocytopenia • Management of over-anticoagulation • Molecular drivers of vascular malformation, and targeted and novel therapies for vascular malformations • Ordering of radiologic investigations, and liaison with other clinical teams • Perioperative management of patients on antithrombotic therapy • Risks and benefits, including potential adverse effects

Knowledge guide 5 – Malignancy, cytopenia, and bone marrow failure

Advanced Training in Haematology (Paediatrics & Child Health)

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Abnormal full blood count (FBC)
- Bleeding
- Bruising
- Developmental delay
- Dysmorphism
- Failure to thrive
- Lethargy
- Lymphadenopathy
- Organomegaly
- Recurrent infections
- Symptoms of organ infiltration

Conditions

- Acquired:
  - » drugs
  - » infections
  - » toxins
- Acquired cytopenias:
  - » alloimmune and autoimmune neutropenia
  - » alloimmune and autoimmune thrombocytopenia
  - » cytopenias and association with immune dysregulation conditions:
    - o haemophagocytic lymphohistiocytosis
  - » Evans syndrome and other immune-mediated cytopenia
- Haematological malignancy and clonal disorders leading to cytopenia:
  - » leukaemia / lymphoma
  - » myelodysplastic syndrome
- Marrow infiltration leading to cytopenia:
  - » solid malignancy
  - » solid tumour

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Advanced Trainees will understand these presentations and conditions.

Advanced Trainees will understand the resources

Conditions

- Bone marrow failure syndromes:
  - » acquired aplastic anaemia
  - » congenital neutropenia
  - » Diamond–Blackfan anaemia
  - » Fanconi anaemia
  - » inherited bone marrow failure syndromes:
    - o telomere biology disorders
- Haemoglobinuria (PNH)
- Metabolic

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[21] 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

[21] References to patients in the remainder of this document may include their families, whānau, and/or carers.

that should be used to help manage patients with these presentations and conditions.	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Pathophysiology and classification / staging of malignancies • Pathophysiology of primary and secondary bone marrow failure and immune-mediated cytopenia • Treatment modalities of bone marrow aplasia and immune-mediated cytopenia
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** • Initial investigations: » biochemical evaluation » blood film examination » coagulation studies » FBC » morphology • Further investigations: » bone marrow examination » cytogenetic, including: o chromosomal fragility » flow cytometry » lumbar puncture » medical imaging » telomere length » viral serology • Genetic analysis, including: » diagnostic » risk stratifying techniques • Required monitoring and risk of transformation of various congenital conditions **Procedures** • Evaluation of efficacy and toxicities of these treatments • Treatment for bone marrow aplasia, such as: » antithymocyte globulin and cyclosporin » cessation of causative drugs » other immune modulators » stem cell transplantation • Treatment of myelodysplastic syndrome, such as: » azacitidine » clinical trial agents » supportive care
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.	• Diagnosis of pain, management, and treatment options, and referral to appropriate specialists • Evaluation of efficacy and toxicities of treatments • Management of infections in immunocompromised patients • Principles of palliative care • Surveillance of non-malignant or clonal complications of inherited and acquired bone marrow disorders

CLINICAL SCIENCES

Advanced Trainees will describe the principles of the foundational sciences.

- ABO discrepancies and RhD variants
- Blood group systems
- Clinically significant red cell, neutrophil, and platelet antibodies and disease
- Pathophysiology of adverse transfusion reactions
- Patterns of inheritance of blood group systems
- Principles of pretransfusion testing

ELIGIBILITY CONSIDERATIONS

Advanced Trainees will assess the patient's current condition and plan the next steps.

- Adverse transfusion reactions
- Critical bleeding
- Informed consent for transfusion
- Major haemorrhage protocols
- Mandatory specimen labelling and request form requirements for pretransfusion testing
- Principles of patient blood management, including evidence-based transfusion thresholds

LESS COMMON OR MORE COMPLEX PATIENT CONSIDERATIONS

Advanced Trainees will understand the resources that should be used to help manage patients.

- Obstetric transfusion, including:
  - » fetal / neonatal alloimmune thrombocytopenia
  - » fetal / neonatal transfusion, including:
    - o exchange transfusion
    - o intrauterine transfusion
    - o top-up transfusions
  - » haemolytic disease of the fetus and newborn
  - » patients who refuse to consent to blood components and products
  - » patients with critical bleeding requiring large volume transfusion resuscitation
  - » patients with rare red cell antibodies requiring transfusion
  - » platelet transfusion refractoriness
  - » recommended monitoring of alloimmunised women during pregnancy
  - » routine management of RhD negative women during pregnancy
- Unique considerations for different patient cohorts undergoing transfusion:
  - » patients receiving recurrent or frequent transfusions, including haemoglobinopathies
  - » patients undergoing bone marrow transplantation
  - » patients with autoimmune haemolytic anaemia or receiving monoclonal antibodies that interfere with pretransfusion testing, such as:
    - o anti-CD38
    - o anti-CD47

UNDERTAKING THERAPY

Advanced Trainees will monitor the progress of patients during the therapy.

Blood components

- Administration and monitoring requirements for patients undergoing transfusion
- Fresh component modifications, including:
  - » apheresis versus whole blood donations and low anti-A / B titre fresh components
  - » cytomegalovirus (CMV) seronegative donors
  - » human leukocyte antigens (HLA)-compatible platelet
  - » hyperconcentrated red cell requirements
  - » immunoglobin A (IgA) deficient components
  - » irradiation requirements

- phenotype red cells
- washed fresh components

- Manufacture of blood components and products
- Storage and transport requirements for:
  - fractionated products
  - fresh and frozen blood components

Blood transfusion

- Comply with national guidelines and standards to ensure safe and appropriate transfusion practice
- Decision to transfuse should be informed by evidence-based patient blood management principles
- Liaison with national transfusion services for patients with complex transfusion requirements:
  - platelet refractoriness
  - rare red cell antibodies
  - severe adverse transfusion reactions reporting, such as:
    - transfusion-related acute lung injury (TRALI)
    - transfusion-transmitted bacterial infection (TTBI)
- Patient blood management, including evidence-based transfusion thresholds
- Recognise and manage adverse transfusion reactions
- Recognise and report to local and/or national haemovigilance systems
- Transfusion documentation, including:
  - assessment of response to transfusion
  - informed consent

Fractionated blood components

- Indication and administration requirements of fractionated products, including:
  - hyperimmune immunoglobulin:
    - hepatitis B immunoglobulin
    - intravenous or subcutaneous immunoglobulin
    - plasma-derived clotting factors and albumin
- RhD immunoglobulin

POST-THERAPY

Advanced Trainees will know how to monitor and manage patients post-therapy.

- Assessment and documentation of outcomes of transfusion
- Follow-up of adverse transfusion reactions and events
- Haemovigilance reporting

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.

- Function of the hospital transfusion committee
- Governance of the national blood supply
- Role of audit and quality improvement science in transfusion

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Bleeding
- Dysmorphic features
- Failure to thrive
- Infections
- Jaundice
- Pallor
- Seizures

Conditions

- Anaemia:
  - autoimmune haemolysis
  - neonatal haemolysis (haemolytic disease of the newborn)
  - nutritional deficiencies
  - red cell enzymopathies
  - red cell membrane disorders
- Bone marrow failure:
  - acute myoblastic leukaemia
  - congenital bone marrow failure syndromes
  - infant leukaemia
  - neuroblastoma
  - transient myelopoiesis in Trisomy 21 disorders
- Haemoglobin disorders:
  - major thalassaemia syndromes
  - sickle cell disease
- Haemostasis disturbance:
  - acquired inhibitors of coagulation
  - congenital bleeding disorders
  - congenital platelet function disorders
- Leucopenia:
  - alloimmune neutropenia
  - congenital immunodeficiencies
  - congenital neutropenias
  - sepsis
- Neonatal bleeding disorders:
  - acquired failure
  - congenital
  - gestational alloimmune liver disease (GALD)
- Neonatal thrombosis
- Thrombocytopenia:
  - alloimmune thrombocytopenia
  - congenital thrombocytopenic disorders
  - idiopathic thrombocytopenic purpura (ITP)

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[22] 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

[22] References to patients in the remainder of this document may include their families, whānau, and/or carers.

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** • Necrotising enterocolitis (NEC) • Sepsis **Conditions** • Methaemoglobinaemia
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Abnormal and normal changes to haemoglobin structure through fetal and neonatal periods • Causes of neonatal anaemia and thrombocytopenia • Developmental haemostasis • Molecular diagnosis of congenital bleeding disorders • Pathophysiology of fetal and maternal immune-mediated cytopenias • Pre-term and low birth weight neonates, and haematological complications of prematurity • Risk factors and management of neonatal thrombosis •
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** • ABO, including haemolysis: » glucose-6-phosphate dehydrogenase (G6PD) » lactate dehydrogenase (LDH) » reticulocyte count » serum bilirubin (SBR) • Full blood count direct antiglobulin testing (maternal blood group) • Genetic chromosomes • Haemostasis / liver and factor deficiencies • Imaging • Kleihauer–Betke test • Metabolic screen • Microarray • Next-generation sequencing (NGS) • Testing for fetomaternal alloimmune thrombocytopenia (FMAIT) and neonatal alloimmune neutropenia • Thrombophilia screen testing **Procedures** • Blood products for transfusion in neonates and children, such as: » directed donation » exchange transfusion » haemoglobin electrophoresis and high-performance liquid chromatography (HPLC) » massive transfusion » transfusion of premature neonates
IMPORTANT SPECIFIC ISSUES Advanced Trainees will identify important	• Bone marrow in a neonate • Exchange transfusion • National guidelines for blood component transfusion • Neonatal screening programs and indications for other siblings

specialty-specific issues and the impact of these on diagnosis and management and integrate these into care.	

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Erythema
- Hyperviscosity
- Incidental findings on blood test
- Thrombosis and bleeding

Conditions

- Chronic myeloid leukaemia
- Essential thrombocytosis (ET)
- Familial / Congenital erythrocytosis and thrombocytosis
- Hypereosinophilia syndromes
- Juvenile myelomonocytic leukaemia (JMML)
- Mastocytosis
- Myelofibrosis (MF)
- Polycythemia vera (PV)
- Transient abnormal myelopoiesis (TAM)

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

- Incidental finding on blood test

Conditions

- Atypical chronic myeloid leukaemia
- Myelodysplastic syndrome / Myeloproliferative neoplasm overlap syndromes

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[23] 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

EPIDEMIOLOGY, PATHOPHYSIOLOGY,

- Associated pathophysiology and morphology
- Genetic landscape of myeloproliferative neoplasms, such as:
  - » driving lesions
  - » risk stratification

[23] References to patients in the remainder of this document may include their families, whānau, and/or carers.

AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Mechanisms of myeloproliferative disease, including causes of symptoms • Polycythaemia and thrombocytosis: » acquired and secondary causes » inherited causes
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** • Clinical trial agents • Clonal myeloproliferative neoplasms (MPNs): » complications » diagnostic criteria » major differential diagnoses » prognostic classification » treatment, such as: o pharmacological means o radioisotope o venesection » venesection cut-off criteria for different polycythaemia groups • Diagnostic criteria for juvenile myelomonocytic leukaemia (JMML) and myeloid proliferations associated with Down syndrome • Genomic testing for: » congenital / inherited: o polycythaemia o thrombocytosis • Watch and wait scenarios **Procedures** • Bone marrow biopsy • Indications for stem cell transplant • Non-surgical management of massive splenomegaly
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.	• Common and serious complications of: » ET » MF, such as haemorrhage, leukaemia, and thrombosis, including: o awareness of differences in incidence of these complications between the types of myeloproliferative disorders (MPD) o interaction of treatment on these complications » PV • Patient management throughout the course of illness • Regular evaluation of treatment effectiveness, and at appropriate intervals

Knowledge guide 9 – Laboratory haematology in clinical practice

Advanced Training in Haematology (Paediatrics & Child Health)

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.

This guide is intended to provide a structured approach to training for clinical trainees during their dedicated laboratory training time, and laboratory staff contributing to their education & assessment.

Clinical sciences and pathophysiology

- Diagnosis of acute leukaemia and other white blood cell disorders
- Diagnosis of disorders in:
  - coagulation
  - haemostasis
  - platelets
- Diagnosis of other bone marrow pathologies
- Diagnosis of red blood cell disorders, including:
  - haemoglobinopathies
  - infections
  - metabolic diseases
  - microangiopathies
- Genomic investigations in haematology
- Transfusion medicine

Epidemiology

- Reference ranges for:
  - age
  - ethnicity
  - sex

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[24], families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.

Diagnostic laboratory investigations

- Biochemical investigations relevant to haematology
- Blood bank investigations, including:
  - antibody screen
  - blood group
  - crossmatch
- Blood film examination, particularly focusing on recognition of common or life-threatening disorders
- Bone marrow morphology of common haematological diseases
- Cytogenetic analysis
- Flow cytometry
- Full blood count (FBC) interpretation
- Haemoglobinopathy diagnosis
- Interpretation of anatomical pathology reports relating to haematological malignancies and associated disorders
- Molecular genetic testing
- Tests of haemostasis and platelet function

Procedures

- Apheresis
- Blood collection and specimen requirements
- Bone marrow aspiration and biopsy

[24] References to patients in the remainder of this document may include their families, whānau, and/or carers.

IMPORTANT SPECIFIC ISSUES

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

- It is intended that during laboratory training, clinical haematology trainees will:
  - » become competent at bone marrow collection
  - » develop a basic overview of the role of the blood bank, including actions necessary to provide safe blood products in patients with auto- and alloantibodies, and understand the blood bank response to massive transfusion scenarios
  - » develop an understanding of the principles of genetic testing, such as:
    - o principles of somatic mutation qualitative and quantitative testing
    - o rather than method detail, develop an understanding of the appropriate application of testing
    - o understand the sensitivity of tests
    - o understand what constitutes a significant change in serial quantitative testing
  - » develop an understanding of the utility of flow cytometry in the diagnosis of haematological disorders, as well as an understanding the limitations of the method
  - » develop basic microscopy skills, and an appreciation of morphological features seen in blood and marrow for common haematological diseases
  - » develop skills in interpretation of basic coagulation studies, and common reasons for derangement of these tests
  - » principles of administration and governance of a haematology laboratory, including:
    - o accreditation
    - o conflict resolution
    - o document control
    - o quality assurance

It is not intended for the RACP (physician only) trainees to become proficient in signing out laboratory reports, but rather to understand the principles of the haematology laboratory as it relates to the practice of clinical haematology.

PCH

- Practical and theoretical differences in laboratory procedures when dealing with neonatal and paediatric samples, including:
  - » cross-matching / provision of blood products for neonates
  - » differing significance of morphological features in paediatric blood films compared to adults
  - » significance of age-related reference ranges
  - » small volume sample integrity and sample processing