NEW CURRICULA

Curriculum standards

Advanced Training in Rheumatology (Adult Medicine)

February 2025

RACP Specialists. Together

About this document

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

This document outlines the curriculum standards for Advanced Training in Rheumatology (AM) for trainees and supervisors. The curriculum standards should be used in conjunction with the Advanced Training in Rheumatology (AM) LTA program.

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 rheumatologist is an internal medical physician who specialises in diagnosing, treating, and managing diseases of the joints, muscles, and bones. There are more than 100 types of rheumatic disease, including inflammatory and degenerative arthritis, fibromyalgia, gout, lupus, osteoporosis, and other connective tissue diseases.

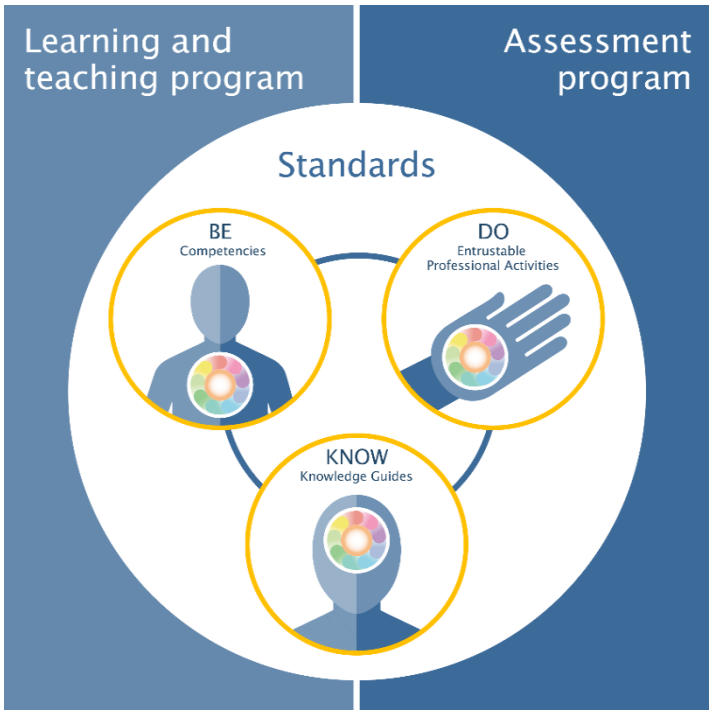
Rheumatologists provide holistic, patient-centred clinical care, covering a broad spectrum of conditions ranging from diseases of the immune system and metabolic bone disorders to chronic musculoskeletal pain syndromes, in both inpatient and outpatient settings. The complex interplay between genetics, environmental factors, and autoimmunity also presents ample opportunity for translational medical research. In the context of an ageing population, there is recognition of an increasing need for rheumatology specialist services. Many patients with established arthritis face social and financial difficulty due to debilitating disease, leading to decreased capacity to engage with the wider community and maintain employment. This often has a profound personal impact on the patient and their families, whānau, and/or carers, and has broad implications for society and government. Arthritis has been identified as a national health priority in Australia.

Rheumatologists have expertise in:

- **diagnosis and management.** Rheumatologists are highly trained in the diagnosis, investigation, and holistic management of patients, encompassing the management of pain, reduction of inflammation, and preservation of musculoskeletal function for all forms of arthritis, autoimmune connective tissue disease, spinal and soft tissue disorders, chronic musculoskeletal pain syndromes, and certain metabolic bone disorders, including osteoporosis.
- **clinical skills.** Rheumatologists apply clinical skills and laboratory and medical imaging modalities to assess, diagnose, and manage rheumatologic diseases.

- **providing advice**. Rheumatologists advise referring and primary care physicians, address disease-specific questions, and respond to requests for procedures.
- **ongoing care of patients.** Rheumatologists provide ongoing follow-up of patients with inflammatory diseases, providing targeted treatment, determining when to escalate therapy, and assessing treatment efficacy and safety.
- **effective communication.** Rheumatic diseases are frequently chronic. Due to the longitudinal nature of care, skilful communication engendering lasting rapport with patients remains an enduring, critical facet of rheumatology practice. Rheumatologists must be able to explain complex medical concepts in a clear and understandable manner and provide emotional support to patients coping with chronic diseases.
- **interdisciplinary collaboration.** Rheumatologists often work closely with other healthcare professionals, including occupational therapists, orthopaedic surgeons, physical therapists, and primary care physicians, to provide comprehensive care to patients with rheumatic conditions.
- **research skills.** Many rheumatologists are involved in research to advance the understanding and treatment of rheumatic diseases. Strong research skills are beneficial for conducting clinical trials, publishing scientific papers, and staying up to date with the latest developments in the field.

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 improvement**	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

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 • understand the range of team members' skills, expertise, and roles • acquire and apply leadership techniques in daily practice • collaborate with and motivate team members • encourage and adopt insights from team members • act as a role model.	
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

[4] 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	• self-evaluate personal professional practice regularly, and implement changes based on the results • seek feedback proactively from supervisors and colleagues on 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 • understand the ethics of resource allocation by aligning optimal patients and organisational care • 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	• 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 • 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

[5] 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 learned about patient safety by identifying and discussing risks with learners • assess learners' competence, and provide timely feedback to minimise risks to care • maintain the safety of patients and organisations involved with education, and appropriately identify and action concerns	• 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 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 improvement

Theme	Quality improvement	AT-EPA-03
Title	**Identify and address failures in health care delivery**	
Description	This activity requires the ability 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 and enhance health care • monitor one's own practice and develop individual improvement 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 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 • 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 • monitor personal professional performance regularly • recognise and manage risks of diagnostic biases, such as eligibility for medications used in the management of certain conditions	• contribute to processes on identified opportunities for improvement • recognise the importance of prevention and early detection in clinical practice • use local guidelines to assist patient care decision making
Communication	• support patients[7] 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	• demonstrate awareness of the evidence for consumer engagement and its contribution to quality improvement in health care

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

	• 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 open disclosure policy of the healthcare organisation in which they work	• 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 quality and safety activities in their healthcare organisation, including morbidity and mortality reviews, clinical incident reviews, root cause analyses, and corrective action preventative action plans • participate in systems for surveillance and monitoring of adverse events and 'near misses', including reporting such events • ensure that identified opportunities for improvement are raised and reported appropriately • use clinical audits and registries of data on patients' experiences and outcomes, learnings from incidents, and complaints to improve care	• demonstrate understanding of a systematic approach to improving the quality and safety of health care
Teaching and learning	• translate quality improvement approaches and methods into practice • participate in recognised 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	• 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	• explain 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	• 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 a culture in the healthcare organisation that enables and prioritises patients' safety and quality care	• comply with professional regulatory requirements and codes of conduct
Judgement and decision making	• analyse and evaluate current care processes to improve care • use decision-making support tools, such as guidelines, protocols, pathways, and reminders	• 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 • involve clinical pharmacists in the medication-use process	• demonstrate attitudes of respect and cooperation among members of different professional teams • partner with clinicians and managers to ensure patients receive appropriate care and information on their care
Health policy, systems, and advocacy	• participate in 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	• 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[8] • 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 • assess the severity of problems, the likelihood of complications, and clinical outcomes • develop management plans based on relevant guidelines, and consider the balance of benefit and harm by taking patients' personal sets of circumstances into account • provide appropriate monitoring for long-term complications • use pre-test probability of diseases and prevalence and predictive value of certain tests	• 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

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

	• recognise and manage risks of diagnostic biases, such as eligibility for medications used in the management of certain conditions	
Communication	• communicate openly, listen, and take patients' concerns seriously, giving them adequate opportunity to ask questions • communicate the risks and benefits of immunosuppression • 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 • communicate clinical uncertainties, both diagnostic and management-related, with colleagues, patients, families, and carers • evaluate and manage risks and benefits of treatment, and communicate these to patients	• 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 • use clinical information technology systems for conducting prospective and retrospective clinical audits • evaluate and explain the benefits and risks of investigations, clinical interventions, or proposed management plans based on individual patients' circumstances • coordinate and encourage innovation, and objectively evaluate improvement initiatives for outcomes and sustainability	• 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 • reflect upon and self-evaluate professional development regularly	• set unclear goals and objectives for self-learning • self-reflect infrequently • deliver teaching considering learners' level of training

	• obtain informed consent before involving patients in teaching activities • turn clinical activities into an opportunity to teach, appropriate to the setting	
Research	• search for, find, compile, analyse, interpret, and evaluate information relevant to the research subject • select studies based on optimal trial design, freedom from bias, and precision of measurement • remain up to date with emerging treatment options	• 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 safe 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 • display an understanding for cultural 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, risk, and uncertainty • 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 • recognise 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 • aim to achieve the optimal cost-effective patient care to allow maximum benefit from the available resources	• identify and navigate components of the healthcare system relevant to patients' care • 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 the transition of patients' care to ensure the optimal continuation of care between healthcare providers • anticipate and address the issues and challenges faced when transitioning from paediatric to adult care • identify appropriate care providers and other stakeholders with whom to share patients'[9] information • exchange pertinent, contextually appropriate, and relevant patient information • perform this activity in multiple settings, appropriate to rheumatology, 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 • facilitate the transition from paediatric to adult care	• comprehend the details of patients' conditions, illness severity, and potential emerging issues, with appropriate actions • provide accurate summaries of patients' information with accurate identification of problems or issues
Communication	• 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 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

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

	• communicate with patients about transitions of care, and engage and support them in decision making	
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 • demonstrate understanding 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 patients' preferences, and whether they are realistic and possible, respecting patients' choices • recognise the timing, location, privacy, and appropriateness of sharing information with patients	• disclose 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 • demonstrate understanding of the clinical, ethical, and legal rationale for information disclosure • share information about patients' care in a manner consistent with privacy law and professional guidelines on confidentiality • explain 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	• maintain respect for patients and other health professionals, including respecting privacy and confidentiality

Judgement and decision making	• correctly advise, where possible, that 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 • demonstrate understanding of the medical governance of patient care, and the differing roles of team members • show respect for the roles and expertise of other health professionals, and work effectively as a member of professional teams • ensure that multidisciplinary teams provide the opportunity for patients' engagement and participation when appropriate	• recognise factors that impact 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 transition of care • engage in organisational processes to improve transitions of care, such as formal surveys or follow-up phone calls after hospital discharge	• 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[10], 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 The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity 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 • explain potential risks and complications of resuscitation • assess, diagnose, and manage acute undifferentiated clinical presentations • select investigations that ensure maximum patient safety through excluding or diagnosing critical patient issues • identify causes of acute deterioration in health status and levels of physical and cognitive functioning • manage escalations or transitions of care in a proactive and timely manner • develop plans of multidisciplinary treatment, rehabilitation, and secondary prevention following acute events	• 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

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

	• provide clear and effective discharge summaries with recommendations for ongoing care • optimise medical management before 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 and healthcare team members to allow shared decision making • negotiate realistic treatment goals, and determine and explain the expected prognoses and outcomes • employ communication strategies appropriate for younger patients or those with cognitive difficulties, considering capacity for medical decision making • 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 • 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
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 wards

Research	• 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 safe way by considering variation in family structures, cultures, religion, or belief systems • integrate culturally safe 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 safety 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 • consider the consequences of delivering treatment that is deemed futile, directing to other care as appropriate • facilitate interactions within multidisciplinary teams, respecting values, encouraging involvement, and engaging all participants in decision making • reflect critically on personal beliefs and attitudes, including how these may affect patients' care and healthcare policy	• communicate medical management plans as part of multidisciplinary plans • establish, where possible, patients' wishes and preferences about care • contribute to building a productive culture within teams
Judgement and decision making	• 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 • recognise the need for escalation of care, and escalate to appropriate staff or services	• involve additional staff to assist in a timely fashion when required • recognise personal limitations and seek help in an appropriate way when required

	• use care pathways effectively, including identifying reasons for variations in care	
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	• explain the systems for the escalation of care for deteriorating patients • explain 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[11] • manage chronic and advanced conditions, comorbidities, complications, and disabilities • collaborate with other health care providers • ensure continuity of care • facilitate patients' 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 The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• assess and review care plans for patients with chronic conditions and disabilities regularly, 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, including those from immunosuppression • advise on appropriate preventative measures, such as cancer and cardiovascular screening and vaccination, tailored to patients' conditions and treatment histories	• 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

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

	• plan and support patients' transitions of care from paediatric to adult rheumatology services, acknowledging that management plans for childhood and adult rheumatic diseases may differ • demonstrate a reflective understanding of the differences and similarities between paediatric, adolescent, and adult care, and help empower young people to negotiate their own care	
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 • communicate with multidisciplinary team members, and involve patients in that dialogue • exhibit high-level communication skills, including active listening, empathy, clarity, adaptability, and continuous self-improvement, to best manage the consultative environment	• 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
Quality and safety	• use innovative models of chronic disease care management, such as 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 • contribute to clinical databases or audits to better understand comorbidities, disease progression, and treatment impact	• 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, and be aware of the limitations of clinical guidelines	• use clinical practice guidelines for chronic diseases management

	• educate patients to recognise and monitor their symptoms, and undertake strategies to assist their recovery	
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 • contribute to the body of knowledge regarding the management of chronic disease	• 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	• 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 proxy 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 • reflect dispassionately on own actions, behaviours, and decisions	• recognise personal limitations and seek help in an appropriate way when required
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 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	• demonstrate awareness of government initiatives and services available for patients with chronic diseases and disabilities, and display knowledge of how to access them

	• 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 • explain the non-biologic determinants of poor health and care, and advocate for the medically underserved

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: • adopt a patient-centred perspective, including adjusting for cognition and disabilities • consult with the patient[12] to select a suitable context, and include family and/or carers and other team members as required • select and use appropriate modalities and communication strategies • structure conversations intentionally • negotiate mutually agreed management plans • verify patients', family members' or carers' understanding of information conveyed • develop and implement plans to ensure 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	• ensure patients understand their condition and likely natural history • 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 • seek to understand the concerns and goals of patients, and plan management in partnership with them • bring together information for patients to enable them to make informed decisions about diagnostic, therapeutic, and management options, considering their goals of care	• apply knowledge of the scientific basis of health and disease to the management of patients • explain clinical problems being discussed • formulate management plans in partnership with patients
Communication	• use appropriate communication strategies 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 clinical jargon

[12] 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 them in decisions about their care • recognise when the therapeutic relationship should end, and understand ethical and legal requirements	• check patients' understanding of information • adapt communication style in response to patients' age and developmental level, and cognitive, physical, cultural, and psychosocial 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 • 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 approved by human research ethics committees, 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 • explain 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 safe communication with Aboriginal and Torres Strait Islander peoples and Māori • communicate effectively with members of other cultural groups by meeting patients' specific language, cultural, and communication needs • use qualified language interpreters or cultural interpreters to help meet patients' communication needs • provide plain language and culturally appropriate written materials to patients when possible	• 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 in caring for themselves and managing their health • demonstrate mutually 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 patients' autonomy, and support their decision making • avoid sexual, intimate, and/or financial relationships with patients • demonstrate a caring attitude towards patients • respect patients, including protecting their rights to privacy and confidentiality • behave equitably towards all, irrespective of gender, age, culture, socioeconomic status, sexual preferences, beliefs, contribution to society, illness-related behaviours, or the illness itself • use social media ethically and according to legal obligations to protect patients' confidentiality and privacy
Leadership, management, and teamwork	• communicate effectively and respectfully with team members involved in patients' care, and with patients • communicate accurately and succinctly, and motivate others on the healthcare team	• answer questions from team members • summarise, clarify, and communicate responsibilities of healthcare team members • keep healthcare team members focused on patient outcomes

	• discuss medical assessments, treatment plans, and investigations with patients and primary care teams, working collaboratively with all • discuss patients' care needs, considering their goals of care, with healthcare team members to align them with appropriate resources • facilitate a respectful environment in which all team members feel they can contribute, and their opinion is valued	
Health policy, systems, and advocacy	• collaborate with other services, such as community health centres and consumer organisations, to help patients navigate the healthcare system	• communicate with and involve other health professionals as appropriate

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, national regulating authorities, potential drug interactions, and risks • communicate with patients[13] 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 The trainee will:	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity The trainee may:
Medical expertise	• identify the patients' disorders requiring pharmacotherapy • consider non-pharmacologic therapies • consider age, allergies, chronic disease status, funding of medicines, lifestyle factors, patients' preference, potential drug interactions, and pre-immunosuppression infection status prior to prescribing new medications • apply to national funding bodies for medications with funding restrictions • 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 • demonstrate understanding of the benefits, contraindications, dosage, drug interactions, rationale, risks, and side effects • identify and manage adverse events
Communication	• discuss and evaluate the risks, benefits, and rationale of treatment options, making decisions in partnership with patients • write clear and legible prescriptions in plain language, and include specific indications for the anticipated duration of therapy	• discuss and explain the rationale for treatment options with patients • 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

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

	• show awareness of the application process to regulatory authorities for restricted medications • describe how the medication should and should not be administered, including any important relationships to food, time of day, and other medicines being taken • explain the relevant steps involved in subsequent medication monitoring, along with management when patients are unwell, hospitalised, or before surgery • 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 • explain the benefits and burdens of therapies, considering patients' individual circumstances
Quality and safety	• review medicines regularly to improve 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 continuously updated software for computers and electronic prescribing programs • ensure patients understand management plans, including adherence issues	• undertake continuing professional development to maintain currency with prescribing guidelines • reflect on prescribing, and seek feedback from a supervisor

	• use appropriate guidelines and evidence-based medicine resources to maintain a working knowledge of current medicines, keeping up to date on new medicines • provide patients with written or electronic resources to support education on their condition • include education in correspondence to the primary care physician to enable improved chronic care in the community	
Research	• appraise research material critically 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	• appreciate patients' cultural and religious backgrounds, attitudes, and beliefs, and how these might influence the acceptability of pharmacological and non-pharmacological management approaches
Ethics and professional behaviour	• 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 the medicine should be stopped • make prescribing decisions based on good safety data when the benefits outweigh the risks involved • demonstrate understanding of the ethical implications of pharmaceutical industry-funded research and marketing	• 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 • 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	• recognise personal limitations and seek help in an appropriate way when required • consider the following factors for all medicines: » 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 • communicate rationale for medications and safety monitoring to primary care physicians, along with advice on medication management	• 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	• 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[14] • 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 • interpret the results and outcomes of procedures, including imaging and reports • communicate the outcome of procedures and associated investigations to patients.	

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	• select procedures by assessing patient-specific factors, alternatives, benefits, and risks • perform procedures by identification of anatomical landmarks or by imaging guidance, such as ultrasound • ensure team members are aware of all allergies / adverse reactions identified, and take precautions to avoid allergies / adverse reactions during procedures • ensure patients have complied with preprocedural preparation • recognise and effectively manage complications arising during or after procedures • recognise and correctly interpret normal and abnormal findings of diagnostic 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

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

Communication	• explain procedures clearly to patients, 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' concerns relating to procedures, providing opportunities to ask questions • tailor language according to individual patients' age and capacity to understand • 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 choose procedures • discuss postprocedural care with patients • 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 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
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 and new procedures • provide specific and constructive feedback and comments to junior colleagues • initiate and conduct skills training for junior staff	• participate in continued professional development • help junior colleagues develop new skills • seek feedback proactively on personal technique until competent
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	• identify appropriate proxy decision makers when required • show respect for knowledge and expertise of colleagues • maximise patients' autonomy in decision making	• perform procedures when adequately supervised • follow procedures to ensure safe practice

	• maintain a policy of open disclosure if errors are made during procedures • document procedures in the clinical notes accurately, including informed consent, procedures requested and performed, reasons for procedures, medicines given, aseptic technique, and aftercare	
Judgement and decision making	• identify roles and optimal timing for diagnostic procedures • make clinical judgements and decisions based on available evidence • adapt procedures in response to assessments of risks to individual patients • select appropriate investigations on the samples obtained in diagnostic procedures	• 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 patients and staff with clear aftercare instructions, and explain how to recognise possible complications • identify relevant management options with colleagues, according to their level of training and experience, to reduce error, prevent complications, and support efficient teamwork • coordinate efforts, encourage others, and accept responsibility for work done	• ensure all relevant team members are aware that a procedure is occurring • discuss patients' management plans for recovery with colleagues
Health policy, systems, and advocacy	• discuss serious incidents at appropriate clinical review meetings • initiate local improvement strategies in response to serious incidents • use resources efficiently when performing procedures	• perform procedures in accordance with the organisational guidelines and policies

EPA 11: Investigations

Theme	Investigations	AT-EPA-11
Title	**Select, organise, and interpret investigations**	
Description	This activity requires the ability to: • select and plan appropriate investigations in partnership with patients[15] • prioritise patients receiving investigations (if there is a waiting list) • evaluate the anticipated value of investigations • interpret the results and outcomes of investigations • communicate the outcome of investigations to patients.	
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 • elicit patients' concerns, and determine the need for specific tests that are likely to result in overall benefit • develop plans for investigations, including consideration of timing and potential impact of investigations on patients' care • recognise and correctly interpret abnormal findings, considering patients' specific circumstances, and act accordingly • recognise and discuss relevant false positive and false negative results in the right clinical context • explain the emerging role of genetic testing in a range of rheumatology conditions	• provide rationale for investigations • recognise the significance of abnormal test results, and act on these • consider patient factors and comorbidities • consider age-specific reference ranges
Communication	• use clear and simple language, and check that patients understand the terms used and that they agree to proceed with proposed investigations • explain findings or possible outcomes of investigations to patients	• discuss the benefits, complications, indications, and risks of investigations with patients before ordering investigations • arrange investigations, providing accurate and informative referrals, and liaise with other services where appropriate

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

	• explain to patients the potential benefits, burdens, costs, risks, and side effects of each option, including the option to have no 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 deciding • use written or visual material or other aids that are accurate and up to date to support discussions with patients • provide information that patients may find distressing in a considerate way	• explain the results of investigations to patients
Quality and safety	• identify adverse outcomes that may result from proposed investigations, focusing on patients' individual situations	• consider safety aspects of investigations when planning them • seek help with interpretation of test results for less common tests or indications or unexpected results
Teaching and learning	• 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	• recognise 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	• discuss with patients how decisions will be made once the investigation has started and the patient is not able to participate in decision making • respect patients' decisions to refuse investigations, even if their decisions may not be appropriate or evidence based • advise patients there may be additional costs, which they may wish to clarify before proceeding	• 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 • involve patients in decision making regarding investigations, obtaining the appropriate informed consent, including financial consent, if necessary

	• remain within the scope of the authority given by patients (with the exception of emergencies) • 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	• practise within own limits, and seek help when needed
Judgement and decision making	• evaluate the benefits, costs, 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	• 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 understanding of what parts of investigations are provided by different doctors or health professionals
Health policy, systems, and advocacy	• select and justify investigations regarding the pathological basis of disease, appropriateness, utility, safety, and cost effectiveness • consider resource use 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, ensure appointments are arranged in a timely manner according to clinical urgency, and follow up investigations in a timely way • oversee quality improvement activities • communicate with patients[16] • liaise with other health professionals and team members • demonstrate problem-solving skills • use public resources responsibly.	
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	• identify and address current clinical concerns effectively, 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 the clinical notes or as part of ambulatory care reviews • update documentation in a timeframe appropriate to the clinical situation of patients	• demonstrate understanding of the importance of prevention, early detection, health maintenance, and chronic condition management • ensure patient appointments are arranged in the appropriate time frame based on clinical urgency
Communication	• help patients navigate the healthcare system to improve access to care by collaboration with other services, such as community health centres and consumer organisations • link patients to specific community-based health programs and group education programs • involve patients in active decision making concerning their own medical care	• wherever practical, meet patients' specific language and communication needs • facilitate appropriate use of interpreter services and translated materials

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

	• provide patients with written information relevant to diagnosis, and use rheumatology resources of relevance • provide adequate clinical handover to other healthcare workers involved in patients' care	
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 • identify aspects of service provision that may be a risk to patients' safety • ensure that patients are informed about fees and charges	• take reasonable steps to address issues if patients' safety may be compromised • recognise a systematic approach to improving the quality and safety of health care • participate in organisational quality and safety activities, including clinical incident reviews
Teaching and learning	• evaluate 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 about their rights, the purpose of the research, the procedures to be undergone, and the potential risks and benefits of participation before obtaining consent • initiate research questions by identifying areas of clinical need • ensure research is carried out as per study protocol • coordinate patient recruitment and date collection	• allow patients to make informed and voluntary decisions to participate in research • be aware of research activities and opportunities • participate in research activities • contribute to discussion of relevant rheumatology research • develop research protocol, including ethics application • explain 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	• 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	• 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	• maintain the confidentiality of documentation, and store clinical notes appropriately

	• respect the roles and expertise of other health professionals • comply with the legal requirements of preparing and managing documentation • explain financial and other conflicts of interest	• understand the responsibility to protect and advance the health and wellbeing of individuals and communities • ensure that the use of social media is consistent with ethical and legal obligations
Judgement and decision making	• integrate prevention, early detection, health maintenance, and chronic condition management, where relevant, into clinical practice • work to achieve optimal and cost-effective patient care that allows maximum benefit from the available resources	• explain the appropriate use of diagnostic interventions, health care facilities, human resources, and therapeutic modalities • discuss complex cases with other relevant medical specialties and peers to enhance patient care • apply evidence-based practice to clinical decisions
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	• explain common population health screening and prevention approaches

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	Foundations of adult rheumatology
2	Inflammatory arthritis
3	Connective tissue disease
4	Vasculitis
5	Osteoarthritis, pain syndromes, and regional musculoskeletal disorders
6	Muscle disorders
7	Conditions that overlap with other specialties
8	Autoinflammatory disease

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.

- Anatomy structure and function relevant to musculoskeletal disease
- Basic knowledge of non-musculoskeletal conditions involved in rheumatic disease differential diagnosis, or those which have implications on rheumatic condition management, such as:
  - cardiovascular and kidney disease
  - diabetes mellitus
  - hypercoagulable states
  - hypertension
  - infections
  - interstitial lung diseases
  - malignancies, including:
    - haematological
    - solid mass
  - muscle dystrophies and metabolic myopathy
- Epidemiological principles, such as:
  - cultural, economic, individual, and societal impact of rheumatic disease
  - incidence, outcomes, and prevalence of rheumatic disease in different patient groups and populations
  - limitations of investigations, and their appropriate use and interpretation
- Immunology, including an understanding of the cells and pathways involved in the innate and adaptive immune systems
- Non-pharmacological and non-surgical interventions
- Pharmacological principles, such as the appropriate selection of medications and other therapeutic options
- Physiology relevant to musculoskeletal conditions

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[17], families, and carers, and be able to explain procedural risk

Clinical assessment tools

- Measures of cumulative damage, disease activity, functional status, and quality of life appropriate to the patient's condition

Investigations and procedures

- Aspiration:
  - bursae
  - joints
- Diagnostic imaging techniques
- Injections – intra-articular
- Synovial fluid analysis

Investigations – optional

- Biopsy and histopathology:
  - kidney
  - metabolic bone
  - muscle
  - peripheral nerve
  - skin
- Polarised light microscopy for crystal arthritis
- Neuroelectrophysiological tests, such as:
  - electromyography
  - nerve conduction studies

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

and obtain informed consent where applicable.	
IMPORTANT SPECIFIC ISSUES Advanced Trainees will identify important specialty-specific issues and the impact of these on diagnosis, management and outcomes.	• Considerations for the transition from paediatric to adult care • Disability determination, such as: » career advice and planning » carer allowance and payments » difference between impairment and disability » disability pension, social security disability, and workers compensation » educational supports » medical and function evaluation and measurement • Impact of determinants of health on overall rheumatology patient management, such as: » access to care, such as geography » cultural, language, religious, and socioeconomic diversity » emotional and psychological burden of chronic disease » spiritual aspects of disease • Pharmaceutical Benefits Scheme (PBS) / Pharmac prescribing requirements for biologic disease-modifying antirheumatic drugs (DMARD) • Psychosocial aspects of disability and pain • Transitional care of adolescents, and transfer to adult services

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Joint:
  - pain
  - stiffness
  - swelling

Conditions, including, but not limited to:

- Arthritis:
  - crystal
  - infective or post-infective
  - juvenile idiopathic arthritis
  - psoriatic
  - rheumatoid
  - spondyloarthritis

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.

- Synovitis, acne, pustulosis, hyperostosis and osteitis syndrome (SAPHO)

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

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

- Fundamental epidemiology and pathophysiology of the principle arthritides

Therapeutics and management principles

- Pharmaceutical Benefits Scheme (PBS) / Pharmac prescribing
- Pharmacological and non-pharmacological management of pain from inflammatory disease

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

Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Pharmacology and toxicity of immunosuppression • Pharmacotherapeutic management of inflammatory disease, such as: » biologic and targeted synthetic disease-modifying antirheumatic drugs (DMARDs) » conventional DMARDs » glucocorticoids, including oral and intra-articular (IA), and long-term side effects » gout therapy » management of metabolic risk factors » monitoring of potential drug-related complications and side effects • Pre-immunosuppression screening and appropriate treatment or prophylaxis • Selection of drug therapy or immunosuppression based on: » local prescribing / funding restrictions » patient factors » severity of arthritis
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 utility and limitations of laboratory tests for inflammatory arthritis • Disease activity scores for various inflammatory arthritides • Strengths and limitations of imaging in the diagnosis and management of inflammatory arthritis **Procedures** • Aspirate – joint, for synovial analysis • Injection – intra-articular joint
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.	• Genetic and cultural differences in the presentation and management of inflammatory arthritis • Tailoring management of inflammatory arthritis to individual patients' circumstances, such as: » at end-of-life » during preconception planning » lactation » old age » pregnancy » transitioning from paediatric care

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Alopecia
- Arthritis, inflammatory
- Cardiac presentations
- Inflammation, ocular
- Lung disease, interstitial
- Lymphadenopathy
- Nervous system manifestations:
  - central (CNS)
  - peripheral (PNS)
- Periungual erythema
- Raynaud phenomenon
- Serositis
- Sicca
- Skin changes, such as:
  - calcinosis
  - purpura
  - rash
  - skin thickening
- Thrombosis:
  - ocular
  - vascular
- Ulcers, mouth

Conditions

- Antiphospholipid syndrome
- Adult-onset Still disease
- Immunoglobulin G4 (IgG4)-related disease
- Inflammatory disorders:
  - auricular
  - ocular
- Mixed connective tissue disease / Overlap syndrome
- Non-inflammatory and genetic connective tissue disorders, such as:
  - Ehlers–Danlos syndrome
- Polychondritis, relapsing
- Sarcoidosis
- Sjögren syndrome:
  - primary
  - secondary
- Systemic lupus erythematosus (SLE):
  - cutaneous lupus
  - drug-induced lupus
  - systemic

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 these on diagnosis and management

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

	• Systemic sclerosis (SSc): » diffuse cutaneous » limited » mimics: ○ eosinophilic fasciitis » scleredema: ○ scleromyxedema • Undifferentiated connective tissue disease
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** • Erythema nodosum • Panniculitis **Conditions** • Lupus-like disorders, such as: » Aicardi–Goutières syndrome
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Atypical / Variable presentations • Environmental triggers, such as infectious triggers • Female predominance in many autoimmune connective tissue diseases (CTDs) • Genetic and epigenetic factors and their effect on the risk of the development of autoimmune CTDs • Occupational exposures relating to CTDs, such as silica exposure in systemic sclerosis • Pathophysiologic processes that underpin CTDs • Socioeconomic determinants on disease severity • Vaccine-induced disorders **Therapeutics and management principles** • Anticoagulation in antiphospholipid syndrome (APLS) using antiplatelets and, during pregnancy, low-molecular weight heparin • Autologous stem cell transplant • Chimeric antigen receptor (CAR) T-cell and emerging cell therapy • Complications, pharmacology, and toxicity of immunosuppression and pulmonary arterial hypertension management • Induction versus maintenance therapy and immunosuppression • Management of sicca syndrome and CTD-related comorbidities, such as: » cardiovascular diseases » kidney failure » osteoporosis • Pharmacological therapeutics, complications, and drug toxicity in therapeutics, such as appropriate malignancy screening, infection prevention and screening, and vaccination • Raynaud phenomenon treatment selection, including method of delivery, including intravenous, oral, and topical, such as: » calcium channel blocker » iloprost infusion

- non-pharmacological management, such as maintaining warmth and smoking cessation
- other vasodilatory therapies, such as endothelin receptor antagonists and phosphodiesterase type 5 (PDE5) inhibitors
- topical nitrates

- Selection of drug therapy / immunosuppression based on severity of the patient's condition, likelihood of benefit, and organ involvement, including:
  - alkylating agent, such as cyclophosphamide
  - B cell depletion, such as rituximab
  - calcineurin inhibitor, such as:
    - cyclosporin
    - tacrolimus
  - glucocorticoid:
    - intravenous
    - oral
  - interferon blockage, such as anifrolumab
  - other conventional disease-modifying antirheumatic drugs (DMARDs) / immunosuppressive drugs, such as:
    - azathioprine
    - hydroxychloroquine
    - leflunomide
    - methotrexate
    - mycophenolate
    - sulfasalazine

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.

Imaging and other investigations

- Bone density monitoring and assessment
- CT
- Echocardiogram
- Lung function test
- MRI
- PET-CT
- Ultrasound, including point of care ultrasound
- X-ray

Laboratory studies

- Anti-histone antibodies
- Antinuclear antibodies (ANA), including pattern and titre
- Antiphospholipid serology, such as:
  - beta-2 glycoprotein
  - cardiolipin antibodies
  - lupus anticoagulant
- Biopsy, such as:
  - kidney biopsy
  - lymph node:
    - core
    - excisional
  - muscle
  - nerve, sural
  - skin
- Coagulation test
- Complements, such as:
  - C3
  - C4
- C-reactive protein (CRP)
- Double-stranded DNA (dsDNA)
- Erythrocyte sedimentation (ESR)
- Extractable nuclear antigen antibodies (ENA)
- Full blood count (FBC)

- Investigations to exclude mimics of autoimmune disease, including:
  - malignancy, such as:
    - protein electrophoresis
  - metabolic conditions, such as:
    - thyroid function tests
  - relevant infectious serologies
- Kidney function test (EUC)
- Liver function test (LFT)
- Pre-immunosuppression screening, such as:
  - hepatitis:
    - B
    - C
  - human immunodeficiency virus (HIV)
  - latent tuberculosis or gamma-release assay, such as:
    - QuantiFERON Gold
  - strongyloides stercoralis
  - syphilis
  - varicella zoster virus
- Urine analysis, such as:
  - 24-hour collection for protein quantification
  - protein creatine ratio
  - urinary cast
  - urine dysmorphic red cells

Procedures

- Aspirate – joint
- Capillaroscopy – nail fold

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.

- Disease activity scores / indexes, and their role in research and clinical practice
- Interpretation of autoimmune serology in the appropriate clinical context, including interpretation of false positive and false negative results
- Pregnancy planning in the context of CTD:
  - appropriate medication during preconception, pregnancy, and the postpartum period, including breastfeeding
  - disease activity and timing of conception
  - high-risk obstetric clinic referral
  - maternal and fetal risk of individual CTDs, including specific organ involvement
  - SLE monitoring during pregnancy, including appropriate screening and monitoring for neonatal lupus

Knowledge guide 4 – Vasculitis

Rheumatology, Adult Internal Medicine Division

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Altered sensation
- Erection difficulty
- Fever of unknown origin
- Haemoptysis
- Joint swelling
- Mucosal ulceration
- Myalgia
- Pain:
  - » abdominal
  - » claudication symptoms
  - » eye
  - » joint
  - » testicular
- Rash
- Rectal bleeding
- Shortness of breath
- Sinusitis
- Supraglottic stenosis
- Urine change

Conditions

- Antineutrophilic cytoplasmic antibody (ANCA)-associated vasculitis, such as:
  - » eosinophilic granulomatosis with polyangiitis (EGPA)
  - » granulomatosis with polyangiitis (GPA)
  - » microscopic polyangiitis (MPA)
- Behçet disease
- Polyarteritis nodosum (PAN)
- Polymyalgia rheumatica (PMR)
- Thromboangiitis obliterans (Buerger disease)
- Vasculitis:
  - » cutaneous leukocytoclastic
  - » immunoglobulin (Ig)-associated:
    - ○ IgA / Henoch–Schoenlein purpura
    - ○ IgG4
  - » large vessel:
    - ○ giant cell arteritis (GCA):
      - ▪ extra-cranial GCA
    - ○ Takayasu arteritis

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.

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** • Coronary artery disease due to vasculitis • Myocarditis • Pericarditis • Peripheral neuropathy and mononeuritis multiplex **Conditions** • Cogan syndrome • Cryoglobulinemia • Hypereosinophilic syndrome • Kawasaki disease • Periaortitis – Ormond's disease • Primary angiitis of the central nervous system • Sweet syndrome • Vasculitis: » cerebral » drug-induced » necrotising	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Advanced Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Anatomy of arteries, capillaries, and veins • Classification and epidemiology of various systemic vasculitis • Mechanisms of blood vessel damage / inflammation, such as: » altered / damaged endothelial cell function due to infection, toxin, or tumour » ANCA-mediated immune changes » cellular and molecular immune responses involving cytokines and adhesion molecules in endothelial cells » granuloma formation » immune complex formation and deposition • Pattern of arterial involvement and associated organ manifestation in different types of vasculitis **Therapeutics and management principles** • Established and emerging biologic therapy for large vessel vasculitis and PMR, such as alternative IL-6 agents and IL-17 blockage, and Janus kinase inhibitors • Immunosuppression according to: » disease severity » organ involvement » patient factors » the type of vasculitis • Induction and maintenance therapy based on disease activity and relapse risk • Intravenous immunoglobulin • Optimisation of coexisting vasculopathy • Prevention and monitoring of potential treatment complications, such as: » bone health and prevention / management of osteoporosis » cardiovascular disease » general lifestyle, and maintenance of healthy weight » malignancy screening » prophylactic antibiotics and antivirals » safety bloodwork and monitoring of treatments, including disease-modifying antirheumatic drug (DMARD) side effects » smoking cessation » stress (peptic) ulcers and gastrointestinal effects of management » vaccination	

- Recommendation for vascular intervention, including stenting
- Selective use of apheresis therapy / plasma exchange in complex or severe cases of vasculitis
- Supportive, non-pharmacological therapy, such as compression stockings
- The role of, and preference for, prednisone, and the expanding role of steroid-sparing agents to minimise long-term prednisone complications
- Use of other anticytokine therapy, such as mepolizumab for EGPA

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 assessment

- Ophthalmologic examination

Imaging and other investigations

- Bronchoscopy
- CT, such as:
  - angiography
- Echocardiogram
- MRA
- MRI
- Nerve conduction studies
- PET-CT
- Ultrasound – vascular for arteritis

Laboratory studies

- ANCA
- Anti-glomerular basement membrane (GBM)
- Antinuclear antibodies (ANA):
  - double-stranded DNA (dsDNA)
  - extractable nuclear antigen (ENA)
- Biopsy, such as:
  - kidney
  - lymph node
  - muscle
  - nasal
  - skin
  - temporal artery
- Complement, such as:
  - C3
  - C4
- C-reactive protein (CRP)
- Cryoglobulins
- Erythrocyte sedimentation (ESR)
- Full blood count (FBC)
- Hepatitis serology and QuantiFERON Gold (pre-immunosuppression)
- HLA-B51
- Immunoglobulin levels:
  - IgA
  - IgG4
- Kidney function test (EUC)
- Liver function test (LFT)
- Myeloperoxidase (MPO)
- Protein electrophoresis, flow cytometry, and free light chains
- Proteinase 3 (PR-3)
- Rheumatoid factor
- Streptococcal serology
- Urine:
  - analysis, including 24 hour-urine collection
  - immunofixation

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.

- Choice and duration of immunotherapy, minimisation of disease relapse, and subsequent treatment of relapse disease
- Holistic care and lifestyle measures that optimise overall patient health and wellbeing
- Immunosuppression in specific patient groups, such as:
  - advanced age, or who are frail and comorbid
  - allergy or intolerance to medications used
  - child-bearing age
  - coexisting malignancy
  - lactating
  - liver disease or kidney failure
  - pregnant
- Management of non-inflammatory vascular complications and complications relating to immunomodulation
- Medicolegal considerations:
  - appreciation of roles in the medicolegal environment, such as expert witness in the courts
  - independent examiner
  - preparation of documents, including how requirements may vary depending on laws of the local jurisdiction, for:
    - Commonwealth agencies
    - courts
    - other mandatory reporting systems, such as the National Disability Insurance Scheme (NDIS)
    - workers compensation authorities

Knowledge guide 5 – Osteoarthritis, pain syndromes, and regional musculoskeletal disorders

Rheumatology, Adult Internal Medicine Division

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Hyperalgesia
- Impingement syndrome
- Pain:
  - back / neck:
    - with radiculopathy
    - without radiculopathy
  - joint:
    - during activity
    - limiting function
    - otherwise unexplained
    - sensitisation

Conditions

- Axial diseases, such as:
  - coccydynia
  - osteitis pubis
  - spinal canal stenosis
  - spondylosis, with or without radiculopathy:
    - cervical
    - lumbar
- Complex regional pain syndrome
- Fibromyalgia
- Nerve compression syndromes, such as:
  - carpal tunnel syndrome
- Osteoarthritis
- Regional musculoskeletal disorders, such as:
  - adhesive capsulitis
  - costochondritis
  - lateral epicondylitis
  - plantar fasciitis
  - rotator cuff tear
  - trigger fingers and Dupuytren contractures
  - trochanteric bursitis

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.

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

- Ehlers–Danlos syndrome (EDS) and EDS spectrum disorder
- Marfan syndrome

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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

- Anatomy of musculoskeletal regions
- Epidemiology of the conditions listed above, including age and sex prevalence and incidence
- Pain as a complex interaction of factors, including:
  - central nervous system (CNS) dysregulation
  - neuropathic
  - nociceptive
  - psychosocial
  - psychosomatic mechanisms
- Risk factors, including:
  - modifiable, such as:
    - obesity
    - physical activity
    - psychosocial
    - sociodemographic
  - non-modifiable, such as:
    - age
    - genetics
    - sex
- Triggers for symptoms, including:
  - activity
  - injury
  - psychosocial factors

Therapeutics and management principles

- Evidence-based approach to the management of symptoms and disease through non-pharmacological and pharmacological approaches
- Non-pharmacological measures, such as:
  - addressing psychosocial contributing factors
  - exercise and physical activity
  - interventional pain procedures, such as:
    - nerve blocks
    - radiofrequency ablation
  - management of obesity
  - multidisciplinary input, such as from:
    - occupational therapists
    - physiotherapists
    - psychologists
  - the use of aids, such as braces and splinting
- Patient-specific evidence-based education
- Pharmacological measures, including intra-articular, oral, and topical medication

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

- Bone scan
- CT
- MRI
- Relevant laboratory investigations to rule out other rheumatic diseases
- Ultrasound
- X-rays

Procedures

- Intra-articular cortisone injection

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.

- Functional and psychosocial consequences of chronic pain / fibromyalgia, such as:
  - distress
  - immobility
  - isolation
  - maladaptive illness behaviours
  - poor sleep
- Multidisciplinary approach with specialists, such as:
  - geneticists
  - occupational therapists
  - pain specialists
  - physiotherapists
  - psychologists
- Opioid use in chronic, non-cancerous pain management
- Role of patient education and empowerment in:
  - chronic pain management
  - managing lifestyle factors including weight / obesity and physical inactivity

Knowledge guide 6 – Muscle disorders

Rheumatology, Adult Internal Medicine Division

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Lung and other internal organ involvement in inflammatory muscle diseases
- Muscle:
  - pain
  - weakness
- Skin manifestations of inflammatory muscle diseases

Conditions

- Endocrine-associated diseases
- Muscular dystrophies
- Myopathy:
  - inflammatory
  - metabolic
- Rhabdomyolysis

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

- Cardiomyopathy
- Dysphonia
- Emphysema, subcutaneous
- Incontinence:
  - bladder
  - bowel
- Muscle:
  - fatigue, premature
  - pain, with exercise

Conditions

- Myasthenia gravis

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.

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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

- Basic genetics and pathophysiology of metabolic myopathy and muscular dystrophy
- Basic histology, such as:
  - dermatomyositis
  - immune-mediated necrotising myopathy (IMNM)
  - inclusion body myositis (IBM)
  - polymyositis
- CD8+ T cell-mediated muscle damage in IBM
- Correlation between autoantibodies, clinical phenotype, muscle biopsy findings, and MRI muscle pattern / findings
- Distinctive pathophysiology of IMNM
- Heterogenous and wide spectrum of extra muscular manifestations
- Myositis autoantibodies and specific clinical phenotype of:
  - antisynthetase syndrome
  - hydroxy-3-methylglutaryl coenzyme A reductase (HMGCR) and signal recognition particle (SRP) with IMNM
  - melanoma differentiation-associated protein-5 (MDA5) and clinically amyopathic dermatomyositis (CADM), with or without rapidly progressive interstitial lung diseases (ILD)
  - Mi2 and classic dermatomyositis
  - nuclear matrix protein 2 (NXP2) and calcinosis / atypical skin manifestation
  - statin exposure and HMGCR positive IMNM
  - TIF1-gamma and malignancy

Therapeutics

- Cancer association and screening
- Emerging therapies, such as chimeric antigen receptor (CAR) T-cell therapy and biologic agent
- Exercise, physical therapy, and rehabilitation
- Infection prevention, including appropriate vaccination
- Inflammatory myopathy treatment, such as:
  - first line treatment with glucocorticoid
  - second- and third-line treatment with:
    - biologic agents, such as B cell depletion and Janus kinase inhibitors
    - intravenous (IV) immunoglobulins, particularly in IMNM
    - traditional immunosuppressants, such as:
      - azathioprine
      - cyclophosphamide
      - cyclosporine
      - methotrexate
      - mycophenolate
      - tacrolimus
- Management of extra-musculoskeletal manifestations, such as calcinosis treatment and dysphagia
- Neurology referral for non-inflammatory myopathy not requiring immunosuppression
- Upfront multi-agent immunosuppression, or rapid immunosuppression escalation, in cases at risk of rapid end-organ deterioration, such as in anti-melanoma differentiation-associated gene 5 (MDA5) rapidly progressive ILD

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Advanced Trainees will know the scientific

Imaging and other diagnostics

- CT – high-resolution chest
- Electromyography
- Lung function test
- MRI – muscle imaging
- PET-CT

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.	**Laboratory testing** • Anti-aquaporin-4 (Anti-AQP4) • Anti-cytosolic 5'-nucleotidase 1A (Anti-cN1A) antibodies • Anti-myelin oligodendrocyte glycoprotein (MOG) • Antinuclear antibodies (ANA), including pattern and titre • Biopsy, such as: » muscle » skin • C-reactive protein (CRP) • Creatinine kinase (CK) • Erythrocyte sedimentation (ESR) • Extractable nuclear antibodies (ENA) • Full blood count (FBC) • HMG-CoA reductase antibodies • Kidney function test (EUC) • Liver function test (LFT) • Myositis antibodies: » myositis associated » myositis specific • Neuromuscular gene panel • Thyroid function test (TFT)
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.	• Cancer screening • Ethical and social issues around genetic panels, such as: » challenges of genetic panel in rare diseases with overlapping features, such as variant of insignificance and low penetrance » implied versus explicit consent » justification of genetic testing in emerging disease, including discussion on the efficacy of available treatments » patient education on the implication and consequences of genetic results » potential implications for the patient and/or family members • Interpretation of positive myositis antibodies in patients without obvious clinical evidence of inflammatory myopathy • Pitfall of commercially available myositis autoantibody testing • Recognition of non-inflammatory myopathy to prevent misdiagnosis and misuse of immunosuppression

Knowledge guide 7 – Conditions that overlap with other specialties

Rheumatology, Adult Internal Medicine Division

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Arthralgia
- Back pain
- Bone:
  - » deformity / enlargement
  - » tenderness
- Musculoskeletal symptoms in the absence of, or discordant with, objective evidence of disease
- Reduced range of movement in axial and peripheral joints
- Referral from another specialty for shared care or opinion

Conditions

- Avascular necrosis
- Bone disease related to kidney failure
- Bone disorders
- Diffuse idiopathic skeletal hyperostosis
- Hypertrophic osteoarthropathy
- Osteochondritis dissecans
- Osteomalacia
- Osteoporosis
- Paget's disease of bone
- Rheumatological manifestations of:
  - » diseases overlapping with other specialties
  - » neoplasms and tumour-like lesions:
    - ○ benign
    - ○ malignant
    - ○ paraneoplastic

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

[23] 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.

Conditions

- Charcot arthropathy
- Haematologic disease-associated rheumatic disorders
- Haemoglobinopathies
- Haemophilia
- Lymphoma
- Macrophage activation syndrome / Haemophagocytic lymphohistiocytosis
- Osteoporosis, transient, such as:
  - pregnancy-related osteoporosis

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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

- Impact of minimal trauma fractures, osteopenia, and osteoporosis
- Physiology and pathophysiology of bone remodelling
- Physiology of calcium metabolism
- Prevalence of osteoporosis in patients over the age of 50

Therapeutics and management principles

- Non-pharmacological and pharmacological osteoporosis management, with allied health professional input

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

- Laboratory, radiologic, and other investigations for evaluation of above conditions

Procedures

- Biopsy – bone marrow
- Synovectomy:
  - radiation (yttrium)
  - surgical

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.

- Bone health in other rheumatic diseases
- Burden of disease of osteoporosis, such as disability-adjusted life years (DALY) and healthcare expenditure
- Hospitalisation
- Overlap of rheumatic diseases with other specialties, necessitating collaborative care
- Psychosocial determinants and comorbidity in musculoskeletal presentations

Knowledge guide 8 – Autoinflammatory disease

Rheumatology, Adult Internal Medicine Division

KEY PRESENTATIONS AND CONDITIONS

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

Presentations

- Inflammation, persistent or recurrent, organ-based or systemic, in the absence of autoimmune disease, infection, or malignancy

Conditions

- Adult-onset Still disease
- Behçet disease
- Familial Mediterranean fever
- Macrophage activation syndrome
- Sarcoidosis
- Vacuoles, E1 enzyme, x-linked, autoinflammatory, somatic (VEXAS)

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.

No less common or more complex presentations or conditions identified

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[24] 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

[24] 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.	• Epidemiology, management, pathophysiological mechanisms, and therapeutics of the conditions listed above
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 and imaging relevant to the diagnosis of the conditions listed above
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.	• Acknowledge when autoinflammatory disease should be considered as a diagnosis • Awareness of new autoinflammatory diseases being identified regularly, and the rapid evolution in their diagnostics, imaging, and therapeutics • Conduct preliminary investigations to diagnose and treat autoinflammatory diseases • Skills to consult current literature when presented with possible rarer forms of disease