NEW CURRICULA

Advanced Training in Occupational and Environmental Medicine

Curriculum standards

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About this document

The new Advanced Training in Occupational and Environmental Medicine curriculum consists of curriculum standards and learning, teaching, and assessment (LTA) programs.

This document outlines the curriculum standards for Advanced Training in Occupational and Environmental Medicine for trainees and supervisors. The curriculum standards should be used in conjunction with the Advanced Training in Occupational and Environmental Medicine LTA programs.

Contents

Program overview

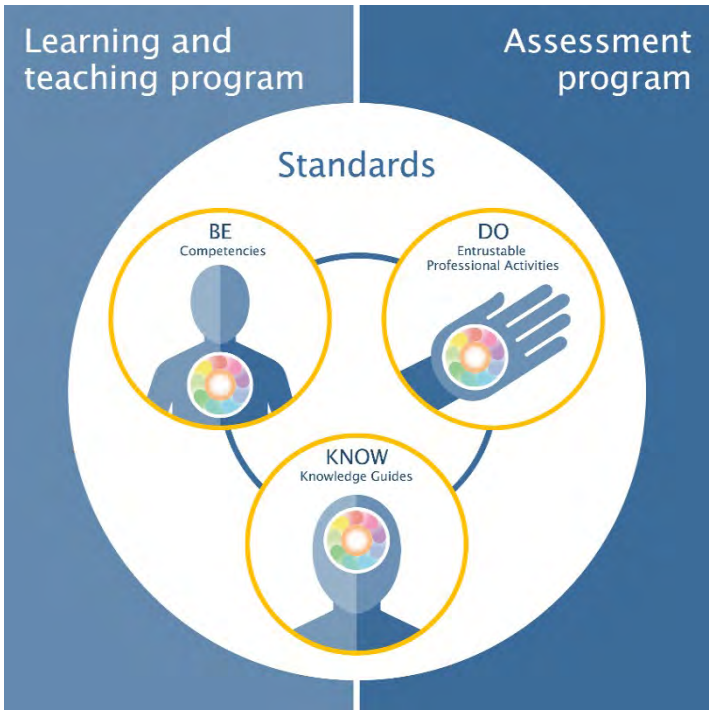
Purpose of Advanced Training

The RACP offers Advanced Training in 33 diverse medical specialties as part of Division, Chapter, and 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.

RACP curriculum model



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 curriculum 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 **curriculum 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 (LTA) structure

The learning, teaching and assessment structure defines the framework for delivery and trainee achievement of the curriculum standards in the Advanced Training program.

Advanced Training is structured in three phases. These phases will establish clear checkpoints for trainee progression and completion.

1	**Specialty foundation**	• Orient trainees and confirm their readiness to progress in the Advanced Training program
2	**Specialty consolidation**	• Continue trainees' professional development in the specialty and support progress towards the learning goals
3	**Transition to Fellowship**	• Confirm trainees' achievement of the curriculum standards, completion of Advanced Training, and admission to Fellowship • Support trainees' transition to unsupervised practice

Figure 1: Advanced Training learning, teaching, and assessment structure

- An **entry decision** is made before entry into the program.
- A **progress decision**, based on competence, is made at the end of each phase 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 full-time equivalent experience, and progression and completion decisions are based on evidence of trainees' competence.

Occupational and Environmental Medicine specialty overview

Occupational and environmental physicians are medical professionals specialised in the field of occupational health and environmental medicine. They focus on the health and wellbeing of workers in the context of their work environment.

Occupational and environmental physicians apply high-level medical skills to the interface between people's work and their health. For an individual worker/patient, this may mean seeking evidence for the work-relatedness of a disease, assisting with returning to work after injury or illness, or assessing fitness for safety-critical or other work. For groups of workers, this may mean working to prevent or reduce known harmful exposures, research on the effects of exposures or clusters of adverse health effects, health surveillance, or promotion of physical and mental wellbeing in workplaces.

Occupational and environmental physicians consider the interactions between people's health and their environment, and the role of the environment in causing or affecting disease.

As medical specialists, occupational and environmental physicians possess knowledge of harmful exposures, laws that bear on exposure control and employment opportunity, and how to use their influence within organisations to prevent work-related afflictions and to promote wellbeing. These abilities serve workers and can assist the work of other medical practitioners and occupational health professionals. The trends in the changing nature of work, including a higher proportion of precarious and flexible working arrangements (e.g. part-time, casual, and contract work) and home-based work, may bring new challenges to occupational and environmental physicians in their future practice.
Occupational and environmental physicians provide person-centred care to individuals, workers, groups, communities, and homogenous populations that may be exposed to occupational and/or environmental hazards and risks. Services may also be provided to governmental and non-governmental agencies and companies, including those within a medicolegal setting. This curriculum uses the term worker/patient to refer to the recipients of this care. Occupational and environmental physicians use research and evidence in medical care, service development, and quality improvement, and to inform areas of uncertainty.
Occupational and environmental physicians have skills and expertise to contribute across a variety of areas, including:

- diagnosing, managing and accessing the causation of diseases and injuries in relation to occupation and environmental factors.
- assessing the health and fitness of workers for specific jobs or tasks.
- advocating for the protection and promotion of workers' physical and mental health and well-being
- developing, interpreting and applying medical standards for occupations
- coordinating and managing occupational and environmental health and safety programs, including the delivery of occupational health services, health surveillance, health

promotion and drug and alcohol testing programs in collaboration with other health professionals
- conducting workplace and preliminary environmental assessments in order to recognise, evaluate and control physical, chemical, biological, ergonomic and psychosocial hazards
- coordinating and facilitating return to work and rehabilitation programs for injured or ill workers
- providing expert advice to workers, employers, regulators, and insurers on the relationship between work and illness and injuries
- advising on the health effects of physical, chemical, biological, psychosocial and ergonomic hazards in workplaces and measures to control them
- providing advice and education on occupational and environmental health issues to workers, employers, regulators and the public
- advising on the effect of major contemporary health issues in workplaces
- conducting research and contributing to the evidence base on occupational and environmental health topics.

Occupational and Environmental physicians work flexibly across a variety of settings, including:

- non-hospital settings. Occupational and environmental physicians deliver clinical services largely outside hospital-type settings. These are mostly privately operated, either by individual physicians or larger companies who employ occupational and environmental physicians.
- office-based settings. Occupational and environmental physicians who work for small to large organisations are usually office-based and provide more strategic and administrative support to organisations.
- research and training settings. Occupational and environmental physicians can gain further development of medical evidence in occupational and environmental medicine. Occupational and environmental physicians may work within university departments and research positions within governmental and non-governmental organisations.
- complex settings. Occupational and environmental physicians are comfortable with complex health issues and working in uncertainty.

Occupational and environmental physicians provide leadership with a focus on strong integrity, communication, respect, and advocacy, in the management of occupational health services and as an integral part of multidisciplinary teams.

Occupational and Environmental Medicine learning goals

The curriculum standards are summarised as 18 learning goals. The learning goals articulate what trainees need to be, do and know, and are assessed throughout training.

BE Competencies	1. Professional behaviours
DO EPAs	2. Team leadership 3. Supervision and teaching 4. Quality improvement 5. Clinical assessment, investigation and management 6. Communication with workers, patients, communities, third parties and other stakeholders 7. Analysis and application of data 8. Occupational and environmental screening, surveillance and investigations 9. Hazard identification and risk assessment 10. Fitness for work assessment
KNOW Knowledge guides	11. Key clinical systems of occupational and environmental medicine 12. Health promotion and illness prevention 13. Hazard recognition, evaluation and control of risk 14. Policy development and workplace relations 15. Business continuity, disaster preparedness and emergency management 16. Environmental issues in occupational and environmental medicine 17. Occupational health and safety, and legislation 18. Epidemiology and causation

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.

Learning goal 1: Professional behaviours

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 workers/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 work factors, psychosocial factors and specific vulnerabilities, epidemiology, and population health factors in partnership with patients[1], families, or carers, and in collaboration with the health care 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 workers/patients, families, and carers: Use collaborative, effective, and empathetic communication with workers/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 worker/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.

Worker/Patient safety: Demonstrate a safety focus and continuous improvement approach to own practice. Assess and manage workplace risks and harms to promote safer workplaces.

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.

Worker/Patient engagement: Enable workers/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 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, workplace policies and codes of practice, 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:

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

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

Ethics and professional behaviour

Professional standard: Physicians' practice is founded upon ethics, and physicians always treat patients, 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 workers'/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 workers'/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 workers/patients and endeavour to understand workers'/patients' values and beliefs.
Health needs: Understand and address workers'/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 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 health care 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 workers/patients, their social support networks and workplaces and employers.

Equity and access: Work with workers/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, including employers, unions, governments and insurers, in decisions that affect them to identify priority problems and solutions.

Advocacy: Advocate for prevention, promotion, equity, and access to support worker/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 health care 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
2	Team leadership	Lead a team of health and other professionals
3	Supervision and teaching	Supervise and teach professional colleagues
4	Quality improvement	Identify and address quality systems in health care delivery and workplaces
5	Clinical assessment, investigation and management	Clinically assess, investigate, and manage the ongoing care of workers/patients
6	Communication with workers, patients, communities, third parties, and other stakeholders	Communicate with a range of stakeholders, including workers/patients, communities, professional bodies, businesses, health administration, insurers, and employers
7	Analysis and application of data	Research within the workplace and environment
8	Occupational and environmental screening, surveillance, and investigations	Select, organise, and interpret screening, surveillance, and diagnostic investigations
9	Hazard identification and risk assessment	Workplace and environmental hazard assessment
10	Fitness for work assessment	Assess workers'/patients' ability to return to work

Learning goal 2: Team leadership

Theme	Team leadership	
Title	**Lead a team of health and other professionals**	
Description	This activity requires the ability to: • lead discussions that target and manage appropriate vocational outcomes and/or relevant prudential risk outcomes as occupational health outcomes • articulate individual responsibilities, expertise, and accountability of team members, values-based organisational policies, and ethical frameworks and clinical standards for good clinical governance • understand the range of team members' skills, expertise, and roles • act as a role model • prioritise workload • manage multiple concurrent tasks • engage in conflict management and resolution.	
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	• demonstrate clinical competence and skills by effectively supporting team members • synthesise information with other disciplines to develop optimal, goal-centred plans for patients[4] • provide coordinated and quality health care for populations or patients as a member of a multidisciplinary team • use evidence-based care to meet the needs of patients or populations • assess and effectively manage clinical risk in various scenarios	• demonstrate adequate knowledge of health care issues by interpreting complex information • demonstrate suitable presentation skills • assess the spectrum of problems to be addressed • apply medical knowledge to assess the impact and clinical outcomes of management decisions
Communication	• provide support and motivate patients, populations, health professionals and workplace stakeholders by effective and clear communication • demonstrate a transparent, consultative style by engaging patients, families, carers, relevant professionals, workplace stakeholders and/or the public in shared decision making	• communicate adequately with colleagues • communicate adequately with patients, their families, and/or carers, and/or the public • respect the roles of team members

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

	• work with patients, families, carers, other health professionals and workplace stakeholders to resolve conflict that may arise when planning and aligning goals • demonstrate rapport with people at all levels by tailoring messages to different stakeholders	
Quality and safety	• develop and implement measures of worker health and safety • identify opportunities to support good work that protects and promotes the health of the worker and improves care • review quality and safety incidents • 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 • encourage and adopt insights and outcomes-driven scientific innovation from team members for organisational improvement	• participate in safety audits and other activities that affect the quality of practice and management provided, giving feedback to the organisation or group • participate in multidisciplinary collaboration to provide effective health services and operational change • use information resources and electronic medical record technology where available
Teaching and learning	• regularly self-evaluate personal professional practice, and implement changes based on the results • actively seek feedback from supervisors and colleagues on their own performance • identify personal gaps in skills and knowledge, and engage in self-directed learning • maintain current knowledge of new technologies, health care priorities, and changes of patients' expectations • teach competently by imparting professional knowledge • manage and monitor learner progress, providing regular assessment and feedback	• accept feedback constructively, and change behaviour in response • recognise the limits of personal expertise, and involve other health professionals as needed • demonstrate basic skills in facilitating colleagues' learning
Cultural safety	• demonstrate culturally competent relationships with colleagues and patients • demonstrate respect for diversity and difference • take steps to minimise unconscious bias, including the impact of gender, religion,	• demonstrate awareness of cultural diversity and unconscious bias • work effectively and respectfully with people from different cultural backgrounds

	cultural beliefs, and socioeconomic background on decision making	
Ethics and professional behaviour	• promote a team culture of shared accountability for decisions and outcomes • demonstrate understanding and acumen for fostering safe organisational culture • encourage open discussions of ethical and clinical concerns • respect differences of multidisciplinary team members • understand the ethics of resource allocation by aligning optimal patients and organisational care • effectively consult with stakeholders, achieving a balance of alternative views • acknowledge personal conflicts of interest and unconscious bias • act collaboratively to resolve behavioural incidents and conflicts such as harassment and bullying	• 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 • 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 balanced 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 and workplace stakeholders 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	• collaborate with and motivate team members • acquire and apply leadership techniques in daily practice • combine team members' skills and expertise in delivering patient care and/or population advice • demonstrate the ability to 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	• advocate for clinical governance, including continuous improvement of health outcomes specific to occupational and environmental medicine in a variety of settings, including corporate and non-medical • advise how stakeholders can adhere to regulatory and authoritative governmental frameworks for health protection at and for work • engage in appropriate consultation with stakeholders on the delivery of health care • advocate for the resources and support for healthcare teams and workplaces to achieve organisational priorities • influence the development of organisational policies and procedures to optimise health outcomes and provide good work • 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

Learning goal 3: Supervision and teaching

Theme	**Supervision and teaching**
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 workplace-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 relevant 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	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity
	The trainee will:	The trainee may:
Medical expertise	• combine high-quality care with high-quality teaching • explain the rationale underpinning a medicolegally sound structure for making decisions • consider patient-centric, risk-based, outcomes-driven views during consultations • demonstrate the appropriate correlation and reconciliation of relevant actuarial health information, such as relevant epidemiological information, with any clinical patient-specific factors when giving advice • encourage learners to consider the rationale and appropriateness of investigation and management options	• teach learners using basic knowledge and skills
Communication	• establish rapport and demonstrate respect for junior colleagues, medical students, and other health professionals • communicate effectively when teaching, assessing, and appraising learners • actively encourage a collaborative and safe learning environment with learners and other health professionals • encourage learners to tailor communication as appropriate	• demonstrate accessible, supportive, and compassionate behaviour

	for different patients[5], such as younger or older people, and different populations • 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 and programs that support good work that protects and promotes worker health 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 and workers' health • 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	• demonstrate basic skills in the supervision of learners • apply a standardised approach to teaching, assessments, and feedback without considering individual learners' needs • implement teaching and learning activities that are misaligned to learning goals • adopt a teaching style that encourages learner self-directedness

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

	• recognise the limits of personal expertise, and involve others appropriately	
Research	• clarify junior colleagues' research project goals and requirements, and provide feedback regarding the merits or challenges of proposed research • monitor the progress of learners' research projects regularly, and may review research projects prior to submission • support learners to find forums to present research projects • encourage and guide learners to seek out relevant research to support practice	• guide learners with respect to the choice of research projects • ensure that the research projects planned are feasible and of suitable standards
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 safe care of Aboriginal and Torres Strait Islander and Māori peoples into patients' management • consider cultural, ethical, and religious values and beliefs in teaching and learning	• 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 whereby the learner feels part of the team • help shape organisational culture to prioritise quality and work safety through openness, honesty, shared learning, and continued improvement	• demonstrate the principles and practice of professionalism and leadership in health care • participate in mentor programs, career advice, and general counselling
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

Learning goal 4: Quality improvement

Theme	Quality improvement	
Title	**Identify and address quality systems in health care delivery and workplaces**	
Description	This activity requires the ability to: • develop, implement, assess, evaluate, and clinically govern systems that protect and/or promote occupational and environmental health • identify and report actual and potential incidents (near misses), including by integrating human factors strategy with incident-related policy • conduct, evaluate, design, and govern system improvement activities • adhere to and lead the development of health protection standards and best practice guidelines • audit clinical guidelines, workplace health protection programs, and health outcomes, including but not limited to psychosocial health outcomes • contribute to the development of policies and protocols designed to protect workers/patients[6], enhancing health care and supporting good work that protects and promotes workers' health outcomes • 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	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity
	The trainee will:	The trainee may:
Medical expertise	• use population health outcomes to identify opportunities for improvement in delivering appropriate care and support good work that protects and promotes workers' health • review workers/patients or population health outcomes to identify opportunities for improvement in delivering appropriate care and support good work that protects and promotes workers' health • evaluate environmental and lifestyle health risks, and advocate for healthy lifestyle choices • evaluate environmental and workplace risks to inform programs that support good work and protect and promote the continuous, systematic improvement of health outcomes at and for work • use standardised protocols to adhere to best practice	• contribute to processes on identified opportunities for improvement • recognise the importance of prevention and early detection in clinical practice • use local guidelines to assist workers'/patients' care decision making

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

	• review health and safety events • develop, implement, assess, and evaluate a medical surveillance program • regularly monitor personal professional performance • identify risks to health arising from one's own work activities • demonstrate an understanding and delivery of health promotion activities • identify high-risk transitions, such as between compensation schemes and in / out of work) and key risks for workers/patients during transition, and manage the transition in a demonstrably risk-based, outcomes-driven way • recognise changes in workers'/patients' conditions, and provide values-driven, structured recommendations in a medicolegally appropriate, evidence-based, and authoritative framework on how to manage them	
Communication	• support workers/patients to have access to, and use, easy-to-understand, high-quality information about health care, workplace health risks, and their effective control • support workers/patients to share decision making about their health care • assist workers/patients to access their health information, as well as complaint and feedback systems • discuss with workers/patients any safety and quality concerns they have relating to their care and the management of workplace health risks • implement the organisation's open disclosure policy	• demonstrate awareness of the evidence for consumer engagement and its contribution to quality improvement in health care • apply knowledge of how health literacy might affect the way workers/patients or populations gain access to, understand, and use health information
Quality and safety	• demonstrate safety skills, including infection control and adverse event reporting • participate in organisational quality and safety activities, including: » clinical incident reviews » corrective action preventive action plans » morbidity and mortality reviews » root cause analyses » workplace injury and illness reviews	• demonstrate understanding of a systematic approach to improving the quality and safety of health care

	• participate in systems for surveillance and monitoring of adverse events and near misses, such as workplace injuries and illness events and near misses, including reporting such events • identify improvement opportunities for improvement, and report appropriately • use health and safety audits, data and outcomes, learnings from incidents, and complaints to improve the management of workplace health and safety risks • discuss risk management approaches and systems used by corporate organisations	
Teaching and learning	• translate quality improvement approaches and methods into practice • participate in professional training in quality and safety to ensure a contemporary approach to safety system strategies • supervise and manage the performance of junior colleagues in the delivery of high-quality, safe care	• work within organisational quality and safety systems for the delivery of clinical care • use opportunities to learn about safety and quality theory and systems
Research	• use protocol for human research that is approved by a human research ethics committee, in accordance with the national statement on ethical conduct in human research	• demonstrate that workers'/patients' participation in research is voluntary and that workers/patients understand 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 workers/patients from culturally and linguistically diverse backgrounds
Ethics and professional behaviour	• align improvement goals with the priorities of the organisation • contribute to developing an organisational culture that enables and prioritises worker health and safety	• comply with professional regulatory requirements and codes of conduct
Judgement and decision making	• use decision-making support tools, such as guidelines, protocols, pathways, and reminders • analyse and evaluate current processes to improve the management of workplace health and safety risks	• access information and advice from other health practitioners to identify, evaluate, and improve workers'/patients' care management
Leadership, management, and teamwork	• formulate and implement quality improvement strategies as a collaborative effort involving all key health professionals and other stakeholders, such as employers, worker	• demonstrate attitudes of respect and cooperation among members of different professional teams • partner with clinicians and managers to ensure workers/patients receive

	representatives, and health and safety professionals • support, facilitate, build, and clinically govern multidisciplinary team activities to reduce workplace health and safety risks, and promote multidisciplinary programs of education • actively involve other stakeholders, such as occupational hygienists, in workplace improvement projects	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 workplace health and safety are actively encouraged • measure, analyse, and report a set of workplace-specific process of risk management and health and safety indicators, participating in the design and implementation of organisational systems for: » clinical, and safety and quality education and training » defining the scope of workplace health risks » performance monitoring and management	• maintain a dialogue with service managers about issues that affect worker/patient care • contribute to relevant organisational policies and procedures • shape an organisational culture that prioritises safety and quality through openness, honesty, learning, and quality improvement

Learning goal 5: Clinical assessment, investigation, and management

Theme	**Clinical assessment, investigation, and management**
Title	**Clinically assess, investigate, and manage the ongoing care of workers/patients**
Description	This activity requires the ability to: • identify and access sources of relevant information about workers/patients • take workers'/patients' histories, including occupational and environmental exposure histories • examine workers/patients • synthesise findings to develop provisional and differential diagnoses • discuss findings with workers/patients[7], their families and/or carers, and employers, with appropriate consent and consideration of privacy • undertake management in line with medical practice, guidelines, and recommendations • share findings with other health professionals and relevant parties • determine fitness to work • consider causative factors • generate multidisciplinary biopsychosocial management plans • develop return to work programs • formulate comprehensive evidence-based written reports that articulate the above components of care.

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	• elicit accurate, organised, and problem-focused medical histories, considering occupationally and environmentally related risk factors • elicit suitable mental health histories that include psychosocial workplace hazards that increase the risk of physical and psychological conditions in the workplace • discuss non-work-related mental health conditions, physical conditions, psychosocial and other factors that may affect work • perform full and appropriate occupational histories and examinations to establish the nature and extent of problems • perform mental state examinations where required	• elicit worker/patient-centred histories, considering psychosocial factors • perform accurate physical examinations • perform statutory health surveillance • recognise and correctly interpret abnormal findings • synthesise pertinent information to direct clinical encounters and diagnostic categories • demonstrate an understanding of disease causation • develop appropriate management plans • identify and manage adverse events

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

	• synthesise and interpret findings from histories and examinations to devise the most likely provisional diagnoses via reasonable differential diagnoses • identify and perform suitable investigations • develop an evidence-based model for disease and injury causation • assess the severity of problems, the likelihood of complications, and clinical outcomes • develop management plans based on relevant guidelines, workplace information, and the workers'/patients' circumstances • develop, implement, assess, and evaluate health surveillance programs • identify the workers'/patients' disorders requiring management • consider age, chronic disease status, social supports, worker/patient preference, and lifestyle, organisational, and personal factors in the development of management plans • consider non-pharmacologic therapies • plan for follow-up and monitoring	• describe and assign causation of injuries and diseases to workplace exposures and events using evidence-based medicine
Communication	• communicate openly, listen, and take workers'/patients' concerns seriously, giving them adequate opportunity to ask questions • provide information to workers/patients and their family and/or carers to enable them to make fully informed decisions from various diagnostic, management, and therapeutic options • provide information to co-workers and/or workplaces as medically and ethically appropriate and legally required • communicate clearly, effectively, respectfully, and promptly with other health professionals involved in workers'/patients' care • demonstrate suitable report writing and presentation skills • discuss and evaluate the risks, benefits, and rationale of treatment options, making decisions in partnership with workers/patients • educate workers/patients and employers about the benefits of	• anticipate, read, and respond to verbal and nonverbal cues • demonstrate active listening skills • communicate workers'/patients' situations to colleagues, including senior clinicians • discuss and explain the rationale for treatment options with workers/patients, families and/or carers • explain the benefits and burdens of therapies, considering workers'/patients' individual circumstances • write clear and legible management plans • seek further advice from experienced clinicians or pharmacists when appropriate • provide instructions on medication administration effects and side effects

	good work and appropriate safe return to work • write clear and legible management plans in plain language • communicate with workers/patients, families and/or carers about the benefits and risks of proposed therapies • ensure workers/patients understand management plans by repeating back pertinent information, such as the time frame, tasks, and when to return for review • explore workers'/patients' understanding of and preferences for non-pharmacological and pharmacological management • ensure appropriate information is provided at all steps of the management pathway	
Quality and safety	• demonstrate safety skills, including infection control and adverse event reporting • recognise and effectively deal with aggressive and violent worker/patient behaviours • obtain informed consent before undertaking any investigations or providing treatment (except in an emergencies) • ensure workers/patients are informed of the material risks associated with any part of proposed management plans • review as appropriate to monitor progress and adjust management	• perform hand hygiene, and take infection control precautions at appropriate moments • take precaution against assaults from confused or agitated workers/patients, ensuring appropriate care of workers/patients • document history and physical examination findings, and synthesise with clarity and completeness
Teaching and learning	• set defined objectives for clinical teaching encounters, and solicit feedback on mutually agreed goals • regularly reflect upon and self-evaluate professional development • obtain informed consent before involving workers/patients in teaching activities • turn clinical activities into an opportunity to teach, appropriate to the setting • check workers/patients understand management plans, including adherence issues	• set unclear goals and objectives for self-learning • self-reflect infrequently • deliver teaching considering learners' level of training • undertake continuing professional development to maintain currency with prescribing guidelines • reflect on prescribing, and seek feedback from a supervisor
Research	• demonstrate the ability to search for, find, compile, analyse,	• refer to guidelines and medical literature to assist in clinical assessments when required

	interpret, and evaluate information relevant to the research subject • critically appraise research material to consider new management that may lead to improved worker/patient outcomes • use sources of independent information about management to ensure accurate summaries of the available evidence on management options	• demonstrate understanding of the limitations of evidence and the challenges of applying research in daily practice • make therapeutic decisions according to the best evidence • recognise where evidence is limited, compromised, or subject to bias or conflict of interest
Cultural safety	• use plain-language worker/patient education materials, and culturally safe language • demonstrate culturally safe communication and care for Aboriginal and Torres Strait Islander and Māori peoples, and members of other cultural groups • use professional interpreters, health advocates, or family or community members to assist in communication with workers/patients, and understand the potential limitations of each • acknowledge workers'/patients' beliefs and values, and how these might affect health • offer workers/patients effective choices based on their expectations of treatment, health beliefs, and cost • interpret and explain information to workers/patients at the appropriate level of their health literacy	• display respect for workers'/patients' cultures, and attentiveness to social determinants of health • display an understanding of at least the most prevalent cultures in society, and an appreciation of their sensitivities • appropriately access interpretive or culturally focused services • appreciate workers/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	• demonstrate professional values, including compassion, empathy, respect for diversity, integrity, honesty, and partnership to all workers/patients • hold information about workers/patients in confidence, unless the release of information is required by law or public interest • assess workers'/patients' capacity for decision making, involving a proxy decision maker appropriately • provide information to workers/patients about their proposed management plan that may include: » details (hours / tasks) » timeframe » timing of periodic review • demonstrate understanding of the ethical implications	• demonstrate professional conduct, honesty, and integrity • consider workers'/patients' decision-making capacity • identify workers'/patients' preferences regarding management and the role of families in decision making • not advance personal interest or professional agendas at the expense of workers/patients or social welfare • 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

	of industry-funded research and marketing	
Judgement and decision making	• apply knowledge and experience to identify workers'/patients' problems, making logical, rational decisions, and acting to achieve positive outcomes for workers/patients • use a holistic approach to health, considering comorbidity, uncertainty, and risk • use the best available evidence for the most effective therapies and interventions to ensure quality care • use a systematic and worker/patient-centred approach to determine management plans	• demonstrate clinical reasoning by gathering focused information relevant to workers'/patients' care • recognise personal limitations and seek help in an appropriate way when required • consider the following factors when developing a management approach: » funding and regulatory considerations » organisational culture » organisational resources » sociocultural supports » worker/patient characteristics and preferences
Leadership, management, and teamwork	• work effectively as a member of multidisciplinary teams, including non-health professionals to achieve the best health outcome for workers/patients • demonstrate awareness of colleagues in difficulty, and work within the appropriate structural systems to support them while maintaining worker/patient safety	• share relevant information with members of the health care team
Health policy, systems, and advocacy	• participate in health promotion, disease prevention and control, screening, and reporting notifiable diseases • aim to achieve optimal cost-effective worker/patient care to allow maximum benefit from available resources • choose management approaches with consideration of comparative efficacy and cost effectiveness • development management plans for individual workers/patients considering available supports, current management, history, and preferences, ensuring that resources are used wisely for the benefit of workers/patients	• identify and navigate components of the healthcare system relevant to workers'/patients' care • identify and access relevant community resources to support workers'/patients' care

Learning goal 6: Communication with workers, patients, communities, third parties, and other stakeholders

Theme	**Communication with workers, patients, communities, third parties, and other stakeholders**
Title	**Communicate with a range of stakeholders, including workers, patients, communities, professional bodies, businesses, health administration, insurers, and employers**
Description	This activity requires the ability to: • communicate with appropriate stakeholders given the specific context • communicate within an appropriate cultural context, and include family and/or carers and other team members • apply written consent and privacy considerations when involving employers • manage employee / worker / insurer / employer expectations when not in a worker/patient-treating role • adopt a worker/patient-centred, employee, or client perspective, ensuring consent to share relevant medical information is acquired • select and use appropriate modalities and communication strategies • structure conversations intentionally • verify understanding of information conveyed • negotiate mutually agreed management plans when managing workers/patients[8] • develop and implement plans or reports for ensuring actions occur • ensure assessment, management, and/or rehabilitation plans are documented • compose complex reports for workers/patients, employers, and insurers, including those within the medicolegal context.

Behaviours		
Professional practice framework domain	**Ready to perform without supervision** Expected behaviours of a trainee who can routinely perform this activity without needing supervision	**Requires some supervision** Possible behaviours of a trainee who needs some supervision to perform this activity
	The trainee will:	The trainee may:
Medical expertise	• anticipate and be able to correct any misunderstandings workers/patients may have about their conditions and/or risk factors • recognise occupational factors relevant to illness that need enhancement or clarification • write a timely letter or report containing a clear opinion back to the referring doctor or party • use evidence-based guidelines to inform opinion • compose detailed workers'/patients' reports in response to worker/patient, workplace, and referrer requests,	• interpret information within referral letters • recognise information that needs enhancement or clarification • use email and internet, and, where applicable, electronic discharge summaries and prescribing • apply knowledge of the scientific basis of health and disease to the management of workers/patients • demonstrate understanding of the clinical problems being discussed • draft initial reports around workers/patients and environmental issues

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

	including appropriately answering questions posed by the referrer • use internally consistent recommendations, and make use of best practice guidelines and evidence • develop a written management, rehabilitation, and/or return to work plan in conjunction with all relevant parties • coordinate medical aspects of care with other professionals towards attaining appropriate and time-defined realistic outcome measures • monitor goals and define outcome measures, and keep workers/patients and other relevant parties, including the employer (where appropriate), informed of progress towards this plan • use the opportunity for worksite visits to explore issues more holistically, in a broader context and in terms of workers' health and risk management • seek to understand the concerns and goals of workers/patients, and plan management in partnership with them and their family, whanau and/or carers • educate workers/patients about the work/environmental-relatedness of their conditions • provide information to workers/patients to enable them to make informed decisions about diagnostic, management, and therapeutic options	• formulate management plans in partnership with workers/patients
Communication	• use appropriate communication strategies and modalities for communication, such as emails, face-to-face, or phone calls • provide information to workers/patients and referrers • write timely, concise, internally consistent, and evidence-based reports • use plain language, avoiding jargon, acronyms, and complex medical terms • obtain consent to discuss workers'/patients' management plans with workers'/patients' primary health care providers • communicate effectively with management, OHS staff, unions, and workers on all relevant	• manage consultations involving third parties, such as employers in conflict with employees • communicate in written and verbal formats with insurers, relevant employers, and return to work coordinators • establish rapport with referring doctors • select appropriate modes of communication • engage workers/patients in discussions, avoiding the use of jargon • check workers'/patients' understanding of information • adapt communication styles in response to workers'/patients' age, developmental level, and

	occupational health areas for organisations • manage difficult conversations, such as those regarding performance, fitness for work and community outrage • confirm worker/patient understanding of discussions and potential management and rehabilitation plans • recognise the role of family or employers in communication • identify and mediate differences between the expectations of employers, supervisors, return to work coordinators and workers communicate effectively with policy and decision-makers • manage communication with the media as required • differentiate between objective and subjective arguments	cognitive, cultural, physical, situational, and socioeconomic factors • collaborate with worker/patient liaison officers as required • encourage and answer questions
Quality and safety	• recognise workers'/patients' vulnerability in terms of their history and physical examination • implement policies and procedures to manage complaints and negative feedback • provide information to workers/patients in a way they can understand before asking for their consent • consider workers'/patients' capacity for decision making and consent, particularly if there is a history or signs of cognitive impairment	• inform workers/patients of the material risks associated with proposed management plans • treat information about workers/patients as confidential
Teaching and learning	• discuss and explain the purpose, nature, and extent of assessments and third-party assessments to be conducted • obtain informed consent or other valid authority before involving workers/patients in teaching	• respond appropriately to information sourced by workers/patients, and to workers'/patients' knowledge regarding their condition
Research	• refer to evidence-based guidelines • conduct research in accordance with prescribed ethical and institutional research guidelines • provide easily understandable information to workers/patients that is based on guidelines issued by the relevant research authorities and guidelines • obtain an informed consent or other valid authority before involving workers/patients in research	• refer to evidence-based clinical guidelines • demonstrate an understanding of the limitations of the evidence and the challenges of applying research in daily practice
Cultural safety	• manage barriers to effective communication within teams	• identify when to use interpreters

	• demonstrate culturally safe communication with Aboriginal and Torres Strait Islander and Māori peoples • effectively communicate with members of other cultural groups by meeting workers'/patients' specific communication, cultural, and language needs • use qualified language interpreters or cultural interpreters to help meet workers'/patients' communication needs • provide plain language and culturally appropriate written materials to workers/patients and clients when possible	• allow enough time for communication across linguistic and cultural barriers
Ethics and professional behaviour	• describe the procedure for obtaining consent for the release of confidential medical records and images to a third party • identify secure storage of medical information • describe the special reporting requirements and obligations of a medical assessment performed on behalf of a third party, including presentation of information to lawyers and insurers • explain to workers/patients the purpose of assessments and the reporting arrangements, and seek consent to collect and release relevant medical information • recognise local laws and workers compensation guidelines on incapacity payments and return-t—work • encourage and support workers/patients to be well informed about their health, and to use this information wisely when they make decisions • recognise social determinants of health when caring for workers/patients • demonstrate respectful professional relationships with workers/patients and colleagues • prioritise honesty, workers'/patients' welfare, and community benefit above self-interest • develop a high standard of personal conduct, consistent with professional and community expectations • outline obligations to workers/patients and their	• manage alternative and conflicting views from relevant parties • manage the ethical issues of the two roles of communication with workers/patients and external agencies • respect the preferences of workers/patients • communicate appropriately, consistent with the context, and respect workers'/patients' needs and preferences • maximise workers'/patients' autonomy, and support their decision making • avoid sexual, intimate, and financial relationships with workers/patients • demonstrate a caring attitude towards workers/patients • respect workers/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 workers'/patients' confidentiality and privacy

	management when conducting third party assessments • support workers'/patients' rights to seek second opinions • obtain written consent and discuss with workers/patients when communicating with employers about management and rehabilitation • recognise personal health, symptoms of mental health changes, and avenues for self-management	
Leadership, management, and teamwork	• coordinate a team, including a team of nurses and allied health professionals, in occupational health units • use conflict resolution skills to facilitate team interactions • involve health managers as part of multidisciplinary teams to obtain resources, data, and access to services for better worker outcomes • communicate effectively with team members involved in workers'/patients' care or rehabilitation, and with workers/patients, their families, and/or carers • discuss medical assessments, treatment, management, and rehabilitation plans, and investigations with workers/patients, in a collaborative manner • facilitate an environment where all team members feel they can contribute and their opinion is valued • communicate accurately and succinctly, and motivate others on the health care team	• work effectively as part of an occupational health and safety team that may include: » environmental scientists » ergonomists » occupational health nurses » occupational hygienists » risk engineers • answer questions from team members • summarise, clarify, and communicate responsibilities of health care team members • keep health care team members focused on worker/patient outcomes
Health policy, systems, and advocacy	• collaborate with other services, such as community health centres and consumer organisations, to help workers/patients navigate the healthcare and workers compensation systems • demonstrate the ability to detail legal and other obligations of parties • describe the special reporting requirements of a medical assessment performed on behalf of a third party • recognise relevant state, hospital, and workplace policies and guidelines in preparing reports	• communicate with and involve other health professionals as appropriate • source information and prepare specific medicolegal communication, including: » letters of support on behalf of workers/patients » police statements » reports for insurers and other relevant third parties

- source evidence-based information, and prepare specific medical, general, and medicolegal communication, including:
  - » expert opinion reports, including that for the general population
  - » giving evidence in court
  - » giving objective and considered opinions
  - » preparing opinions for community advocates or guardianship tribunals

Learning goal 7: Analysis and application of data

Theme	**Analysis and application of occupational health data**
Title	**Research within the workplace and environment**
Description	This activity requires the ability to: • find, assess, and apply appropriate evidence to the management of workplaces, groups of workers, and individual workers • apply epidemiological principles to the management of problems in the workplace • be able to communicate and apply the principles of evidence review by incorporating up-to-date research in written worker/patient[9] risk assessments and environmental assessment reports.

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	• demonstrate understanding of the principles of evidence-based medicine, the limitations of evidence, and the challenge of applying research findings to daily clinical practice, and supporting good work that protects and promotes worker health • appraise support for alleged causal associations between health effects and exposures • differentiate between the expression of health-related phenomena as frequencies or rates • discuss the potential effect of chance (random variation) on measurements, observations, and the results of investigations • discuss the need for insight sufficient to depict the truth, and fairly interpret the findings of studies • use the steps of outbreak investigation to address infectious diseases or other disease clusters within work environments	• apply principles of data collection and interpretation within an occupational and environmental setting • apply the principles of validity, reliability, sensitivity, and specificity of data collection methodologies in the context of health surveillance • demonstrate practical knowledge of confounders and bias, and how to account for these within a medical surveillance program or the interpretation of reports of epidemiological studies in occupational or environmental settings • discuss health data collection and management within current legislative systems, including guidelines around chemical exposure and privacy legislation
Communication	• present scientific information in understandable forms for both managers and workers • communicate principles of causation and causal relationships	

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

	• present data using clear and simple tables and diagrams	
Quality and safety	• apply appropriate quality processes to the collection and storage of health and health surveillance data	
Research	• find relevant information in general medical literature, specialist occupational health literature, and grey literature, including government policies, standards, codes, and recommendations	• perform efficient and comprehensive searches of the medical literature
Cultural safety	• explain scientific information and workplace data to different populations and ethnicities	
Ethics and professional behaviour	• manage individual and workplace population data in an ethical manner	• display a knowledge of relevant legislation
Judgement and decision making	• demonstrate and articulate clear decision making with points for and against	• display an understanding of the levels of evidence
Leadership, management, and teamwork	• lead a team of researchers, managers, and participants within work environments	
Health policy, systems, and advocacy	• apply international, national, state / territory, and local regulations, policies, and codes to the management of workplace data	

Learning goal 8: Occupational and environmental screening, surveillance, and investigations

Theme	**Occupational and environmental screening, surveillance, and investigations**
Title	**Select, organise, and interpret screening, surveillance, and diagnostic investigations**
Description	This activity requires the ability to: • develop a risk management approach, including health prevention activities • select, plan, and use evidence-based clinically and occupationally appropriate screening, surveillance, and diagnostic investigations with the aim of preventing disease or identifying early disease • prioritise workers/patients receiving investigations by using a risk-based approach and evaluating the anticipated value of investigations • work in partnership with workers/patients[10] to facilitate choices that are right for them • work in partnership with employers and other stakeholders to ensure preventive activities, including evidence-based occupational screening, surveillance, and investigations, including assisting in meeting their statutory requirements • provide aftercare for workers/patients as needed • interpret the results and outcomes of investigations at both worker/patient and worker population levels as needed • communicate the outcome of investigations to workers/patients and other key stakeholders, such as employers and regulators • compose comprehensive medical and scientific reports outlining the results of occupational exposure for workers/patients, employers, regulator and insurance organisations, and medico-legal purposes.

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 screening tools used in occupational medicine, including those used in determining fitness to work and disease prevention • develop, implement, assess, and evaluate evidence-based health surveillance programs, including legislated programs for hazardous substances • choose evidence-based investigations, and frame them as an adjunct to comprehensive clinical assessments • assess workers'/patients' concerns, and determine the need	• demonstrate the principles around biological monitoring and biological effect monitoring • outline the principles of medical surveillance, including toxicodynamic and toxicokinetic • describe legislative requirements around occupational health surveillance • provide rationale for investigations • understand the significance of abnormal test results and act on these

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	for specific tests that are likely to result in overall benefit • develop plans for investigations, identifying exposure patterns and timing of surveillance • recognise and correctly interpret abnormal findings, considering workers'/patients' specific circumstances, and act accordingly	• consider worker/patient factors and comorbidities • consider age-specific reference ranges
Communication	• explain to workers/patients their legal obligations with regard to occupational health surveillance • explain to workers/patients the potential benefits, burdens, costs, risks, and side effects of each option, including the option to have no investigations • use clear and simple language, and check that workers/patients understand the terms used and agree to proceed with proposed investigations • identify workers'/patients' concerns and expectations, providing adequate explanations on the rationale for individual test ordering • confirm whether workers/patients have understood the information they have been given and the need for more information before deciding • use written or visual material or other aids that are accurate and up to date to support discussions with workers/patients • explain findings or possible outcomes of investigations to workers/patients, families, and the employer with appropriate consents in place • give information that workers/patients may find distressing in a considerate way	• discuss the benefits, complications, indications, and risks of investigations with workers/patients before ordering investigations • explain the results of investigations to workers/patients • arrange investigations, providing accurate and informative referrals, and liaise with other services where appropriate • complete medical certificates and legislated documents appropriately
Quality and safety	• identify adverse outcomes that may result from a proposed investigation, focusing on workers'/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 workers/patients with relevant information if a proposed investigation is part of a research program • obtain written consent from workers/patients if the investigation is part of a research program	• refer to evidence-based clinical guidelines • consult current research on investigations
Cultural safety	• respect workers'/patients' views and preferences about any proposed investigation and the adverse outcomes they are most concerned about	• consider workers'/patients' attitudes, beliefs, and cultural and religious backgrounds, and how these might influence the acceptability of proposed investigations
Ethics and professional behaviour	• remain within the scope of authority given by workers/patients (except for emergencies) • discuss with workers/patients how decisions will be made once the investigation has started and the worker/patient is not able to participate in decision making • respect workers'/patients' decisions to refuse diagnostic investigations, even if their decisions may not be appropriate or evidence-based • explain the expected benefits as well as the potential burdens and risks of any proposed investigation 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 • maintain individual worker/patient confidentiality when reporting results to employers or others	• identify appropriate proxy decision makers when required • choose not to investigate in situations where it is not appropriate for ethical reasons • practise within current ethical and professional frameworks • practise within own limits, and seek help when needed • involve workers/patients in decision making regarding investigations and obtaining the appropriate informed consent, including financial consent, if necessary
Judgement and decision making	• evaluate the costs, benefits, and potential risks of each investigation in a clinical situation • adjust the investigative path depending on test results received • consider whether workers'/patients' conditions may get worse or better if no tests are selected	• choose the most appropriate investigation for the clinical scenario in discussion with workers/patients • recognise personal limitations and seek help in an appropriate way when required
Leadership, management, and teamwork	• consider the role other members of the health care team might play, and what other sources of information and support are available • consider the role that other stakeholders such as employers, unions, and other medical	• demonstrate understanding of what parts of an investigation are provided by different doctors or health professionals

	specialists might play, and what other sources of information and support are available • check results in a timely manner, taking responsibility for following-up results	
Health policy, systems, and advocacy	• develop a risk management framework supported by preventive activities relevant to the work environment, exposures, and worker population • select and justify investigations regarding appropriateness, cost effectiveness, safety, the pathological basis of disease, and utility • consider resource utilisation through peer review of testing behaviours • engage with unions and employers to gain support for recommended health surveillance programs	

Learning goal 9: Hazard identification and risk assessment

Theme	**Hazard identification and risk assessment**
Title	**Workplace and environmental hazard assessment**
Description	This activity requires the ability to: • identify, assess, and manage all workplace and environmental hazards that may have an effect on workers' health • obtain the nature and extent of likely relevant exposures from workers/patients[11] or community members, including histories and other appropriate records • describe the causation of injuries and diseases through evidence-based models • interpret reports around workplace, organisational, and/or environmental hazards • comment on workplace ,organisational, and/or environmental hazards' potential health effects and required mitigations • relate and make persuasive recommendations on important hazards within workplaces and/or environment • outline processes to review current risk control measures • anticipate and alleviate potential hazards, including risk assessments and management principles • prepare clinical reports recognising the extent of exposure when defining the work-relatedness or environment-relatedness of a disease.

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	• develop, implement, assess, and evaluate systems to identify and manage workplace and environmental hazards • describe routes of exposure / pathological processes associated with hazards • describe the potential health effects of common and important hazardous occupational exposures, including: » biological » chemical » ergonomic » physical » psychosocial • assign causal links between exposures and diseases / injuries • explain the mechanism of injury or disease	• describe hazards and risks, with reference to likelihood and severity • identify hazards in various workplaces and environmental settings • identify potential sources of hazards • outline processes to assess and, where appropriate, alleviate potential hazards, including risk assessment and management principles

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

	• offer evidence both for and against controversial conditions • predict the likely properties of a class of substance • apply the underlying principles of hazards to practical situations in familiar and unfamiliar workplaces and environmental settings • apply simple numerical reasoning to discussions concerning hazardous exposures • anticipate the likely route of exposure and rapidity of action based on the properties of a listed substance or a substance with similar properties • complete a psychosocial risk assessment	
Communication	• use audience-appropriate verbal and written communication • prepare well-organised, clear reports • identify terms that may create ambiguity or that would be difficult to understand without specialised knowledge • consult with others relevant to the anticipation and management of workplace hazards • communicate effectively with groups of workers and community members where emotions may be high due to actual or perceived health impacts	• describe and categorise occupational and environmental hazards • enlist commonly used terminology to describe risks and hazards in the workplace • interpret reports from other occupational health professionals, including occupational hygienists • use various media forms constructively • state clearly what is the case and what is likely to happen • create or arrange for preventive measures to be given verbally and in writing to relevant people
Quality and safety	• assess the adequacy of reports prepared by ergonomists, occupational hygienists, and organisational psychologists • determine whether current hazard control mechanisms and procedures are satisfactory	• interpret reports prepared by ergonomists, occupational hygienists, and organisational psychologists
Teaching and learning	• regularly self-evaluate personal professional practice, and implement changes based on the results • actively seek feedback from supervisors and colleagues on own performance • maintain current knowledge of new technologies, health care priorities and changes of workers'/patients' expectations	• accept feedback constructively, and change behaviour in response • recognise the limits of personal expertise, and involve other health professionals as needed
Research	• demonstrate a systematic approach and clear understanding of research and statistical terminology	

	• access, use, and interpret Safety Data Sheets (SDSs) • access and evaluate current sources of information relevant to occupational and environmental hazards	
Cultural safety	• demonstrate culturally safe relationships with colleagues and workers/patients • demonstrate respect for diversity and difference • identify unconscious bias, including the impact of cultural beliefs, gender, religion, 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 concerns • respect differences of multidisciplinary team members • consult with stakeholders, achieving a balance of alternative views • acknowledge personal conflicts of interest and unconscious bias	• 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 • recognise the negative impact of workplace conflict
Judgement and decision making	• apply risk prediction rules and risk calculators to define event risk in individual workers/patients and groups of people • recognise situations in which knowledge of physical or psychosocial hazards can be put to good and apt use • link biological hazards with workplace or community situations and the likely exposure of workers/patients or members of the community • assess the organisational culture, task demands, and work environment impacting workers/patients • perform simple measurements, but know when hygiene / ergonomic expertise should be sought • plan, prioritise, and conduct walkthroughs of workplaces in line with a manual handling code of practice or standards for lighting • evaluate workplace and environmental hazards by conducting preliminary quantitative or semi-quantitative	• interpret appropriate data and evidence for decision making

	measurements and risk assessments • assess the adequacy of reports prepared by environmental professionals, ergonomists, occupational hygienists, and toxicologists	
Leadership, management, and teamwork	• discuss the features of a broad range of occupations, identifying likely workplace hazards • seek guidance from colleagues and educational supervisors on the scope and depth of inspections • develop and lead effective multidisciplinary teams by developing and implementing strategies to motivate others • involve other occupational health professionals • work with organisational leaders to achieve necessary health-relevant change	• assess the range of personal and other team members' skills, expertise, and roles • 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	• consult with stakeholders on the development and implementation of programs that support good work through improved worker health protection and promotion • describe relevant codes, guides, laws, and standards that relate to workplace exposures, including psychosocial hazards • advocate for resources and support for health care teams and workplaces 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 • recognise poor management practices that allow workers to be alienated, bullied, harassed, ill-trained, or likely to put fellow workers at risk • identify stakeholders who hold the greatest influence on changes to occupational health and safety practice in the workplace	• promote the development and use of organisational policies and procedures

Learning goal 10: Fitness for work assessment

Theme	Fitness for work assessment	
Title	**Assess workers'/patients' ability to return to work**	
Description	This activity requires the ability to: • review job task analysis, job descriptions, and employer-specific policies and procedures • assess task demands, psychosocial hazards, and environment of employees' work • define and negotiate the standards of fitness required • perform clinical assessments of fitness for work that include evaluations of psychosocial factors that increase the risk of poor return to work outcomes • elicit careful, well-targeted occupational and educational histories • interpret, synthesise, and critically review reports provided by other health professionals in determining fitness for work, including functional capacity evaluations and neuropsychological reports • describe the consequences of injury and/or illness and, in particular, its effect on workers'/patients' ability to work • prepare and implement return to work or rehabilitation plans for workers/patients[12] • compose detailed medical reports in response to worker, employer, insurer, and/or medicolegal requests.	
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	• demonstrate a holistic approach to hazard identification within the workplace • interpret job task analysis • interpret functional capacity assessments and neuropsychological reports appropriately • determine the biomechanical components of manual work, and understand the interplay of psychosocial hazards in the development and management of musculoskeletal conditions and impacts on fitness to work • determine the psychological and physiological components of roles and how they may impact on fitness to work • identify potential psychosocial factors present in workers/patients	• demonstrate understanding of occupational hazards and risks within workplaces • demonstrate some interpretation of job task analysis • understand the components and needs of specialised testing, such as functional capacity and neuropsychological assessments • define common terms used to describe body actions and the ways of moving articles at work

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

	that may lead to poor return to work outcomes • conduct focused walkthroughs of workplaces directed at the placement of workers • identify the likely requirements for alertness, consistent performance, judgement, responsiveness, stamina, and strength for common occupational roles • discuss with workers/patients the implications for employment of medication and convalescence from procedures • describe the likely effect of levels of substance use on impairment • estimate the level of impairment, the nature of workers'/patients' disabilities, and what roles they can perform • describe the consequences of therapeutic drug use on workers'/patients' performances • describe the consequences of surgical procedures on workers'/patients' performances, and the likely recovery period for procedures affecting workers'/patients' mobility or stamina • evaluate the likely effect of described work conditions on health, given the individual circumstances of workers/patients	
Communication	• discuss the schedule of items for the level of fitness required for the work involved • discuss ways to maintain employment for workers no longer able to meet the demands of their job, e.g. through non-work-related illness • question workers and employer representatives in ways that serve to cross-check subjective remarks • manage situations where workers are found not to be fit according to the examination standard, including the management of anger • write workers' compensation reports that refer to fitness for work or impairment assessments • elicit relevant information about the requirements of jobs and their ambience from conversations with employer representatives	• draft and complete medical certificates and reports

Quality and safety	• identify special rules on fitness for driving (such as crane, forklift, heavy vehicle, personal, and rail), and fitness for air crew and diving
Teaching and learning	• gain understanding of workers'/patients' daily activities based on careful and comprehensive occupational histories, and persist sufficiently in questioning to obtain this
Research	• discuss the application of the various guides to assessing impairment in Australia and Aotearoa New Zealand • recognise the World Health Organization's international classification of disability, functioning, and health
Ethics and professional behaviour	• recognise equal opportunity and/or disability discrimination law • recognise local laws and guidelines on incapacity payments and return to work
Judgement and decision making	• assess the organisational demands on workers/patients and how they affect day-to-day work • discern and refuse to accept standards or schedules of fitness testing that are not congruent with work requirements • define appropriate restrictions for workers/patients in the workplace if needed • define appropriate placements for people with disabilities • differentiate between impairment, functional capacity, and social participation, and recognise that severe impairment is not necessarily mirrored by a major change to social participation and vice versa • explain and negotiate a return to work plan, where a worker has limited capacity for work
Leadership, management, and teamwork	• liaise in a timely and appropriate manner with other health care professionals involved in workers'/patients' care
Health policy, systems, and advocacy	• demonstrate extensive in-depth knowledge of the standards of fitness in relevant legislation or industry standards • demonstrate in-depth knowledge of fitness to work guidelines

Knowledge guides

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

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

#	Title
11	**Key clinical systems of occupational and environmental medicine**
12	**Health promotion and illness prevention**
13	**Hazard recognition, evaluation, and control of risk**
14	**Policy development and workplace relations**
15	**Business continuity, disaster preparedness, and emergency management**
16	**Environmental issues in occupational and environmental medicine**
17	**Occupational health and safety, and legislation**
18	**Epidemiology and causation**

KEY PRESENTATIONS AND CONDITIONS

Trainees will have a comprehensive depth of knowledge of these occupationally and environmentally related medical presentations and conditions.

Cardiovascular

- Acute emergency cardiac conditions
- Cardiovascular diseases caused by chemicals and environmental pollutants, such as:
  - » air pollution
  - » carbon disulphide
  - » carbon monoxide
  - » chlorofluorocarbons
  - » heavy metals
  - » hydrocarbons
  - » organic nitrates
  - » organophosphates
- Peripheral vascular diseases caused by chemical exposures, such as arsenic

Ear, nose, and throat

- Hearing loss:
  - » age-related
  - » noise-induced
- Ototoxicity

Gastrointestinal

- Infectious hepatitis, including blood borne pathogens such as hepatitis B and C
- Liver disease (acute and chronic) as a result of occupational exposures (largely chemical exposures)
- Obesity and effects of bariatric surgery (work-related concerns)
- Occupationally related hepatic cancer conditions

Gender and age-related concerns

- Dementia syndromes
- Osteoarthritis
- Osteoporosis
- Physiological and pathological pregnancy-related concerns that affect work capacity

Immunology and allergy

- Allergic disorders:
  - » adverse drug reactions
  - » allergic rhinitis
  - » anaphylaxis
  - » atopic dermatitis (eczema)
  - » conjunctivitis

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

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, prevalence, pathophysiology, and clinical science
- » take a comprehensive clinical and occupational history
- » conduct an appropriate examination
- » consider the context, including the work environment and culture, work organisation and management support
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on workers/patients[13] and their quality of life when developing a management plan

Manage

- » provide evidence-based management
- » prescribe therapies tailored to workers'/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

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

- Occupational asthma
- Occupational dermatitis
- Sinusitis

Infectious diseases

- Blood borne pathogens, including:
  - » hepatitis B
  - » HIV
- COVID 19 / influenza
- Infectious diseases linked to travel, including:
  - » dengue
  - » malaria
  - » Ross River virus
- Leptospirosis
- Q fever

Kidney

- Acute kidney injury
- Chronic kidney disease (CKD)
- Glomerulonephritis (acute and chronic), including nephritic syndromes and rapidly progressive glomerulonephritis
- Occupationally related cancers, including bladder cancer
- Work-related causes of renal impairment

Musculoskeletal

- Arthropathies
- Bursitis in multiple joints
- Carpal and cubital tunnel syndromes
- De Quervain tenosynovitis
- Disc bulge / Discogenic pain / Prolapse
- Dupuytren contracture / disease
- Lateral and medial epicondylitis
- Lumbar spondylosis and spondylolisthesis
- Muscle sprains, strains, and tears
- Non-specific back and neck pain
- Non-specific upper limb pain
- Rotator cuff injuries
- Tendonitis and tendinopathies
- Triangular fibrocartilage complex (TFCC) injury
- Trigger finger
- Upper limb work-related disorders

Neurological

- Acute and chronic neurological diseases resulting from chemical exposures, including heavy metals and solvents

- Delerium due to workplace exposures such as:
  - » acute toxicity
  - » heat
  - » hypoxia
- Entrapment of nerve roots, nerve plexuses, and peripheral nerves
- Epilepsy and seizure-related disorders
- Heat-related neurological conditions
- Multiple sclerosis
- Narcosis from inhalation of solvent and related vapours
- Neurocognitive deficits caused by exposure to heavy metals and solvents
- Parkinson disease-like conditions caused by chemical exposures, such as manganese
- Peripheral neuropathies

Pain conditions

- Chronic pain syndromes
- Complex regional pain syndrome

Psychiatric and psychological

- Adjustment and mood disorders
- Anxiety-related disorders, including post-traumatic stress disorder
- Psychotic disorders
- Self-harm and suicidal behaviour
- Somatic disorders
- Substance use, overdose, or toxic effects of illicit drug use

Respiratory

- Hypersensitivity pneumonitis
- Mineral dust disease, including:
  - » pneumoconiosis, such as:
    - o asbestosis
    - o coal workers' pneumoconiosis
    - o silicosis
  - » typical radiological findings
- Occupationally related lung cancers, including mesothelioma
- Occupationally related asthma, both aggravated and caused by workplace exposures
- Sleep apnoea

Rheumatological

- Chronic fatigue syndrome
- Fibromyalgia / Chronic pain

Skin

- Benign and malignant skin conditions caused by UV radiation

- Occupationally related skin infections, such as:
  - bacterial
  - fungal
  - protozoal
  - viral
- Occupationally related dermatitis, including allergic and irritant
- Ulcerative skin conditions due to chemical exposures

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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

- Biostatistics
- Environmentally related medical conditions
- Epidemiology
- Occupational and environmental legislation
- Occupational hygiene
- Occupationally related medical conditions
- Primary health care and general medical conditions
- Toxicology

Cardiovascular system

- Occupational contributors to cardiovascular disease, and agents that can precipitate relevant symptoms
- The impact of cardiovascular disease on functioning within a workplace

Common ear conditions

- Ototoxins
- Principles of noise mapping, hierarchy of controls for noise control, and their links to ear protection programs

Common eye conditions

- Occupational impact of impaired vision, including:
  - blindness
  - situations where full colour vision is or isn't required
- The occupational significance of:
  - restricted visual fields or scotomata
  - squint

Endocrine and gastrointestinal systems

- End-organ effects of obesity and diabetes and their effect on work
- Strategies for the management of:
  - diabetes
  - functional bowel disorders
  - obesity

Immune system

- Common investigations and what information they offer
- Exposures recognised to cause:
  - aplastic anaemia
  - haemolysis
  - leukaemia
- Potential impact of immunosuppression in the workplace
- Special needs of workers who have undergone organ transplantation

Kidney and genitourinary systems

- Issues effecting capacity to work:
  - chronic kidney failure and its treatment
  - continence issues
  - obstructive urinary disorders
  - work-related causes of renal impairment
- Recognised occupational causes of cancer of the genitourinary tract

Mental health

- Appropriate use, purpose, and limitations of neuropsychological tests
- Commonly used psychotropic medications and their side effects
- Treatment of substance abuse

Musculoskeletal

- Functional recovery with joint disorders treated conservatively or with surgical prosthesis
- Recovery of function following:
  - bursal inflammation
  - dislocations
  - fractures
  - ruptures
  - spinal disc pathologies
  - sprains
  - strains
  - tendinopathies
- Recovery of function with use of prosthesis after amputation of part of a limb

Occupational dermatology

- Allergic dermatitis:
  - contact
  - irritant
- Altered skin integrity related to exposure to occupational hazards
- Benign and malignant skin lesions related to occupational exposures, such as UV radiation

Pregnancy and reproductive systems

- Classes of substances recognised to be endocrine disrupters
- Sensitivity to exposure during different stages of pregnancy
- Strategies for managing pregnant workers in the workplace
- Well-recognised teratogens
- Work-related causes of adverse reproductive outcomes

Respiratory and sleep system

- Effects and impacts of:
  - asbestos exposure
  - diving physiology
  - respiratory disease on capacity for work
  - shift work on circadian rhythm and functioning within a working environment
- Effect of occupational and environmental toxins on the respiratory system
- Obstructive sleep apnoea and impact on fitness for work and driving
- Pathophysiological basis and causes of airway inflammation
- Well-recognised causes of occupational asthma and hypersensitivity pneumonitis

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

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.

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

Acute care

- Defibrillation
- Fluid resuscitation
- Inotropic support
- Management of acute workplace injuries, such as:
  - burns
  - eye injuries
  - fractures
  - lacerations
- Oxygen delivery and assisted ventilation

Audiology testing

- Pure-tone audiometric testing
- Speech discrimination
- Tuning fork tests:
  - Rinne
  - Weber

Biological monitoring

- Biological effects monitoring
- Biological exposure indices
- Biological exposure monitoring

Cardiovascular testing

- ECG
- Stress tests

Neurological testing

- Neuropsychiatric evaluations

Respiratory testing

- Complex lung function interpretation
- Office based spirometry testing
- Peak flow monitoring
- Tests for sleep apnoea

Screening tools

- Cardiovascular risk scores
- Imaging tools, including the appropriate use, purpose, and limitations of commonly applied imaging, such as:
  - CT scans
  - MRI
  - nuclear medicine scans
  - ultrasound
  - x-ray, including ILO grading systems
- Mental health-related screening tools, such as:
  - Beck Depression Inventory (BDI)
  - Depression Anxiety Stress Scales (DASS)
  - Kessler Psychological Distress Scale (K10)
  - Mini-Mental State Examination (MMSE)
- Sleep apnoea scores / screening

Visual screening

- Colour vison testing
- Depth perception
- Office tests for eye functioning / injury
- Task-specific testing, such as lantern tests
  Visual acuity and visual field testing

IMPORTANT SPECIFIC ISSUES

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

- Ability to coordinate the management of non-work-related conditions that impact on work capacity
- Knowledge and use of information from global and local organisations influencing occupational and environmental health

Conditions with limited knowledge and/or treatment strategies

- This refers to conditions perceived as having an impact on work, but for which there is limited evidence-based information, such as:
  - » building-related illnesses, such as sick building syndrome
  - » chronic pain syndromes
  - » malingering
  - » multiple chemical sensitivity
  - » myalgic encephalomyelitis (ME) / chronic fatigue syndrome (CFS)
  - » war-related illnesses

Drugs and alcohol

- Effects of recreational and prescribed drugs on workers undertaking safety-critical tasks
- Medicinal marijuana
- Role of medical review officers and the Australian Medical Review Officers Association (AMROA)
- Toxicology and interpretation of test reports

Extreme environments

- Advice on managing health risks associated with:
  - » diving and working in caissons
  - » freezing climates
  - » high altitude
  - » remote environments
  - » very hot climates, including deep underground

Infectious diseases

- Food-borne and water-borne infections of local relevance
- Implications of infection and working with others
- Respiratory infectious diseases, such as flu strains

Mental health

- Community resources that may assist recovery of function, such as anger management
- Depression and anxiety and their implications for work
- Implications of substance abuse for work
- Major psychiatric illness and its implications for work
- Mental health concerns, such as those due to accidents, fire, threats, and warfare, and their implication for work, such as post-traumatic stress disorder (PTSD) within the workplace
- Mental health conditions and standards for safety critical work
- Personality disorder and neurodivergent conditions, and their effects on co-workers, company reputation, and vehicle driving
- Ways to overcome stigma experienced at work by people with psychiatric illness
- Work-related preventive measures for bullying and harassment

Population-specific issues

- Cultural safety-related issues within the workplace
- Normal physiological changes associated with ageing
- National driving standards – Assessing Fitness to Drive and related train driving standards
- National guidelines that determine fitness for roles

- National health promotion guidelines, including:
  - national guidelines on vaccination programs
  - national screening programs for neoplastic diseases
- National Standard for Health Assessment of Rail Safety Workers

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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.

- Biomedical, environmental, genetic, and socioeconomic risk factors and risky health behaviours, and know where preventive effort can be best applied
- Key public health problems and health needs of priority population groups
- National Health Priority Areas (NHPAs) and risk factors in Australia:
  - arthritis and other musculoskeletal conditions
  - asthma
  - cancer
  - cardiovascular disease
  - diabetes
  - injury
  - mental health
- NHPAs and risk factors in Aotearoa New Zealand:
  - alcohol, and illicit and other drug use
  - cancer
  - cardiovascular disease
  - diabetes
  - immunisation and vaccinations
  - mental health
  - nutrition
  - obesity
  - oral health
  - physical activity
  - smoking
  - suicide
  - violence
- Notifiable diseases and their reporting process
- Population characteristics that lead to inequality in health status
- Principles of:
  - benefits, costs, importance, side effects, and use of screening
  - epidemic control
  - illness prevention (1°, 2°, 3° prevention) and screening
  - infection control
  - outbreak investigation
  - use of worker/patient registers and disease recall systems
- The major burden of disease and injury, and the major risk factors causing this burden, in Australia and Aotearoa New Zealand

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

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.

Trainees will know how to explain the investigation or procedure to workers/patients[14], their families, and/or carers, and be able to explain procedural risk and obtain informed consent where applicable.

- Interpret indicators for measuring health status, such as:
  - adverse health events
  - aggregate health indicators
  - causes of decreased quality of life
  - hospitalisation rates
  - injury rates
  - measures of positive dimensions of health
  - mortality

IMPORTANT SPECIFIC ISSUES

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

- Changing trends in occupational disease and injury in the broader community
- Demographics and participation rates in prevention or screening programs
- Disease patterns to inform and contextualise clinical practice
- Economic implications of policies and procedures that support safe practice
- Economics of prevention and health promotion, including the influence of compensation mechanisms
- Effects of work and social gradient on health
- Evidence-based occupational disease and injury trends in daily practice
- Health conditions affecting safety at work and related to employment
- Health inequities in relation to priority population groups, such as:
  - diverse groups
  - Indigenous people
  - people with a disability
  - prisoners / people held in detention settings
  - rural / remote areas
  - socioeconomically disadvantaged
  - veterans
- Immunisation and epidemic control
- Measures of cost effectiveness and anticipated positive health outcomes
- Organisational plans for:
  - drug and alcohol abuse prevention
  - healthy eating
  - physical activity
  - smoking cessation
  - weight reduction

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

- Population health status data identifying health issues, including:
  - common notifiable diseases
  - commonly reported chronic conditions
  - factors related to good health
  - leading causes of death
  - leading causes of hospitalisation
- Workplace health surveillance programs, including those described in legislation
- Protocol and processes of interaction between workers/patients and available health system resources

KEY PRESENTATIONS AND CONDITIONS

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

- Adverse health effects of workplace hazards
- Classification of workplace hazards:
  - » biological
  - » chemical
  - » physical
  - » psychosocial
- Differences between:
  - » biological effects
  - » disease or injury
  - » exposures
  - » hazards
- Human factors principles, including but not limited to those that underpin the hierarchy of controls
- Mitigation strategies using the hierarchy of controls
- Models for causation that are medicolegally authoritative

Physical hazards

- Atmospheric pressure changes
- Cold
- Electricity
- Ergonomic
- Heat
- High-pressure injuries
- Radiation:
  - » ionising
  - » non-ionising
  - » radioactive particles
- Sound / Noise
- Vibration

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Trainees will understand these presentations and conditions.

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

Biological hazards

- Bacteria
- Fungi
- Prions
- Protozoa
- Toxins
- Venom
- Viruses

Chemical hazards

- Carcinogenic and teratogenic substances presently used in bulk in Aotearoa New Zealand and Australia

For each presentation and condition, 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 workers/patients[15] and their quality of life when developing a management plan

Manage

- » provide evidence-based management tailored to workers'/patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve, lead, and guide multidisciplinary teams to adopt risk-based outcomes driven approaches to ensure health and vocational outcomes, where and as appropriate

Consider other factors

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

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

- Categorised by physical state:
  - » dusts
  - » fumes
  - » gases
  - » liquids
  - » solids
- Categorised by effects:
  - » asphyxiant
  - » carcinogenic
  - » corrosive
  - » explosive
  - » flammable
  - » irritant
  - » oxidising
  - » sensitising
  - » toxic
- Mineral dusts
- Volatile liquids with vapours capable of causing narcosis and other health effects

Physical hazards

- Changes in ambient pressure
- Cold
- Ergonomic hazards
- Electricity
- Heat
- High-pressure injuries
- Manual handling
- Radiation:
  - » ionising
  - » non-ionising
  - » other clinically relevant electromagnetic phenomena
- Slips, trips, or falls
- Sounds and loud noises, such as:
  - » banging
  - » whining
  - » whirring
  - » whooshing
- Sources of drowning or engulfment
- Sources of physical trauma
- Vibration

Psychosocial hazards

- Bullying
- External pacing
- Harassment, including sexual harassment
- High and low job demands
- Low job control
- Low reward and recognition
- Low role clarity
- Mentally and/or physically traumatic events and moral injury
- Not part of decision making

	• Poor organisational change management • Poor organisational justice • Poor physical and/or organisational environmental conditions • Poor support • Poor workplace relationships, including interpersonal conflict • Remote or isolated work • Violence and aggression	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Trainees will have a comprehensive depth of knowledge of the principles of the foundational sciences.	• Different types and sources of venom and antivenin • Distinguishing features of: » bacteria » fungi » prions » protozoa » viruses • Health surveillance programs with attention to both biological exposure and effect monitoring • Routes of exposure, the mechanism of injury, and the pathological effects • Understanding of the physical, chemical and toxicological properties of substances, such as: » acid, alkali, pKa and pH » aromatic and aliphatic compounds » basic physical laws that relate to chemical reactions, gases, pressure, and temperature » compounds and mixtures » diffusion and osmosis » effects of particle size, including nanoparticles, such as inhalable and respirable » electrolysis and electrolytes » enzymes and their properties » flammability and explosion » gases » halogens and halogenated organic material » inert gases » ions and polar molecules » metal and heavy metals » odour threshold » oxidation and reduction » solubility » volatile organic compounds	
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Trainees will know the scientific foundation of each investigation and procedure, including relevant anatomy and physiology. They will be able to interpret the	• Environmental Health and Social Impact Assessment (EHSIA) • Formulate comprehensive evidence-based reports around hazards and their health effects • Occupational hygiene sampling • Relating occupational hygiene measurements, including health effects and health risks for identified hazards • Risk assessment and worksite visit processes	

reported results of each investigation or procedure. Trainees will know how to explain the investigation or procedure to workers/patients, families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.	
IMPORTANT SPECIFIC ISSUES Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management and integrate these into care	• Available literature, such as material safety data sheets and appropriate data bases relevant to agent and exposure • Critical, scientific technical analysis of quantitative and qualitative methodologies used in occupational hygiene studies • Reference framework to address foreseeable health and organisational risks relating to substances • The hierarchy of controls • The principles and practical application of occupational hygiene, including the principles of: » evidence-based management with consideration of the person and the context, including management support, the work environment and culture, and work organisation » occupational history taking • Toxicology of chemical substances, including pharmacodynamics, pharmacokinetics, and half-lives

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS 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. Trainees will know how to explain the investigation or procedure to workers/patients[16], families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.	• Sources of information about past significant events, including written and electronic records and interpersonal information within the organisation • Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis (or related) of occupational health services • Systematic approach to assessing and evaluating workplace health programs • Worksite visits
IMPORTANT SPECIFIC ISSUES Trainees will identify important specialty-specific issues and the impact of these on diagnosis, management, and outcomes.	• Awareness of trends toward casual work, employment of immigrants, employment through agency hire and contracting companies, flexible working hours, outworkers, part-time work, and working from home, and how they may affect occupational health and safety and issues such as consultation with workers, reporting of hazards, and reporting of injuries • Broad economic factors that influence business, and factors influencing the allocation of resources within businesses • Budgets • Commonly used or established occupational health and safety services that can be used for reference • Components of business plans / organisational objectives • Define the limitations, purpose, spectrum, and strengths of: » disability support organisations » environmental activist groups » government (local, state, and federal levels) and the relevance of their agencies to occupational or environmental health » human resource management » legislative compliance » local single-issue community action groups » management of change » policy and procedure development » production » strategic planning » union representatives who visit or are employed in workplaces • Different quality assurance processes, and their strengths and weaknesses

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

- Discern what is essential from what may be ‘nice to have’
- Factors influencing workplace culture
- Interaction with managers and leaders
- Issues at stake in a disagreement, and respond to the associated emotional concomitants
- Organisational needs, based on its type and culture
- Potential need for a staged introduction of services offered
- Refusal to undertake inappropriate activities
- Relevant codes of practice, industry standards, and laws
- Set up, maintain the independence of, and evaluate the performance of an occupational health service sufficiently equipped at a suitable location
- The workplace health and safety culture at organisations
- Types and likelihood of risks
- Types of organisational structures

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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.

Environmental incidents

- The nature of hazards, duration of their fugitive presence, and extent of spread
- The nature, severity, and clinical foreseeability of health complaints, health outcomes, and who these are likely to affect or do affect

Outbreak of an acute disorder

- The likely availability and reasonable practicability of preventive measures
- The natural history, clinical features, clinical foreseeability of harm, and foreseeable severity of harm from clustered medical conditions

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

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.

Trainees will know how to explain the investigation or procedure to workers/patients[17], families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.

Environmental incidents

- Environmental audits
- Method and periodicity of air and water monitoring, and the interpretation of monitoring results

Outbreak investigations

- Methodology of outbreak investigation and report writing

Remediation of contaminated sites

- Measures of satisfactory decontamination

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

IMPORTANT SPECIFIC ISSUES

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

Environmental incidents

- Actions related to histories of environmental incidents, and how they have arisen
- Assessment of technical reports against foreseeable health risks and relevant outcomes, including reports on:
  - » human factors
  - » occupational hygiene
  - » safety systems
  - » toxicology
- Critical evaluation of relevant technical reports
- Likely ameliorative efforts already undertaken in environmental incidents
- Management of stakeholders, who may have differing perceptions and agendas, in environmental health issues
- Risk communication
- Scientific methodologies that have regulatory or authoritative recognition

Outbreak of acute disorders

- How to keep those affected and relevant community members appropriately informed
- How to recognise and support organisations' staff health strategies with respect to clusters, outbreaks, epidemics, pandemics, and the endemic nature of conditions
- Medical and medicolegal determinants of need for isolation or separation of cases
- Methodologies for formulating reasonable plans and strategies with awareness of own personal role(s), including the potential for relevant perceptions of bias and/or conflicts of interest
- Organisations that should be notified, and individuals who should be involved
- The appropriate involvement of families and others who are close to those affected
- The foreseeable reaction of those involved and those nearby
- The method, and likely time required, to confirm cases and coordinate effective, sustainable, and timely health protection responses
- The role of emergency services

Remediation of contaminated sites

- Approaches to this type of problem and their usual effects
- Consequences of adverse weather or problems of access
- Critical analysis of health monitoring information and systems
- Environment and planning laws, and who is responsible for administering them
- Interfaces between operations and health protection regulations
- Likely appearance of sites once work is completed
- Sensitive areas in proximity
- Site history
- Strategies for the transport and disposal of soil
- The remediation process, from beginning to end
- Toxicological nature of contamination

Site health emergency response capability

- An understanding of site health and safety risks and external response capabilities

- Site emergency health response capabilities required to respond to onsite acute illnesses and injuries

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

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.

Broader environmental concerns

- Air pollution and indoor air quality
- Land / Soil pollution
- Noise pollution
- Water pollution

Core concepts in environmental health

- Community resources and action
- Dose / Response
- Environmental justice
- Exposure
- Individual susceptibility
- Risks and benefits
- Toxicity

Workplace environment

- Freezing climates
- High altitude
- Radioactive substances
- Underwater – diving
- Very hot climates

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

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.

Trainees will know how to explain the investigation or procedure to workers/patients[18], families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.

Environmental risk assessments

- Environmental risk assessment limitations
- Exposure guidelines and monitoring
- Interpret air and water monitoring results
- Interpret relevant technical reports to elicit information on hazardous exposure monitoring
- Qualitative and/or quantitative risk assessments to evaluate potential exposure levels (and reference to environmental exposure standards, such as air and water) to assess potential human health risks from environmental hazards

Reference regulations and regulatory bodies

- National air quality measures and relevant national and state regulations
- National standards for drinking water
- Regulatory bodies, including additions such as the per- and polyfluoroalkyl substances (PFAS) taskforce, that oversee:
  - » air quality
  - » chemical approval and use
  - » environmental pollutants from industry, such as mining and pastoral
  - » radiation – ionising and non-ionising
  - » sanitation systems
  - » water quality

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

IMPORTANT SPECIFIC ISSUES

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

Environmental issues related to work practice

- Community response management for environmental exposures or health clusters
- Difference between occupational and environmental standards, and the different contexts in which they are applied
- Disposal systems, environmental and/or health effects, and scale of:
  - » burning of coal, gas, wood, and other sources of carbon
  - » exhausts for diesel and petrol
  - » key waste streams
  - » PFAS, including specifically perfluorooctane sulfonate (PFOS)
  - » recycling waste streams
  - » recycling wastewater
- Government decision making approaches to heath and the environment
- Key environmental regulations
- Laws and standards of the transport and storage of hazardous substances, including radioactive substances
- Programs that predict and mitigate health effects in occupational groups working in:
  - » bushfire smoke
  - » post-flood areas
- Special interest groups and their involvement with environmental issues groups
- Strengths and limitations of environmental standards
- The impact of climate change on health and the environment, and initiatives to reduce carbon emissions, such as city greening
- The importance of advocating for health benefits within business environments
- The susceptibility of population sub-groups due to:
  - » age
  - » infirmity
  - » pregnancy
  - » social circumstances

Health-affecting environmental issues

- Common types of health-affecting environmental issues
- Modifiable environmental issues contributing to the burden of disease within Australia and/or Aotearoa New Zealand.
- Population health monitoring, including the use of:
  - » assessment of sub-clinical effects
  - » biomarkers
  - » clusters of health events.
- The health inputs in developing business measurement tools, such as environmental, social, and governance (ESG)
- The World Health Organization's summaries on environmental health covering main environmental issues contributing to the global burden of diseases

Social and environmental justice

- Chemicals widely used in the environment that could affect health within their country of practice
- Current predictions on changes to weather systems within regions; these predictions should be able to be used to modify adverse health effects within the occupational community and the wider population
- Health needs in camps for refugees or internally displaced people
- Industrial activities impacting environmental justice in communities
- The concepts of distributive and procedural justice

- The current environmental issues affecting the health of Aboriginal and Torres Strait Islander and Māori peoples
- The history and philosophical concepts of the environmental justice movement
- The impacts Aboriginal and Torres Strait Islander and Māori peoples face living remotely, as defined by these communities.
- The understanding of te ao Māori, and the importance of te taiao (the environment that surrounds us) in terms of whakapapa; elements such as awa (river), maunga (mountain), and whenua (land) are not property or commodities, but ancestors with whom we are intimately connected, and resources of cultural and spiritual significance. Maintaining environmental relationships in healthy balance is a fundamental for wai ora (healthy environments), including:
  - access to sanitation facilities and hygiene hardware
  - animal and pest management
  - drinking water quality
  - dust and weed management
  - energy poverty related to cooling and heating
  - indoor air quality related to cooking methods
  - location of rural and remote communities
  - quality of housing and maintenance
  - regular power supply
  - sewage and waste management

LEGAL, ORGANISATIONAL, AND REGULATORY ISSUES

Trainees will have in-depth knowledge of the topics listed under each legal, organisation and regulatory issue heading.

For the legal concepts listed, Trainees should be able to describe and identify the broad legal concepts as they apply to occupational and environmental medicine and the knowledge required to apply the information correctly.

Courts

- Effective contributions to the legal process
- Medical:
  - » panels
  - » referees
  - » reports
- Purpose of courts
- Rules, including the constraints on expert evidence

Industrial agreements

- Local industrial relations mechanisms

Laws related to workplace and environmental hazards

- Legal administering authorities
- Non-legislated guides and standards
- Relevant codes, guides, and standards, including sections of a statute that are:
  - » pivotal
  - » seldom applied
- Types and tiers of law

Medical reports

- Broad content of workplace and environmental compensation laws
- Equipment required for medical report preparation
- Legal and insurance requirements
- Legal purpose of medical reports
- Published guidelines for report preparation

IMPORTANT SPECIFIC ISSUES

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

Common law

- Influence of common law on occupational and environmental medicine

Industrial

- Local industrial relations mechanisms and their documented effects on health and safety
- Nature of employer responses
- Physiological basis of industrial agreements, such as on fatigue or shift work, from overlays generated by industrial negotiation
- Vigour of activism by local employee representatives and advocates

Medical reporting

- Completion of medical certificates / documentation for governmental and non-governmental organisations
- General purposes for which compensation is provided by both common and statute law, such as:
  - » incapacity payments, which may be time-limited
  - » lump sums for impairment
  - » payment of medical expenses
- Workers'/patients'[19] understanding of ethical and legal impacts of medical reporting

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

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES 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.	• Common types and causes of selection and measurement bias, and the way they might distort study results • Commonly used measures of association in epidemiology • Identify and assess the presence and influence of potential confounders and how they may affect the interpretation of association between a putative determinant and a health outcome • Incidence as a measure of absolute risk • Incidence, incidence density, and prevalence, and their meanings • Injury and disease causation models, such as the Bradford Hill criteria • Interpretation of rates and the information they convey • Study design, methodology, and sampling • The assessment and management of putative disease clusters • The difference between the expression of health-related phenomena as frequencies or rates • The distinction between confounding and interaction (or effect modification) • The meaning of confidence intervals and p-values • The potential effect of chance (random variation) on measurements, observations, and the results of investigations • The variety of methods available to deal with confounding
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS 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. Trainees will know how to explain the investigation or procedure to workers/patients[20], families, and carers, and be able to explain procedural risk and obtain informed consent where applicable.	• Appropriate illustrations graphically summarising the distribution of single variables or the relationship between two or more variables • Appropriate tables and graphs • Indicators for measuring health status • Relevant statistical processes, with an understanding of: » accident causation theories » accident / incident investigation » root cause analysis • Tabulations summarising the distribution of single variables or the relationship between two or more variables • The calculation and interpretation of appropriate statistics

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

IMPORTANT SPECIFIC ISSUES

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

- Scientific journal articles
- Scientific report writing skills
- Study designs, including their advantages and disadvantages
- Suitable presentation skills