a healthier world through
sonographer expertise

**ASA Sonography
Clinical Supervision**
Framework

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Executive Summary

The Clinical Supervision Framework for sonographers in Australia and New Zealand outlines four domains of practice for the delivery of consistent and high quality supervision. These domains are intended to support supervisors to guide trainees in their journey towards achieving competency. Key objectives include establishing consistent practices, continuous professional growth, and improved patient outcomes by ensuring trainees are well-prepared to provide safe, effective, and compassionate care. The framework emphasises principles such as commitment to effective supervision, patient-centred care, cultural competence and cultural safety, ethical conduct, professional development, collaborative learning, reflective practice, evidence-based practice, accountability, and innovation.

While there is an expectation that all sonographers participate in clinical supervision, it is recognised that it requires additional skills, training and knowledge to engage effectively. Clinical supervisors, often in advanced or extended scope of practice roles, need adequate supervision skills to support the professional development and competency of trainees. This, in turn, enhances patient experience and improves patient safety and care.

The framework applies to all healthcare settings and educational course providers involved in training and professional development including upskilling in new areas of practice, peer-to-peer supervision, return to practice after extended leave, and mandated supervision. It defines roles for workplaces, supervisors, trainees, and educational course providers, supporting various models of supervision, to accommodate different learning styles and settings. While it is primarily designed to assist those supervising trainee sonographers to meet the required competency standards for professional accreditation, its principles can also be applied to qualified sonographers who are new to the field, early in their careers, or require training or upskilling in different domains of practice.

Aligning with the Australian Professional Competency Framework for Sonographers, the Code of Conduct for Sonographers and the New Zealand Medical Radiation Technologists Board Competency Standards, the framework emphasises the importance of informed consent, documentation, and adherence to legal and ethical guidelines to protect patient safety and uphold professional standards. Additionally, it promotes the wellbeing of supervisors and trainees by supporting emotional and mental health, work-life balance, physical health, and a positive work environment.

To support the implementation of the framework, clinical supervisors should be provided with training programs and resources to equip them with the necessary skills and knowledge. Regular reviews and evaluations of the supervision process should be conducted to ensure alignment with the framework's standards and ensure continuous improvement.
The Australasian Sonographers Association (ASA) advocates for the development of an accreditation system for clinical supervisors and training sites. Accreditation provides an opportunity to set quality standards for the profession. It recognises supervisors as having an advanced level of experience and skills enabling them to provide a high standard of quality supervision. Accreditation provides evidence of a sonographer demonstrating the capabilities (skills and knowledge) expected for supervision.
By implementing this framework, healthcare settings can ensure that trainee sonographers receive the guidance and support they need to develop into competent professionals, ultimately leading to improved patient care and safety.

Contents

Key definitions in context to sonography

Adult learning principles
Theories and practices that focus on how adults learn, emphasising self-direction, experiential and practical learning.[1]

Clinical reasoning
The process by which healthcare professionals gather and analyse patient information, evaluate its relevance, and make informed decisions about patient care.[2]

Clinical supervision
An advanced practice that involves guiding trainee sonographers, requiring specialised skills and knowledge to ensure high standards of patient care and professional development.

Types of supervision-

Direct supervision- Supervisor is in the ultrasound examination room with the trainee during the examination.[3]

Indirect supervision- Supervisor is not in the ultrasound examination room with the trainee during the examination however is available for support and is responsible for the outcome of the examination.[3]

Remote supervision- Trainee sonographer is in a remote setting where direct supervision is not available. At the time of writing this framework there are no models of remote supervision that are advocated for by registering bodies. The ASA acknowledges that evolving technology and professional standards/legislation (eg. digital communication, remote robotics) may provide opportunities for this in the future.

Competency
A competency is a set of defined behaviours that provides a structured guide to the identification, evaluation and development of skills and knowledge in individual workers. A person is deemed competent when they have acquired sufficient competencies to perform the work required of them to an acceptable and agreed standard.[4]

Cultural competency
The ability to understand, communicate with and effectively interact with people from diverse cultural backgrounds.[4,5]

Cultural safety
An ongoing process that involves creating an environment where patients feel secure and respected in their cultural identities.[6] It involves understanding and respecting the diverse cultural backgrounds of patients, including their beliefs, values, and practices.

Educational psychology
A branch of psychology that studies how people learn and retain information.[7] It focuses on the learning processes of individuals, particularly in educational settings, and examines factors such as cognitive development, teaching methods, and assessment of learning outcomes.[7] It aims to understand and improve learning environments and educational outcomes.[7]

Emotional intelligence
The capacity to be aware of, control and express one's emotions, and to handle interpersonal relationships thoughtfully and empathetically.[8,9] This skill includes the ability to read the room, accurately perceiving the emotional dynamics at play, and responding appropriately to the emotions of others.[8,9] Emotional intelligence encompasses self-regulation, empathy, social skills, and the ability to navigate complex social interactions with sensitivity and insight.[8,9]

Key Definitions in context to sonography

Formative assessment
Ongoing ungraded assessments used to monitor trainee learning and provide continuous feedback to improve their skills and knowledge.[10]

Learning plan
A document that is used to plan and facilitate learning of an individual or group, usually over an extended period.[10]

Learning style
Various approaches or ways of learning, including visual, auditory, kinaesthetic that trainees may prefer.[10]

Mentoring
A developmental partnership where a more experienced or knowledgeable person (the mentor) provides guidance, support, and advice to a less experienced or knowledgeable person (the mentee).[11] The focus is on the mentee's personal and professional growth, helping them navigate their career path and develop their skills.[12]

Neurodiversity
The concept that neurological differences, such as autism, attention-deficit/hyperactivity disorder (ADHD), and dyslexia, are natural variations of the human brain.[13] Recognising neurodiversity in clinical supervision involves understanding and accommodating the unique needs and strengths of the neurodiverse trainee.[14]

Peer to peer support
A reciprocal relationship between sonographers at similar levels of experience and expertise, where they provide each other with support, feedback, and shared learning opportunities.[15] This type of support fosters a collaborative environment, enhances professional development, and helps manage the emotional and psychological demands of the profession.

Preceptorship
A structured period of transition for qualified preceptee, where they are assigned to an experienced practitioner/sonographer (the preceptor) who provides practical training, supervision, and support.[12] The aim is to help the preceptee integrate into their professional role and develop the necessary competencies for independent practice.[12]

Professional peer
Professional peer support is the mechanism for practicing professional sonographers to be able to discuss and share reflection on clinical situations, professional development, and discuss emotional experiences in a safe and confidential environment with a suitable peer or mentor.[11]

Reflective practice
A process where trainees and supervisors critically analyse their actions and experiences to improve future practice.[16]

Scaffold
Scaffolding is a metaphor describing teaching and learning practices which help trainees go from where they are now to where they need to be to achieve learning.[17]

SMART goals
Specific, Measurable, Achievable, Realistic, and Timely objectives set to guide and assess trainee progress.[1]

Summative assessment
A formal evaluation at the end of a training period used to measure the trainee's overall learning and competency.[10]

Supervision agreement
A formal or informal contract outlining the expectations, goals, and responsibilities of both the supervisor and the trainee.[16]

Key Definitions in context to sonography

Supervisor

A supervisor, also known as a tutor, is a professional who guides sonographer education and training. Clinical supervisors may include experienced sonographers or in some cases in Australia, Medical Specialist (for example supervising cardiac sonographers), ensuring comprehensive oversight and support for trainees. The clinical supervisor's role may encompass educational, support, and managerial functions. The clinical supervisor is responsible for ensuring safe, appropriate, and high-quality patient care. A clinical supervisor can be either an Accredited Medical Sonographer (AMS) recognised by the Australian Sonographer Accreditation Registry (ASAR) or registered with the Medical Radiation Technologist Board (MRTB) and hold a current Annual Practising Certification in New Zealand.

Trainee

A trainee, learner or student sonographer in Australia are registered as Accredited Student Sonographers (ASS) with the ASAR. They must be enrolled in an ASAR-accredited program and provide evidence of their trainee status annually to maintain their registration.

In New Zealand, trainees are registered as trainee sonographers with the MRTB. They must be enrolled in a Board-approved training program and provide evidence of their enrolment and clinical training site.

Trainees can also encompass those situations when a sonographer is upskilling, undergoing mandated supervision or those returning to practice.

The framework uses the Dreyfus & Dreyfus model[18] for skill development. These stages can be related to a trainee's overall development or within the context of a particular type of examination. Trainees move from novice to advance stage depending on when competency is achieved.

Novice: A trainee that has minimal knowledge and requires high levels of direct supervision.

Advanced beginner: A trainee that applies protocols, recognises pathology, handles simple tasks but struggles with complexity. Decreasingly less supervision is required, and indirect supervision can be applied.

Sonographers are critical to quality healthcare, and effective clinical supervision is essential for training competent professionals. Enhanced supervision practices lead to improved patient experiences and safety, as trainees are better equipped to handle complex clinical situations.[1,11,19–22] Feedback indicates inconsistent supervision quality, including varying supervisor engagement, feedback standards, and supervision training. This inconsistency sometimes fails to meet trainee needs and highlights the lack of evidence-based practices.

The implications of poor supervision are significant. Inadequate supervision can lead to negative patient experiences, suboptimal diagnostic outcomes, increased trainee failure rates, and higher healthcare costs.[19,21,23–27] Common barriers to high quality clinical supervision include lack of protected time and insufficient resources, see Appendix 1 Barriers to effective supervision.[28] Trainees who lack adequate support are more likely to experience stress and burnout, decreasing job satisfaction and increasing turnover.[1,19,20,24–27] The costs of poor supervision include trainee attrition, additional training, and potential legal liabilities.[29]

Clinical supervision is an advanced practice, requiring deep clinical understanding, instructional expertise, communication skills, and the ability to guide trainees effectively.[30,31] This extended scope of practice ensures that trainees receive high-quality supervision, fostering their professional growth and an enhanced patient experience.[19,25,26,32–35]

The ASA's 2024 career framework survey[36] found that approximately 34% of sonographers spend half or more of their working week providing direct clinical supervision,[36] while 44% receive no formal recognition, and only 16% receive additional remuneration.[36] In a profession with a recognised critical workforce shortage, effective and efficient supervision and training of trainees is essential.[1,37,38] Australian[39] and New Zealand[40] accreditation recommends a minimum of 2000 supervised clinical hours, minimum competency standards, and graduation from an accredited course, placing a burden and cost on trainees, supervisors, and clinical sites.

While comprehensive frameworks for allied health professionals,[1,41–44] radiographers,[20] nurses and midwives,[42,44] general practitioners,[45] psychologists,[15,16] and occupational therapists,[46,47] are available, an evidence-based and comprehensive model for sonographers is still lacking. A structured framework is recommended to improve access and effectiveness of supervision by providing practical guidance and increased consistency.[11,23] This framework recognises the skills, knowledge, and attributes supervisors should possess, it also ensures that skills for effective supervision are recognised, appreciated, and implemented.

The ASA acknowledges that supervision takes many forms and settings. Despite this, effective supervision principles remain consistent: fostering a supportive environment, providing constructive feedback, and tailoring supervision to individual needs, see Appendix 2 Impacts of supervision.

Professional drivers behind the clinical supervision framework

Code of Conduct

The Code of Conduct for Sonographers[48] emphasises the importance of teaching, supervising, and mentoring early career and trainee sonographers for their development and patient care.

Key points include:

- Early career and trainee sonographers should receive adequate oversight and feedback, reflecting their ability, competence, and learning requirements.[48]

- Trainees should be treated with respect and patience to foster a supportive learning environment.[48]

Australian Professional Competency Framework

The Australian Professional Competency Framework for Sonographers[18] outlines professional behaviours all sonographers should demonstrate to practise safely and ethically.

According to the standards:

- Sonographers must actively engage in continuing professional development.[18]

- Trainee sonographers should be suitably supervised and provided with constructive and timely feedback.[18]

- Novice (student) sonographers require constant supervision, clear instruction, and defined protocols due to their lack of developed intuitive responses.[18]

Australian Commission on Safety and Quality in Health Care

The ACSQHC has developed National Safety and Quality Health Service (NSQHS) Standards to provide a nationally consistent statement of the level of care consumers can expect from health service organisations.[49]

The ACSQHC states:

- Workforce members should attend continuing education and skill enhancement programs.[49]

- Supervision ensures that the practise of less experienced clinicians is of an acceptable standard and identifies opportunities for learning and development.[49] Effective clinical supervision enables health professionals to practise effectively and enhance patient safety.[49]

- The key goal of supervision is to safely develop a clinician's capabilities.

New Zealand Medical Radiation Technologists Board

The New Zealand MRTB has developed a Supervision Policy and states "Appropriate supervision provides assurance to the Board and the New Zealand public that a registered practitioner's practice is safe and does not pose a risk of harm to the public."[50]

Framework development

The development of the Sonography Clinical Supervision Framework was a comprehensive and collaborative process, involving multiple stages and contributions from various stakeholders. The key steps in the development process included:

Literature review	Conducted a thorough review of existing clinical supervision frameworks for allied health professionals, identifying best practices and gaps specific to sonography.
Stakeholder consultation	Sought input from a wide range of stakeholders, including experienced sonographers, educators, healthcare managers, and professional bodies in Australia and New Zealand through semi-structured interviews to gather insights and feedback.
Working group formation	Established a dedicated working group comprising experts in sonography, clinical education, and professional development to draft the framework, ensuring it was evidence-based and aligned with professional standards.
Drafting and iteration	Created initial drafts and iteratively refined them based on feedback from the working group, members, and stakeholders to ensure practicality and comprehensiveness.
Final review and approval	The final version was reviewed and approved by the board of the ASA after extensive consultation, ensuring it met the highest standards of professional practice.
Implementation and training	Developed training programs and resources to equip clinical supervisors with the necessary skills and knowledge to effectively apply the framework in their practice.

Scope and application

Healthcare workplaces

Implementation: Develop policies and procedures that align with;
• framework guidelines
• regulatory and accreditation requirements
• course provider requirements.

Training and resources: Provide necessary training and resources to supervisors, including protected time for planning, delivering, and monitoring training.[3,11,19-20,25,27,33,37,51-53]

Support systems: Establish support systems for supervisors and trainees to promote a positive learning environment.

Regular reviews: Conduct regular reviews of the supervision process to ensure it aligns with the framework's standards.

Feedback mechanisms: Implement feedback mechanisms for continuous improvement.

Supervisors

Role and responsibilities:
• Ensure patient safety
• Provide guidance, support, and feedback to trainees, adhering to the framework's principles and standards
• Evaluate and monitor trainee

Professional development:

• Trained and competent in supervision methods and techniques

• Engage in continuous professional development to enhance supervisory skills.

Reflective practice: Encourage and model reflective practice to help trainees critically analyse their experiences.

Supervision stratification by expertise: The framework includes various levels of supervision to ensure comprehensive support for trainees. For detailed information on supervision stratification by expertise, refer to Appendix 3.

Trainees

Active participation: Actively participate in the supervision process, seek feedback, and engage in self-directed learning.

Reflective practice: Maintain a reflective journal to document experiences, challenges, and learning outcomes.

Feedback and improvement: Use feedback to identify areas for improvement and develop action plans.

For further information refer to ASA Clinical Supervision - A Guide for Trainees.

Educational course providers

Curriculum integration: Incorporate the clinical supervision framework into the educational curriculum to ensure that both theoretical knowledge and practical skills are aligned with evidence-based practices and industry standards.

Training and development: Provide training and professional development opportunities for supervisors to effectively implement the framework, enhancing their ability to support trainees.

Foundations of effective supervision

Effective clinical supervision is built on three main functions, and each play a role in the development and wellbeing of trainee sonographers. The three functions can be categorised into: educational (formative), supportive (restorative) and administrative (normative).[19,24,26,37,52,54–56] While the main function of supervision is to oversee the provision of practical training, supervision can also provide a support system to help trainees deal with pressures they may face in the workplace.[26]

Educational (formative) function:

Purpose: Develop ultrasound skills through structured and interactive learning.

Examples:
- Supervisors provide hands-on training and practical demonstrations.
- Discuss clinical processes and evidence-based practices to enhance trainees' knowledge and skills. [26,52]

Supportive (restorative) function:

Purpose: Address work satisfaction, psychological wellbeing, and professional support.[11,19,52,57,58]

Examples:
- Help trainees manage the emotional and psychological demands of their roles.
- Regular check-ins to discuss any challenges and provide encouragement.

Administrative (normative) function:

Purpose: Promote high standards of work, accurate documentation, ethical practice, accountability, and adherence to policies.[19,26,37,52,58,59]

Examples:
- Supervisors ensure that trainees follow established protocols and maintain accurate records.
- Conduct regular performance evaluations to monitor progress and ensure compliance with professional standards.

Diagram1: Cycle of Effective Supervision

- Foster Supportive Environment
- Set Clear Goals
- Communicate Effectively
- Provide Constructive Feedback
- Encourage Reflective Practice
- Promote Professional Development

Domains of clinical supervision framework

The framework is structured into four key domains to ensure comprehensive and effective clinical supervision. Together, these domains provide a holistic approach to clinical supervision, supporting the professional development of trainees, and enhancing patient care.

Diagram 2: Domains of clinical supervision

Domain 1
Skills and attributes

Domain 2
Educational competence

Domain 3
Leadership, management and oversight of clinical supervision

Domain 4
Ethical and legal knowledge
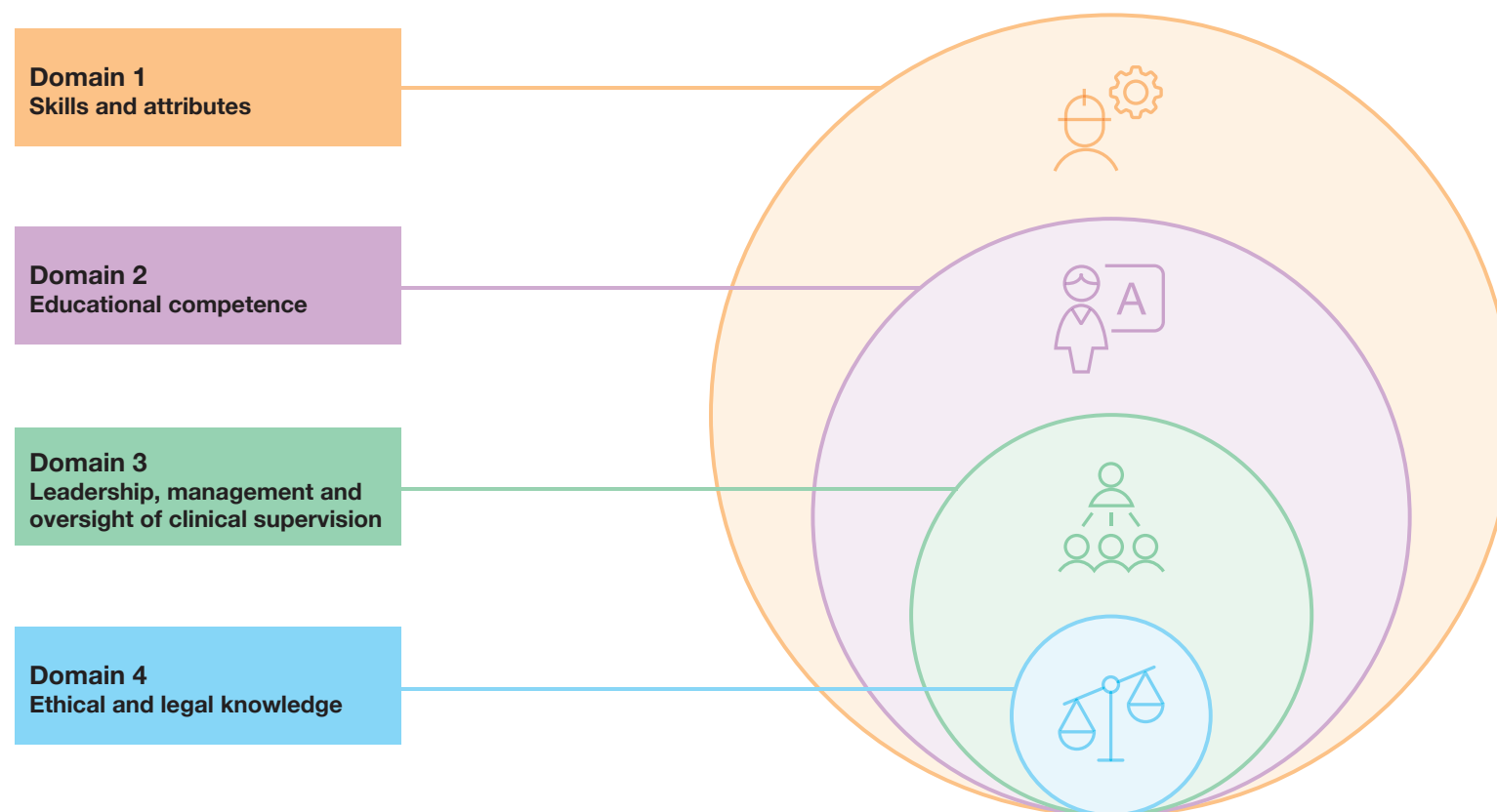
Domain 1
Skills and attributes

Focuses on building rapport, active listening, knowledge sharing, and effective supervision to foster a collaborative and supportive environment.

1.1 Building rapport
1.2 Empathy and patience
1.3 Cultural competence and safety
1.4 Active listening
1.5 Communication
1.6 Effective writing
1.7 Documentation
1.8 Knowledge sharing
1.9 Teamwork
1.10 Role modelling
1.11 Organisation skills
1.12 Digital literacy

Domain 2
Educational competence

Emphasises structured skill development, tailored learning plans, and regular assessments to enhance trainee motivation and professional growth.

2.1 Clinical competence
2.2 Teaching
2.3 Mentoring
2.4 Workplace training programs
2.5 Skill development / scaffolded learning
2.6 Supportive learning environment
2.7 Facilitative learning
2.8 Proximity for supervision
2.9 Competency review, assessment and feedback
2.10 Managing clinical underperformance
2.11 Educational psychology

Domain 3
Leadership, management and oversight of clinical supervision

Highlights the need for strong leadership, conflict resolution, and informed decision-making to create a cohesive and productive learning environment.

3.1 Leadership role of a clinical supervisor
3.2 Conflict and relationship management
3.3 Decision-making
3.4 Promote a supervision culture
3.5 Wellbeing of supervisors and trainees

Domain 4
Ethical and legal knowledge

Underscores maintaining a safe and supportive training environment, adhering to ethical practices, and ensuring legal compliance to foster integrity and accountability.

4.1 Safe work environment
4.2 Ethical practices
4.3 Legal responsibilities
4.4 Policy, procedural and protocol requirements

Domain 1 - Skills and attributes

Effective clinical supervision requires a commitment to the professional growth and wellbeing of trainees. This domain emphasises the importance of fostering positive relationships, demonstrating empathy and patience, ensuring cultural competence, and maintaining clear communication and documentation. Supervisors must balance clinical responsibilities with supervision duties, promote teamwork, and model professional behaviours. Proficiency in digital literacy is also essential. By embodying these attributes, supervisors can provide comprehensive and effective supervision that enhances both trainee development and patient care.

Diagram 3: Domain 1 Skills and attributes
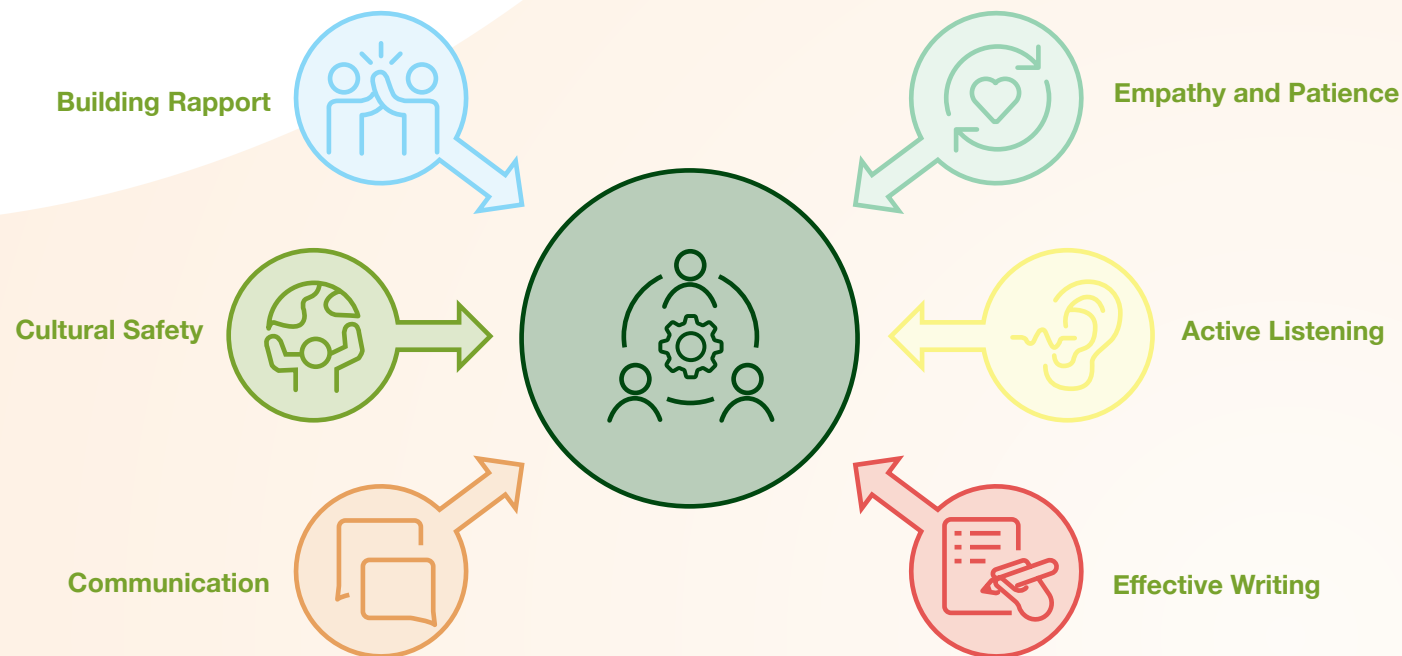
1.1 Building rapport

- Be professional, approachable, friendly, and supportive to foster positive relationships.[60,61]
- Recognise the experience and contributions of adult learners.[1]
- Strong interpersonal skills are essential.[51]

1.2 Empathy and patience

- Show empathy in all interactions, demonstrating an understanding of others.[3]
- Provide emotional support and understanding to trainees, especially during the early stages of training.[1,60,62]
- Be patient with the learning process and encourage perseverance.[51]

1.3 Cultural competence and safety

- Engage with a diverse range of trainees and apply cultural competence and safety skills to provide inclusive education.[62–64]
- Understand and accommodate the needs of neurodiverse, Aboriginal and Torres Strait Islander (ATSI), Māori, or other specific cultural needs of your trainee, ensuring that supervision practices are inclusive and supportive of their learning styles.[14]
- Provide equitable health outcomes and foster culturally sensitive practices during interactions with ATSI, Māori, or other specific cultural patient needs.[65,66] Engage in open dialogue about cultural differences and their potential impact on ultrasound examinations.

1.4 Active listening

- Develop strong active listening skills to fully understand and respond to the needs and concerns of trainees, colleagues, patients, and carers.[3,60,61,67]

1.5 Communication

- Foster a work culture that encourages open, effective, and responsive communication.[63]
- Create an atmosphere in which the trainee feels comfortable discussing their concerns.[63]
- Be aware of non-verbal communication, such as body language, facial expressions, and tone of voice.[64,67] These cues can significantly impact how messages are received and interpreted.
- Establish regular patterns of communication to share ideas and information quickly and easily.[63]

- Communicate expectations and goals clearly and assertively, avoiding jargon and using simple, direct language.[1,20,67]
- Provide opportunities for questions and feedback to enable effective two-way communication.[63]

1.6 Effective writing

- Ensure that written communication is clear, concise, and well-organised.[62]

1.7 Documentation

- Maintain accurate and thorough documentation of all interactions, and feedback for continuity of care and legal compliance. If areas of weakness are identified, mutually agreed plans should be implemented that outlines how concerns will be addressed and timelines for resolution.[28]
- Frequency and duration of progress meetings should be documented.

1.8 Knowledge sharing

- Demonstrate a willingness to share knowledge, skills, and experiences to foster a collaborative learning environment.[68]

1.9 Teamwork

- Promote teamwork by encouraging collaboration and open communication among team members. Recognise and value the contributions of each team member.[18,28,62,66,67]

1.10 Role modelling

- Role model professional behaviours, clinical skills, and patient interactions to set a positive example for trainees.[12,35,37,51,60–62]

1.11 Organisational skills

- Balance clinical responsibilities with supervision duties to ensure both patient care and trainee development are not compromised.
- Keep track of trainees' progress and ensure they meet their learning objectives.[35,51]
- Manage documentation and assessments efficiently.[1,62]

1.12 Digital literacy

- Demonstrate good digital literacy skills to manage various systems used in clinical settings such as picture archiving and communication system (PACS) and electronic health records.[62]

Domain 2 - Educational competence

Supervisors must possess extensive knowledge of ultrasound techniques and protocols and adopt a structured approach to skill development. This domain highlights the importance of designing tailored learning plans, fostering a supportive learning environment, and using innovative teaching methods. Regular assessments and constructive feedback are essential for monitoring progress and addressing underperformance. By applying principles of educational psychology, supervisors can enhance trainee motivation and engagement, supporting their professional growth and ensuring high standards of patient care.

Diagram 4: Domain 2 Educational competence

Clinical Competence

Skills and knowledge for effective clinical practice

Mentoring

Guidance and support for professional growth

Skill Development

Focused improvement of specific abilities

Facilitative Learning

Encourage self-directed and collaborative learning

Managing Underperformance and/or Overconfidence

Strategies to address and improve performance issues

Teaching

Methods and strategies for effective instruction

Training Programs

Structured courses for skill enhancement

Supportive Environment

Creating a positive learning atmosphere

Proximity for Supervision

Close oversight to enhance learning outcomes

Educational Psychology

Understanding learning processes and behaviours

2.1 Clinical competence

- Supervisors must possess deep and broad knowledge of ultrasound techniques and protocols, stay updated with advancements, and continuously improve their clinical skills.[1,20,62,68]
- Supervisors should be familiar with the Professional Competency Framework for Sonographers[18] and the Code of Conduct for Sonographers,[48] or the NZ MRTB Competency Standards[69] to ensure they meet the required standards of practice. These frameworks outline the essential skills, knowledge, and attitudes required for effective performance at various stages of sonographic practice.
- Supervisors should be confident in their skills and knowledge to effectively teach and guide trainees.[1,61]

2.2 Teaching

- Supervisors should have a passion and enthusiasm for teaching.[61]
- A commitment to ongoing professional development, particularly in the areas of teaching and supervision, to provide the highest quality guidance and support.
- Pursuing voluntary qualifications, such as courses in adult learning principles, training, and assessment, can demonstrate a commitment to effective supervision. See Appendix 4 Training course content.

2.3 Mentoring

- Mentor trainees to support their clinical and professional development, providing guidance, and sharing knowledge.[16]

2.4 Workplace training programs

- Design and develop comprehensive learning plans, programs, and agreements tailored to the needs of each trainee, outlining clear objectives, milestones, and assessment criteria.[70,71]
- Establish and document a formal agreement prior to commencement of training outlining the terms and expectations of the supervisory relationship, including conflict resolution.[24,26,63,72] For detailed templates and examples, refer to Appendix 5 Template learning plan and Appendix 6 Template learning agreement.
- Perform an orientation to familiarise new trainees with the ultrasound department, including protocols, equipment and workflow. An example flowchart can be found in Table 1 Orientation flowchart for new trainees.

- Use a variety of supervision methods, such as direct observation, case discussions, and practical demonstrations, to address different learning styles and enhance trainee learning.[1,62]
- Adapt teaching and learning practices to focus on the needs of each trainee, promoting inclusivity and flexibility.[19,24,62,68] See Table 2 Supervision of sonographers with overseas qualifications.
- Be flexible with scheduling to accommodate the progress and needs of the trainee, allowing them to set their own pace and work within their competency.[45,67]
- Design workplace training programs that include strategies for teaching and supporting neurodiverse, ATSI, Māori and other specific needs of trainees, ensuring that all trainees have equal opportunities to succeed.[14]
- Schedule consistent supervision sessions that are free from interruptions.[1,25,73]

2.5 Skill development / scaffolded learning

- Follow a structured approach to skill development, ensuring a logical progression from basic to advanced competencies.[62,63] See Table 3 Examples of training stages, competency milestones for trainee sonographers and supervision expectations.
- Provide a scaffold for learning, adapting the structure as needed to fit individual trainee needs, and gradually increase exposure to more complex examinations.[63]
- Identify knowledge and skill gaps, and employ appropriate tools to bridge these gaps.[62,74]
- Establish clear, achievable goals for trainees at the beginning of each new learning period, and review them weekly.[1,71] For examples of SMART goals see Appendix 7 Establishing goals and objectives.
- Balance direct and indirect supervision, giving trainees freedom to learn while providing guidance when needed.[1]
- Identify when a trainee meets competency and can transition to indirect supervision.[67]

2.6 Supportive learning environment
- Foster a non-judgmental and open-minded attitude towards different learning styles and approaches.[35,51,62]

2.7 Facilitative learning
- Facilitate rather than direct trainee learning, using strategies to connect theory with practice.[20,62]
- Demonstrate innovation and creativity in teaching methods to engage trainees.[62] See Table 4 Examples of models of supervision.

2.8 Proximity for supervision
- Ensure supervisors are located onsite to the trainee to provide adequate supervision and timely guidance.[1]
- At novice stage (see Appendix 8 Dreyfus model of skill acquisition) the supervisor must be physically present and observing at all times.

2.9 Competency review, assessment and feedback
- Assign examinations that are appropriate to the trainee's competency and scope of training.
- Conduct regular assessments, as per educational provider learning plan, to document and evaluate trainee progress, providing both formative (ongoing feedback) and summative (overall competency) assessments.[11,27,37,49] Examples of the key elements of clinical assessment, the process of clinical assessment, the Dreyfus model of skill acquisition and a template for clinical assessment can be found in Appendix 8 Clinical assessment.
- Deliver clear, actionable, and supportive feedback to trainees, encouraging self-reflection and continuous improvement.[1,12,60,61]
- Incorporate feedback literacy by understanding and respecting how trainees prefer to receive feedback.
- Conduct regular evaluations of both the supervisor and the supervision process to maintain quality and efficiency.[62,68,75] Table 5 Examples of methods and frequency of feedback, Table 6 Case study examples, and Appendix 9 Providing feedback to the trainee.
- Perform 360-degree feedback for a comprehensive evaluation.[76–78] See Evaluation of the supervisor-trainee relationship.

- Encourage trainees to engage in self-reflection, use reflective journals

and structured reflection models such as Gibbs' Reflective Cycle.[63] Examples can be found in Appendix 10 Reflective practice.
- Supervisors should model reflective practice by sharing their own reflections and demonstrating how to apply insights gained from reflection to improve clinical practice.[1,68]

2.10 Managing clinical underperformance or overconfidence
- Keenly observe trainees to identify areas for improvement and address underperformance or overconfidence issues promptly.[45]
- Maintain open communication with the educational provider to ensure a collaborative approach.
- Develop personalised improvement plans with specific goals and timelines.[45] For details steps, refer to Appendix 11 Addressing underperformance or overconfidence.

2.11 Educational psychology
- Apply principles of educational psychology to understand and enhance the motivation of trainees, recognising factors that influence learning and implementing strategies to boost engagement and retention.[62]

Table 1: Orientation flowchart for new trainees

The following flowchart outlines the steps for a supervising sonographer to introduce a new trainee to an ultrasound department. Please see Appendix 12 for more detailed information.

Preparation

Review trainee's background, learning objectives and placement requirements

Prepare an induction schedule

Orientation

Welcome and introductions to team

Participate in supervised patient interactions

Receive feedback on sonography techniques, critical thinking and protocols

Roles & expectations

Discuss skill set and scope of practice (adapted to level of trainee)

Clarify supervision levels and escalation pathways

Outline expected professional behaviour and attire

Name badge

Introduction to patients

Hands-on training

Shadow experienced sonographers to understand workflow

Participate in supervised patient interactions

Receive feedback on sonography techniques, critical thinking and protocols

Regular meetings

Schedule regular meetings to discuss trainee progress

Discuss any challenges and additional learning needs

Document progress in line with employer and educational course provider requirements

Final assessment

Discuss final review of trainee performance

Provide constructive feedback and advice

Complete required paperwork for trainee placement

Table 2: Sonographers with qualifications gained outside of Australia and New Zealand

Supervising overseas sonographers who are new to the Australian and New Zealand healthcare systems requires a tailored approach to ensure they can practice safely and effectively. This approach should include comprehensive orientation to local protocols, standards, and regulations, as well as ongoing support to address any cultural or procedural differences they may encounter.[50] In New Zealand, the MRTB is empowered by legislative mandate when a sonographer is directed to undergo supervision.

Supervisors should provide targeted training that focuses on identifying and bridging any gaps in knowledge and skills, ensuring that overseas sonographers are fully integrated into the healthcare team. Additionally, fostering an inclusive and supportive environment is crucial to help them adapt to the new work culture and build confidence in their practice. By addressing these unique needs, supervisors can help overseas sonographers transition smoothly and contribute effectively to patient care.
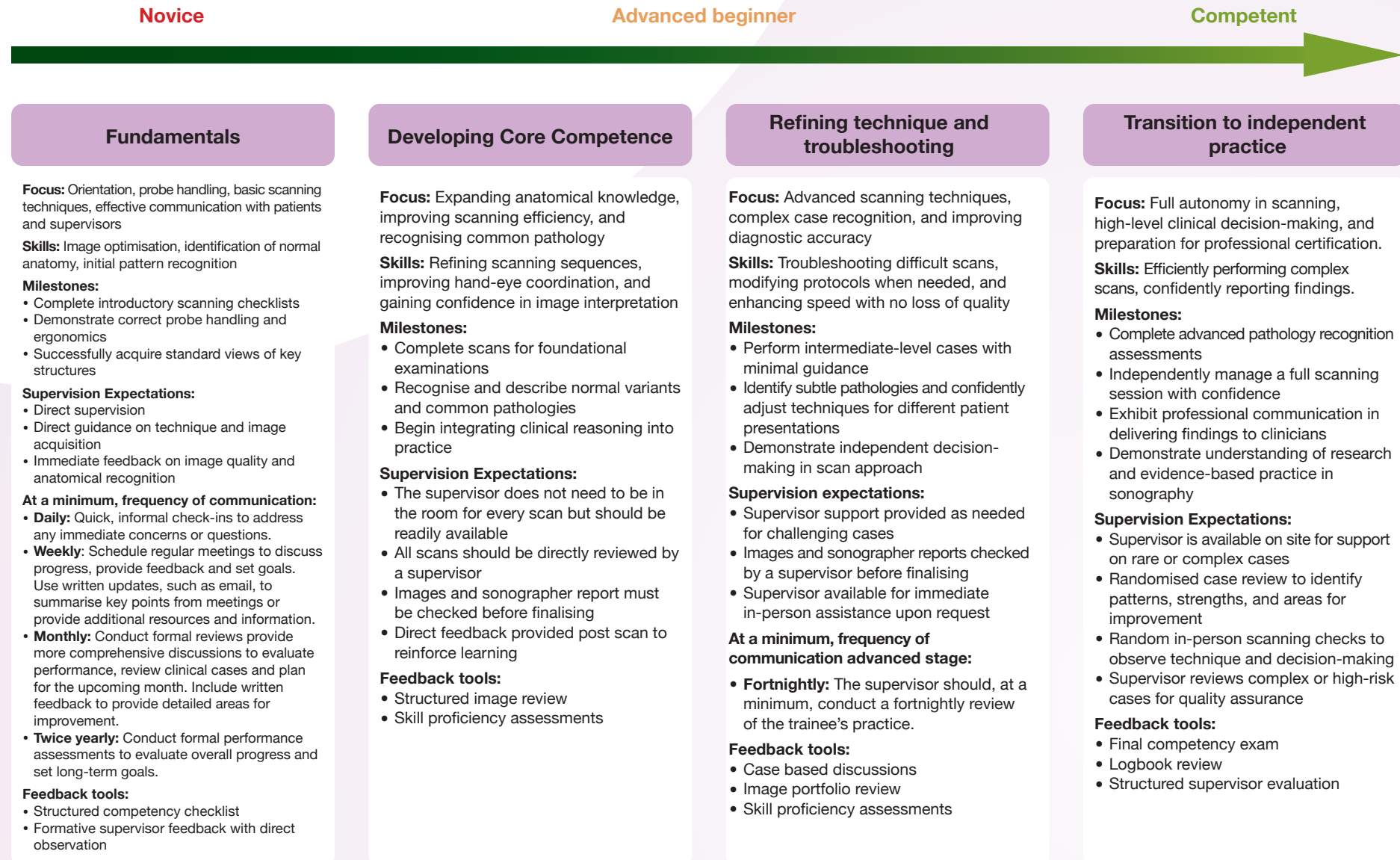
The following strategies are recommended to support integration and professional development.

Compliance with regulatory requirements	• Ensure overseas sonographers are registered with the ASAR or NZ MRTB before commencing practice.
Orientation and induction	• Provide a comprehensive orientation program to familiarise sonographers with the healthcare system, including local protocols, standards, and cultural considerations.[50,79] • Include an induction period where new sonographers can observe and learn from experienced sonographers.[79]
Structured supervision plans	• Develop individualised supervision plans that outline specific goals, expectations, and timelines. • Ensure these plans are flexible to accommodate the varying level of experience and expertise.
Regular feedback and assessment	• Conduct regular performance assessments and provide constructive feedback to help improve skills and adapt to the local practice environment.[50,79] • Use a combination of formal evaluations and informal check-ins to monitor progress and address any challenges.
Cultural competence and safety training	• Offer training on cultural competence and safety to help overseas sonographers understand and respect the diverse cultural backgrounds of patients.[50] • Encourage awareness of cultural differences and promote culturally sensitive care practices.
Mentorship and peer support	• Pair overseas sonographers with experienced mentors who can provide guidance, support and professional advice.[79] • Establish peer support networks to facilitate knowledge sharing and emotional support.

Table 3: Example of training stages, competency milestones for trainee sonographers and supervision expectations

Note: Trainees may be at different stages of development for different examinations and progression should be competency based. The level of supervision will gradually decrease over time as skill increases.

Novice		**Advanced beginner**		**Competent**

Fundamentals	**Developing Core Competence**	**Refining technique and troubleshooting**	**Transition to independent practice**
Focus: Orientation, probe handling, basic scanning techniques, effective communication with patients and supervisors	**Focus:** Expanding anatomical knowledge, improving scanning efficiency, and recognising common pathology	**Focus:** Advanced scanning techniques, complex case recognition, and improving diagnostic accuracy	**Focus:** Full autonomy in scanning, high-level clinical decision-making, and preparation for professional certification.
Skills: Image optimisation, identification of normal anatomy, initial pattern recognition	**Skills:** Refining scanning sequences, improving hand-eye coordination, and gaining confidence in image interpretation	**Skills:** Troubleshooting difficult scans, modifying protocols when needed, and enhancing speed with no loss of quality	**Skills:** Efficiently performing complex scans, confidently reporting findings.
Milestones: • Complete introductory scanning checklists • Demonstrate correct probe handling and ergonomics • Successfully acquire standard views of key structures	**Milestones:** • Complete scans for foundational examinations • Recognise and describe normal variants and common pathologies • Begin integrating clinical reasoning into practice	**Milestones:** • Perform intermediate-level cases with minimal guidance • Identify subtle pathologies and confidently adjust techniques for different patient presentations • Demonstrate independent decision-making in scan approach	**Milestones:** • Complete advanced pathology recognition assessments • Independently manage a full scanning session with confidence • Exhibit professional communication in delivering findings to clinicians • Demonstrate understanding of research and evidence-based practice in sonography
Supervision Expectations: • Direct supervision • Direct guidance on technique and image acquisition • Immediate feedback on image quality and anatomical recognition	**Supervision Expectations:** • The supervisor does not need to be in the room for every scan but should be readily available • All scans should be directly reviewed by a supervisor • Images and sonographer report must be checked before finalising • Direct feedback provided post scan to reinforce learning	**Supervision expectations:** • Supervisor support provided as needed for challenging cases • Images and sonographer reports checked by a supervisor before finalising • Supervisor available for immediate in-person assistance upon request	**Supervision Expectations:** • Supervisor is available on site for support on rare or complex cases • Randomised case review to identify patterns, strengths, and areas for improvement • Random in-person scanning checks to observe technique and decision-making • Supervisor reviews complex or high-risk cases for quality assurance
At a minimum, frequency of communication: • **Daily:** Quick, informal check-ins to address any immediate concerns or questions. • **Weekly**: Schedule regular meetings to discuss progress, provide feedback and set goals. Use written updates, such as email, to summarise key points from meetings or provide additional resources and information. • **Monthly:** Conduct formal reviews provide more comprehensive discussions to evaluate performance, review clinical cases and plan for the upcoming month. Include written feedback to provide detailed areas for improvement. • **Twice yearly:** Conduct formal performance assessments to evaluate overall progress and set long-term goals.		**At a minimum, frequency of communication advanced stage:** • **Fortnightly:** The supervisor should, at a minimum, conduct a fortnightly review of the trainee's practice.	
Feedback tools: • Structured competency checklist • Formative supervisor feedback with direct observation	**Feedback tools:** • Structured image review • Skill proficiency assessments	**Feedback tools:** • Case based discussions • Image portfolio review • Skill proficiency assessments	**Feedback tools:** • Final competency exam • Logbook review • Structured supervisor evaluation

Table 4: Models of supervision

There are many models and approaches of supervision for different learning styles, selecting the appropriate model is dependent on trainee preference and level of competence.[19]

One-to-One or Direct Supervision
Direct supervision, where the supervisor and trainee work together in the same ultrasound room, helps trainees reflect on their performance.[19,58] It builds trust and helps trainees learn new skills.[58] By working together, they can solve problems in real-time, allowing the supervisor to give accurate feedback based on the trainee's performance.[58] By ensuring that supervisors are in the room for each scan, the training process becomes more interactive, supportive, and effective, ultimately leading to the development of highly skilled and competent sonographers.

Pros:	Cons:
• Allows for individualised attention and feedback[11] • Facilitates direct observation of trainee skills[58] • Enables immediate correction of errors[58]	• Time-intensive for supervisors • May limit exposure to diverse perspectives • Can be intimidating for some trainees

Group Supervision
Group supervision is effective for learning and peer support.[54] For group supervision to be successful supervisor training, organisational support, group structure, and patient cooperation need to be considered.[25,54] This method is useful in rural areas, helping with supervisor shortages and improving efficiency.[1,38,80] It reduces isolation and burnout for rural health professionals, improving job satisfaction and retention.[11,33,54]

Pros:	Cons:
• Promotes peer learning and support[1,24,38,80] • More efficient use of supervisor time • Exposes trainees to diverse cases and perspectives[1,38,80]	• Less individualised attention • Quieter trainees may not participate fully • Scheduling can be challenging

Peer Supervision
Peer supervision is intended to provide reciprocal trainee assistance to support clinical and professional reflection.[81] It is not intended to replace qualified sonographer supervision but to complement it, ensuring that trainees receive comprehensive guidance and support. Supervision by a clinical supervisor remains essential for providing expert oversight, detailed feedback, and ensuring adherence to professional standards. Peer supervision can involve trainees discussing cases or scenarios.[81] This aims to help debrief from stressful situations and reduce the emotional burden of managing complex cases.[81]

Pros:	Cons:
• Encourages collaborative learning • Develops leadership skills in senior trainees • Reduces pressure on senior supervisors	• Quality may vary depending on peer expertise • May lack the depth of experienced supervisor input • Potential for misinformation if not properly overseen

Case-Based
Case-based supervision helps trainees develop clinical skills, fill knowledge gaps, and build confidence.[81] Applying theoretical knowledge in real patient interactions supports their growth and learning.[81]

Pros:	Cons:
• Focuses on real-world application of skills • Encourages critical thinking and problem-solving • Can be adapted to trainee's level of experience	• May not cover all required competencies systematically • Relies on availability of suitable cases • Can be time-consuming to prepare

Table 5: Examples of methods and frequency of feedback

Direct observation	• **Frequency:** Each scan initially becoming progressively intermittent (with trainee competence) • **Method:** Supervisor observes trainee performing ultrasound exam and provides immediate verbal feedback following the examination. Supervisor uses feedback to inform development of skills. Detail across components increases as trainee progresses while competency is developing
Formal progress meetings	• **Frequency:** Monthly • **Method:** Structured and documented discussion of trainee's progress, goal-setting, and written feedback
Image review sessions	• **Frequency:** Weekly • **Method:** Joint review of trainee's images, discussing technique and interpretation
360-degree feedback	• **Frequency:** Quarterly • **Method:** Collect feedback from colleagues, patients, and other healthcare professionals
Self-reflection logs	• **Frequency:** Weekly • **Method:** Trainee maintains a reflective journal, discussed with supervisor monthly

Table 6: Case study examples

1	Intermediate trainee in morphology scans	**Isabelle, an intermediate trainee is in her third month of obstetric training.**
		Feedback Plan:
		  a. Daily: Brief verbal feedback after each supervised session
		  b. Weekly: 30 minute image review session focussing on fetal biometry techniques and key image acquisition
		  c. Monthly: Formal progress meeting to discuss overall development and set specific goals for improvement
		  d. Quarterly: 360 degree feedback from colleagues, patient feedback, and reporting Medical Specialists
		Outcome: Isabelle's scanning technique and scan time improved significantly, patient interaction improved, and confidence grew.

2	Advanced trainee in carotid examinations	**James is an advanced trainee in his final six months of vascular sonography training.**
		Feedback Plan:
		  a. Weekly: Joint complex case reviews, focusing on diagnostic accuracy
		  b. Monthly: Peer-led image interpretation sessions, with supervisor moderation
		  c. Quarterly: Formal progress meetings, including discussion of research project
		  d. Ongoing: Encourage James to provide feedback to junior trainees, with supervisor oversight
		Outcome: James developed advanced diagnostic skills and mentoring abilities, preparing him for independent practice.

3	Overseas qualified sonographer	**Ida is registered by NZ MRTB. She qualified in Chicago and has over 4000 hours of clinical practice.**
		Feedback Plan:
		  a. Weekly: Case review focusing on adherence to protocols and report writing
		  b. Monthly: Formal progress meeting to discuss integration into healthcare system, progress of cultural competency and cultural safety training, and address any additional training needs
		  c. 6 month review: Documentation of completed cultural training and discussion over any further oversight to ensure competency of expected examinations and protocols
		Outcome: Ida feels supported as she integrates within a new system and feels confident to develop independent practice.

Domain 3 – Leadership, management and oversight of clinical supervision

Domain three focuses on the essential leadership and management skills required for effective clinical supervision. Supervisors must set a clear vision, demonstrate integrity, and inspire and motivate their teams. Effective leadership involves guiding and supporting trainees towards achieving common goals while fostering a positive and inclusive work environment. Conflict and relationship management are crucial, as supervisors need to develop skills to manage and resolve conflicts constructively, maintaining professionalism and ensuring respectful resolutions. Strong decision-making skills, including critical thinking, problem-solving, and ethical considerations, are necessary. By embodying these leadership qualities, supervisors can create a cohesive and productive learning environment that supports the professional growth of trainees and enhances the overall quality of care provided to patients.

Diagram 5: Domain 3 leadership, management and oversight of clinical supervision

Leadership, management, and oversight of clinical supervision

- Leadership role of a clinical supervisor
- Conflict and relationship management
- Decision-making
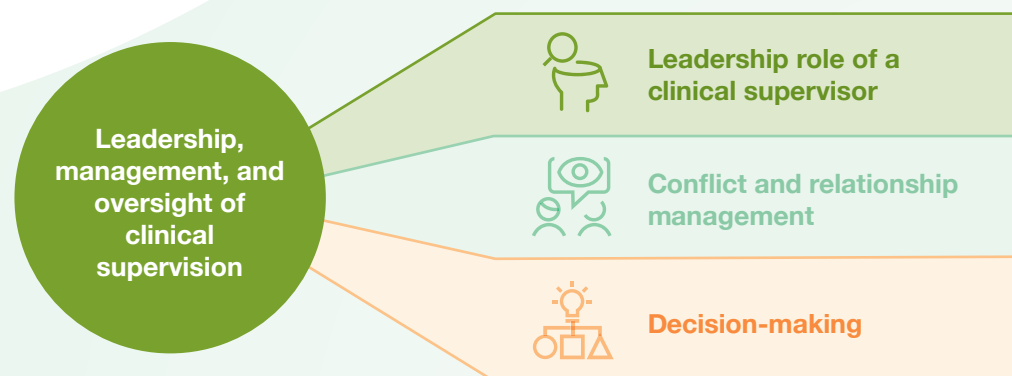
Domain 3 – Leadership, management and oversight of clinical supervision

3.1 Leadership role of a clinical supervisor

- Set a clear vision, demonstrate integrity, and inspire and motivate others.[80]
- Guide teams and/or trainees towards common goals while fostering a positive and inclusive work environment.[62]
- Delegate tasks, foster teamwork, and manage diverse groups effectively.[62]
- Organise and coordinate team efforts to ensure efficient and effective clinical training.[62]
- Promote collaborative interprofessional relationships through open communication, mutual respect, and teamwork.[51,72]

3.2 Conflict and relationship management

- Develop skills to manage and resolve conflicts constructively, staying calm, addressing issues promptly, and finding mutually acceptable solutions.[82]
- Maintain professionalism and ensure conflicts are resolved respectfully.[10]
- Foster a supportive yet respectful environment, maintaining professional boundaries and clear communication, focusing on trainee development.[1,20]

3.3 Decision-making

- Possess strong decision-making skills, including critical thinking, problem-solving, and ethical considerations.[62,68]
- Make informed decisions that prioritise patient care and trainee development.[35,51]
- Demonstrate critical thinking and clinical reasoning skills to determine technical or diagnostic limitations of a scan.[62,68]

3.4 Promote a supervision culture

- Advocate for a culture that values and prioritises clinical supervision within the organisation.[19,37]

3.5 Wellbeing of supervisors and trainees

- Recognise the emotional demands of clinical supervision and provide support through open communication, counselling services, and peer support networks.[1,11,19,20,24–27]
- Foster a culture of mental health awareness by providing training on recognising signs of stress, anxiety, and burnout.[63,64]
- Promote a healthy work-life balance by ensuring that supervisors and trainees have manageable workloads and adequate rest.[82]
- Support the physical health of supervisors and trainees by promoting ergonomic practices, encouraging regular physical activity, and providing access to health and wellness programs.
- Enhance professional growth and development by providing opportunities for continuing education, skill development, and career advancement.[1,20,25,62]

Domain 4 – Ethical and legal knowledge

Domain four underscores the importance of ethical and legal knowledge in clinical supervision, emphasising the need for supervisors to ensure a safe and supportive training environment. This involves adhering to health and safety regulations to maintain both physical and psychological safety for trainees and patients. Supervisors should provide training on medical ethics, including principles such as autonomy, beneficence, non-maleficence, and justice, while also ensuring that patient confidentiality is maintained. High standards of professional conduct are essential, and supervisors must address any breaches promptly. Legal responsibilities include obtaining informed consent, maintaining accurate documentation, and ensuring that trainees adhere to the Australian Professional Competency Framework for Sonographers,[18] Code of Conduct for Sonographers,[48] or the NZ MRTB Competence Standards for Medical Imaging and Radiation Therapy Practitioners in Aotearoa New Zealand.[69] Continuous professional development is crucial, and supervisors must stay updated with national, state, and practice-specific guidelines. By integrating these ethical and legal principles into their supervision practices, supervisors can foster a culture of integrity and accountability.

Diagram 6: Domain 4 Ethical and legal knowledge
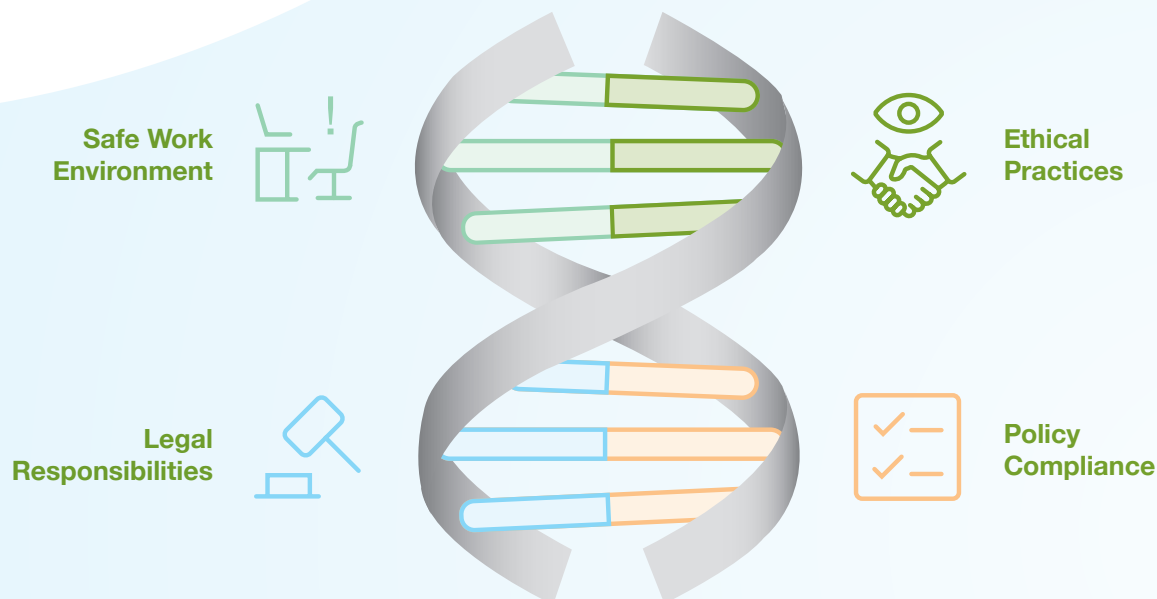
4.1 Safe work environment

- Ensure a safe physical work environment by adhering to health and safety regulations, maintaining equipment, and providing ergonomic tools. Regularly assess and mitigate potential hazards.[63]
- Provide adequate ergonomics training to prevent musculoskeletal injuries, including proper posture, equipment setup, and safe work practices.
- Create a supportive culture where trainees feel valued.
- Implementing an anti-bullying policy in the workplace that aligns with fair workplace requirements.[83,84] This policy should clearly define bullying, outline reporting procedures, and ensure protection for those who report incidents.
- Providing training for all staff on recognising and preventing bullying can further reinforce a zero-tolerance stance on bullying.

4.2 Ethical practices

- Provide thorough training on the principles of medical ethics, including autonomy, beneficence, non-maleficence, justice and the Australian Charter of Healthcare Rights[85], New Zealand Code of Health and Disability Services Consumers' Rights[86]. Emphasise ethical decision-making in clinical practice.[10,85]
- Ensure trainees understand the importance of maintaining patient confidentiality, including secure handling of patient records and information.[1,33,35,37,72]
- Promote high standards of professional conduct, including honesty, integrity, and respect for patients and colleagues. Address breaches of conduct promptly.
- Maintain professional boundaries in all interactions.[67]
- Demonstrate reflective capabilities and emotional intelligence.[62] Use reflective practice to assess and improve ethical and legal approaches.[67]
- Ensure equitable training opportunities for neurodiverse, Aboriginal and Torres Strait Islander (ATSI) and Māori trainees, recognising the ethical responsibility to provide an inclusive and supportive learning environment.

4.3 Legal responsibilities

- Ensure trainees are adhering to the Australian Professional Competency Framework for Sonographers[18], the Code of Conduct for Sonographers,[48] the NSQHS Standards, Australian Commission of Safety and Quality in Health Care,[87] or the NZ MRTB Competence Standards for Medical Imaging and Radiation Therapy Practitioners in Aotearoa New Zealand,[69] and the NZ Privacy Act,[88] and professional standards.
- Recognise and respond appropriately to unsafe or unprofessional practice.[64]
- Ensure trainees have knowledge of, and understanding of the fundamental legal and ethical responsibility to obtain informed consent.
- Ensure trainees are aware of the ASUM Standards of Practice[89] and the ASA's guidelines for consent.[90,91]
- Educate trainees that informed consent involves providing patients with comprehensive information about the procedure, including its purpose, potential risks, benefits, and any alternatives, using plain language and check for understanding, considering cultural background, language proficiency, and any disabilities.[64,67]
- Ensure consent is given voluntarily, without coercion, and inform patients they can withdraw consent at any time.[90,91]
- Emphasise the importance of accurate and thorough documentation in clinical practice for continuity of care and legal compliance.[90,91]
- Adhere to workplace protocols and procedures.
- Ensure trainees are aware of the requirements for professional indemnity insurance and inform them of their options as part of the supervision process.

4.4 Policy, procedural and protocol requirements

- Comply with legal and professional responsibilities for continuous professional development.[64] Stay updated with the latest practices and guidelines.
- Ensure familiarity with national and state-specific protocols governing clinical practice, including updates.
- Adhere to practice-specific protocols and guidelines, ensuring trainees are aware and compliant.[1,20,37,62,64,68,70]

Evaluation of the supervisor - trainee relationship

A formal, documented, process for evaluation and providing feedback on the supervision relationship is essential to ensure its effectiveness and foster continuous improvement. Regular evaluations of both the supervisor and the supervision process are necessary to maintain the quality and efficiency of trainee education.[75] This process should be clearly documented to track progress and identify areas for enhancement. Evaluations should occur, at a minimum, every three months for novice trainees and every six months for advanced stage. For detailed evaluation templates and methods, refer to Appendix 13 Evaluating supervision.

Summary

This framework emphasises the importance of standardised and structured supervision for both supervisors and trainees, highlighting the benefits such as improved clinical skills, enhanced patient care, and professional growth.

By implementing this framework, healthcare workplaces can aim to foster a culture of excellence in clinical supervision, contributing to the development of competent sonographers and improved patient outcomes. Supervisors can enhance their teaching and leadership skills, while trainees benefit from a supportive and consistent learning environment.

Disclaimer

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Appendix 1: Barriers to effective supervision

Effective clinical supervision can be hindered by various challenges. Understanding these barriers is crucial for developing strategies to overcome them and ensure high-quality supervision.[1,23,24,27,92] Supervisors that are inexperienced or disinvested in clinical supervision, lack communication skills or inflexible in their approach to supervision have been found to have damaging effect on the supervisor-trainee relationship.[19] By recognising and addressing these barriers, workplaces and supervisors can foster a more effective and supportive supervision environment, ultimately improving the training experience.

Inadequate supervisory skills	Poor supervision quality can negatively impact trainee development and patient safety.[19]
Personal attitudes	Hostile or unsupportive learning environments can decrease trainee motivation and performance.[1,10,20] These attitudes can stem from personal biases, burnout, or a lack of commitment to the supervisory role.[27,10,24]
Power differential	Power imbalance between supervisors and trainees can create an intimidating environment, making trainees hesitant to express concerns.[19,26,32,92] This issue is worsened if supervisors are involved in operational management, leading to potential conflicts of interest.[19,26,32,92] The competitive nature of training positions adds pressure, discouraging trainees from reporting issues.[93]
Long term one-on-one	In small departments, supervisors and trainees often develop long-term one-on-one relationships, which may lead to dependency and potential conflicts. The close nature of these relationships can sometimes blur professional boundaries and create challenges in maintaining objectivity.[62,74] This can hinder the trainee's professional growth and development. Additionally, the trainee may become overly reliant on the supervisor, reducing their ability to work independently and make autonomous decisions.
Workplace training program structure	Poorly organised training programs can hinder effective supervision.[10]
Exclusion from learning opportunities	Excluding trainees from complex cases can deprive them of important learning experiences.[10]
Workplace culture	A negative organisational culture can impede the effectiveness of clinical supervision, reduce engagement and support for trainee learning.[80]
Supporting neurodiverse, ATSI and Māori trainees	Supervisors may face challenges in understanding and addressing the unique needs of neurodiverse,[14] ATSI and Māori trainees. Training on neurodiversity and cultural competence can help supervisors develop the skills needed to provide effective and inclusive supervision.[14]
Avoiding the management of underperforming or trainees overconfident trainees	Avoiding the management of underperforming or overconfident trainees can lead to unresolved issues.[10] Suboptimal performance must be addressed promptly with established protocols to ensure patient care quality is maintained.[94]
Time constraints	Limited supervision time can lead to trainee anxiety, feelings of isolation, and working beyond their capabilities, potentially compromising patient care.[11,19,24,26,52,57]
Organisational support	A lack of organisational support and commitment can undermine the value of clinical supervision.[80] Financial constraints and productivity concerns can be significant barriers to effective supervision, especially in private practice settings. Employers may be reluctant to allocate resources for supervision, as it can reduce productivity and increase costs.

Appendix 2: Impacts of supervision

Improved patient care	• **Quality and safety:** Supervised trainees adhere to best practices, improving patient care.[11] • **Error reduction:** Early identification and correction of errors. • **Enhanced patient experience:** Effective supervision ensures that trainees are well-prepared to provide compassionate and competent care, leading to improved patient satisfaction.[22]
Cultural competency and safety	• **Inclusive care:** Ensures that supervision practices respect and address the diverse cultural needs of patients and trainees.[5,95] • **Equity and respect:** Encourages the recognition and validation of diverse cultural identities, contributing to equitable and respectful healthcare delivery.[5,95] • **Cultural awareness:** Promotes culturally sensitive practices during patient interactions, fostering an inclusive and respectful environment.[5,95]
Enhanced clinical skills	• **Skill development:** Trainees refine their clinical skills through guided practice and feedback.[19,20,25] • **Confidence building:** Regular supervision boosts trainees' confidence in their abilities.[1,11,19,20,24,27]
Emotional and psychological support	• **Stress management:** Provides a support system for managing emotional and psychological stresses.[1,11,19,20,24,27] • **Wellbeing:** Regular check-ins and supportive interactions reduce burn-out and promoting job satisfaction.[11,26 19,52,57,58] • **Maintaining motivation:** Recognising achievements and fosters a supportive team environment.[1] • **Professional self-worth:** Supporting the development of professional self-worth through mentorship.[1]
Professional growth	• **Continuous learning:** Encourages staying updated with advancements in the field.[1,20,25] • **Reflective practice:** Trainees critically evaluate their experiences to improve clinical reasoning.[1,20,25] • **Self-awareness development:** Encourages trainees to recognise their strengths and areas for improvement.[1] • **Theory integration:** Bridges the gap between classroom learning and clinical application.[1]
Accountability and professionalism	• **Ethical practice:** Ensures trainees uphold ethical standards and professional conduct.[1,20,25 52] • **High-quality standards:** Establishes clear expectations and continuously monitors performance.[19,26,37,52,58,59] • **Policy and procedure compliance:** Maintains a safe and effective clinical environment.[19,26,37,52,58,59] • **Evidence-based healthcare:** Supports evidence-based practices by integrating current research.[62]
Workplace benefits	• **Retention:** Higher job satisfaction and retention rates, reducing turnover and associated costs.[1,37,38] • **Team cohesion:** Promotes a collaborative and supportive work environment.[1,20,25] • **Workforce development benefits:** Robust supervision practices can support increasing the number of sonographers in the workforce to meet the growing healthcare needs of the community.

Appendix 3: Supervision stratification by expertise

Organisational supervisors

Description: Senior-level supervisors with extensive experience in clinical practice and management.

Characteristics: Responsible for overseeing the entire supervision framework within the workplace. They ensure compliance with standards, provide strategic direction, and support other supervisors.

Qualifications/Experience: Typically hold advanced degrees and have significant experience in clinical supervision and management roles.

Examples: Heads of departments, senior managers, and clinical directors.

Clinical educator

Description: Supervisors who manage educational programs and provide direct supervision to trainees.

Characteristics: Focus on developing and implementing workplace training programs, mentoring trainees, and ensuring educational standards are met. They provide administrative, clinical, and emotional support.

Qualifications/Experience: Often have formal education in teaching or training and several years of clinical experience.

Examples: Education managers, clinical tutors, clinical educators, and training coordinators.

Experienced supervisors

Description: Supervisors with substantial clinical experience who provide direct supervision and mentorship to trainees.

Characteristics: Offer hands-on training, feedback, and support to trainees. They play a crucial role in developing the clinical skills of trainees.

Qualifications/Experience: Typically have several years of clinical practice and may hold additional qualifications in supervision or education.

Examples: Senior sonographers and lead sonographers.

Newly qualified sonographers

Description: Recently qualified sonographers who are beginning to take on supervisory roles.

Characteristics: Provide peer support and basic supervision under the guidance of more experienced supervisors. They help with routine tasks and offer insights from their recent training experiences.

Qualifications/Experience: Newly accredited sonographers with fresh knowledge of current practices and protocols.

Examples: Junior sonographers, recent graduates, and early-career professionals.

Appendix 4: Training course content

Supervisors may benefit from training that covers essential content areas or complete higher qualifications in recognised domains. In estabilshing an accreditation process, it may be a consideration that supervisors undergo refresher modules, submit reflective practice documentation, and complete specific CPD in supervision to provide a high standard of quality supervision.[96]

Supervisors can undergo training that covers essential content areas. Possible beneficial training aspects include:

Effective teaching	Strategies and techniques for effective teaching in clinical settings.
Learning styles	Recognising and accommodating various learning styles to enhance trainee engagement and retention.
Learning plan	Developing and implementing individualised learning plans for trainees.
Workplace training programs	Designing and implementing comprehensive learning plans and agreements.
Cultural awareness and safety training	Providing inclusive education and understanding diverse cultural backgrounds.
Competency and assessment	Methods for assessing trainee competency and providing constructive feedback.
Communication skills and effective feedback	Enhancing communication skills and delivering effective feedback to support trainee development.
Reflective learning	Encouraging reflective practice to promote continuous learning and improvement.[67]
Managing difficult situations	Techniques for handling challenging conversations and situations with trainees and colleagues.
Conflict resolution	Strategies for managing and resolving conflicts in the workplace.
Wellbeing of supervisors and trainees	Understanding the importance of wellbeing, recognising signs of burnout, and implementing strategies to support mental health and resilience.
Educational psychology	Principles of education psychology to enhance trainee motivation and learning.
Role of a supervisor	Understanding the responsibilities and expectations of a supervisor.
Legal and ethical responsibilities	Understanding the legal and ethical considerations in supervision.
Supervision evaluation	Regularly evaluating the supervision process to identify areas for improvement.

Appendix 5: Template learning plan

Name:			Date:	
Learning goals: What skills and knowledge do I need to achieve competence?	**Current status:** What level of skills and knowledge do I have now with respect to this learning goal?	**Learning strategies:** How will I reach this learning goal?	**Required resources:** What resources do I need to achieve this learning goal?	**Key performance indicators:** How can I demonstrate to myself and others that I have have achieved this goal?
Example: 1. *Assist with a thyroid nodule FNA*	*I have performed 15 thyroid examinations independently. I have passed a clinical assessment by my supervisor*	• *Observe an experienced sonographer; assist the radiologist with the FNA* • *Sonographer articulates what they are doing during the procedure* • *Access the internet to see if there are useful video tutorials* • *Speak to nursing staff about the equipment needed for the procedure and a tutorial on aseptic technique* • *Discuss my role in the technique with the radiologist performing the task* • *Assist the radiologist with the FNA under ultrasound guidance, with clear guidance from the radiologist*	• *Review the departmental protocol* • *Access to the radiologist to discuss the technique* • *Access to nursing staff* • *Video tutorial if available*	*Radiologist is satisfied that the ultrasound guidance was safely and competently performed*

Appendix 6: Template learning agreement

The following template outlines the expectations and goals for both the supervisor and the trainee.[97]

Workplace:	**Date:** Date the meeting was held to draft this document
Trainee:	**Supervisor:**
Nominated 3rd Person e.g. team leader, independent colleague	
Supervision period: Start date:	Finish date:
Documentation: Who will document the content of the meeting? The meeting record should be duplicated so both parties hold a copy.	
Meetings: How often will you have meetings? How long will they be? Allocate times in advance.	
Agreed content of supervision: Plan daily, weekly, monthly goals to coincide with course subjects, daily verbal feedback, monthly written feedback using the feedback template, keep a logbook of all studies, hours of one-on-one training per day, frequency and duration of tutorials, case study reviews, timing and frequency of formative clinical assessments	
Supervisor expectations: Follow departmental protocols, ask when you are not sure about something	**Trainee expectations:** Give clear guidance on what is expected on a daily/weekly basis, provide assistance when in difficulty
Trainee concerns (examples): Breaking unexpected news, how to tell patients of a missed miscarriage, missing pathology, working with staff who all do things differently (keeping everyone happy)	
Clinical assessments: How often will these be undertaken? What format will these assessments take? e.g. patient examinations, image interpretation, case study quizzes	
Evaluation of supervision: What is the evaluation process? How often will this process happen?	
Confidentiality: A statement of confidentiality can be included. For example: The content of the supervision meeting is confidential between the parties, except when there are issues regarding patient care and safety. In these instances, this information will be shared with the appropriate personnel. In terms of trainee performance, an agreement needs to be reached regarding the parties involved in this discussion and whether the supervisor can communicate directly with the university. Please review privacy policies for your organisation and the educational course provider involved.	
Signature: Supervisor: Date:	**Signature:** Trainee: Date:

Note: This learning agreement is not a legally binding document. It is purely to promote discussion and clearly outline the roles and responsibilities of both parties.

Appendix 7: Establishing goals and objectives

Setting clear and achievable goals is crucial for the success of the supervision process. Goals should be well-defined and aligned with both the educational course provider's requirements and the workplace needs. Using the **SMART** criteria (**S**pecific, **M**easurable, **A**chievable, **R**ealistic, **T**imely) helps to ensure that goals are clear and attainable.[2,98] Key steps in establishing goals and objectives.

Define learning goals	• **Specific:** Clearly state what the trainee needs to achieve. For example, "Develop proficiency in performing abdominal ultrasound examinations." • **Measurable:** Determine how progress will be measured. For instance, "Complete 20 supervised abdominal ultrasounds within this training period." • **Achievable:** Ensure the goal is realistic given the trainee's current skills and resources. For example, "Competently complete an abdomen ultrasound on an outpatient within three months." • **Realistic:** Set goals that are challenging yet attainable For instance, "Improve visualisation of the pancreas by the end of these three months." • **Timely:** Establish a clear timeframe for achieving the goal. For example, "Complete the goal by the end of this semester."
Develop a learning plan	• **Short-term goals:** Identify immediate objectives that can be achieved in the near future. For instance, "Learn where the colour, power and M-mode controls are on the ultrasound machine by the end of this week." • **Long-term goals:** Set broader objectives that will be achieved over a longer period. For example, "Achieve competency in abdomen, renal and DVT ultrasound examinations by the end of this semester."
Mutual agreement	• **Collaborative goal setting:** Involved both the supervisor and the trainee in the goal setting process to ensure mutual agreement and understanding. This fosters a sense of ownership and commitment from the trainee. • **Regular review:** Schedule regular check-ins to review progress and adjust goals as needed. This helps keep the trainee on track and allows for timely interventions if necessary.

SMART goals template

Specific	What do you want to achieve and who needs to be involved?
Measurable	How will you track progress and measure success?
Achievable	Is the goal realistic and within reach?
Realistic	Does the goal align with your objectives and priorities?
Timely	What is the timeframe for achieving the goal?

Appendix 8: Clinical assessment

Clinical assessment is a crucial component of the supervision process, serving as more than just a test of trainee progress. It drives learning and should be an integral part of the clinical supervision program. Effective assessment ensures that trainees develop the necessary skills and knowledge to perform their duties competently.

Key elements of clinical assessment

Purpose of clinical assessment	• **Learning and development:** Assessments are designed to support the trainee's learning and professional development. • **Competency evaluation:** They help determine whether the trainee has acquired the skills and knowledge required for their role.
Types of clinical assessment	• **Formative assessment:** Conducted during the learning process to provide ongoing feedback and opportunities for improvement before the final evaluation. Formative assessment should take place, at a minimum, monthly to evaluate specific skills, review clinical cases and set goals for the upcoming period. • **Summative assessment:** A formal evaluation at the end of a training period to measure whether learning outcomes have been achieved and to determine if the trainee should progress. Summative assessments should take place, at a minimum, at the end of every learning period to evaluate trainee's skills and development. The documentation from these assessments should be provided to the educational course provider.
Formative assessment	• **Regular feedback:** Provide continuous feedback to help trainees understand their progress and areas needing improvement. • **Responsibility:** Encourage trainees to take greater responsibility for their work by thinking through tasks, considering strategies, and ensuring all aspects of the examination are completed. • **Practical application:** Use real patient cases for practice, while ensuring patient safety and care are not compromised. • **Competency-based:** Assessments should cover a range of skills, knowledge, experience, and professional behaviour.
Summative assessment	• **Formal evaluation:** Conducted at the end of a training period, such as a subject or course, to determine if the trainee has met the required learning outcomes. • **Grading:** Trainees receive marks, and an overall grade based on their performance.
Assessment methods	• **Practical assessments:** Evaluate the trainee's ability to perform clinical tasks and procedures. • **Theoretical assessments:** Test the trainee's understanding of relevant knowledge and concepts. • **Case studies:** Use past cases to assess the trainee's analytical and decision-making skills. • **Image interpretation:** Assess the trainee's ability to interpret ultrasound images accurately.

Clinical assessment process

1	**Setting expectations**	**Clear criteria:** Ensure the trainee understands the expected skills and knowledge for their learning stage.	**Defined standards:** Use the Dreyfus model to outline the characteristics of different competency levels.
2	**Conducting assessments**	**Structure approach:** Follow a structured format for assessments to ensure consistency and fairness.	**Documentation:** keep detailed of assessments to track progress and identify areas for improvement.
3	**Provide feedback**	**Timely and specific:** Offer feedback promptly after assessments, focusing on specific strengths and areas for improvement.	**Constructive:** Ensure feedback is constructive and aimed at helping the trainee develop their skills.
4	**Regular review**	**Ongoing evaluation:** Regularly review the trainee's progress and adjust the learning plan as needed.	**Collaborative process:** Involved both the supervisor and the trainee in the review process to ensure mutual understanding and agreement.

Dreyfus Model of Skill Acquisition[18]

The Dreyfus Model provides a means of assessing and supporting progress in the development of skills and core competencies. It also provides a definition of an acceptable level for the assessment of competency or capability.[18,89] The table below has been modified from the Dreyfus model, outlining the characteristics for the different competency levels.

- **Novice:** Minimal knowledge requires close supervision.
- **Advanced beginner:** Working knowledge, able to perform straightforward tasks with some supervision.
- **Competent:** Depth of understanding, able to perform most tasks independently.
- **Proficient:** Good working knowledge, able to manage complex situations holistically.
- **Expert:** Authoritative knowledge, able to innovate and manage complex situations with ease.

Level	Knowledge	Standard of work	Autonomy	Coping with complexity	Perception of context
Novice	Minimal or 'textbook' knowledge without connecting it to practice	Unlikely to be satisfactory unless closely supervised	Needs close supervision and instruction	Little or no conception of dealing with complexity	Tends to see actions in isolation
Advanced beginner	Working knowledge of key aspects of practice	Straightforward tasks likely to be completed to an acceptable standard	Able to achieve some steps using own judgement but supervision needed for overall task	Appreciates complex situations but only able to achieve partial resolution	Sees actions as a series of steps
Competent	Depth of understanding of discipline and area of practice	Fit for purpose though may lack refinement	Able to achieve most tasks using own judgement	Appreciates complex situations through deliberate analysis and planning	Sees actions at least partially in terms of longer-term goals
Proficient	Good working and background knowledge of areas of practice	Full acceptable standard achieved routinely	Able to take full responsibility for own work (and that of others where applicable)	Deals with complex situations holistically; decision-making more confident	See overall 'picture' and how individual actions fit within it
Expert	Authoritative knowledge of discipline and deep tacit understanding across area of practice	Excellence achieved with relative ease	Able to take full responsibility for going beyond existing standards and creating own interpretations	Holistic grasp of complex situations; moves between intuitive and analytical approaches with ease	See overall 'picture' and alternative approaches; vision of what may be possible

Template: Clinical assessment

Date:	Trainee:
Trainee level: Novice/Advanced:	
Supervisor:	

Note: For the novice trainee to perform a full study, sections can be marked not applicable or altered accordingly. Ensure the expectations of the assessment are clearly defined before commencement.				

Skill	Not yet competent	Developing competence	Competent	Comments
Checks request, understands request, views prior imaging if required				
Introduces self to patient / carers				
Patient identity check				
Confirms patient history, explains ultrasound study requested, obtains informed consent				
Communicates clearly with the patient, uses appropriate language, demonstrates courtesy and cultural awareness				
Demonstrates proficiency using ultrasound equipment, transducer selection, modification of settings and optimisation of images				
Completes a comprehensive scan, adequately visualising all areas of interest, following local scan protocols, and extending the examination as appropriate				
Provides patient care before/during/after examination, particularly for intimate or invasive studies (ie. provides adequate privacy, explains necessary transducer pressure or movements, provides clear instructions for patient positioning/ moving/ breathing, ensures patient is tolerating scan throughout)				
Documents study appropriately with recorded images, labelling and measurements				
Documents study accurately using worksheets/electronic reporting, including measurements/ calculations and description of sonographic findings				
Checks and discusses the study with appropriate supervisor/ sonologist / radiologist				
Seeks assistance when complexity is beyond own experience, or when further expertise is needed				
Recognises the limitations of the examination and how the scan results fit within the clinical context				
Understands the clinical significance of scan results				
Discharges the patient appropriately on completion of the study				
Supervisor comments:				
Trainee comments:				

Appendix 9: Providing feedback to the trainee

Giving feedback is essential for the development and performance of trainees. Effective feedback helps trainees understand their progress, identify areas for improvement, and build confidence.[11,14,23,25,26] Here are key steps to providing constructive feedback:

Specific and clear	Provide detailed and precise feedback. Avoid vague generalisations.[100,101] Example: Instead of saying "Good job," specify what was done well, such as "Your use of the decubitus position was effective in visualising the kidney."
Constructive guidance	Aim to guide future actions and improvements.[102] Example: "Next time, try adjusting the gain settings to enhance image clarity."
Balanced	Include both positive reinforcement and constructive criticism. Example: "You handled the patient interaction well, but let's work on improving your image documentation."
Timely	Give feedback promptly to ensure it is relevant and has an immediate impact.[1,16,35,51] Example: Provide feedback immediately after a scan session while the experience is still fresh.
Actionable	Offer specific steps or suggestions for improvement.[100,101] Example: "Focus on maintaining a steady hand to reduce image blurring."
Dialogic	Encourage a two-way dialogue and self-reflection.[103–105] Example: Ask the trainee how they felt about their performance and what they think could be improved.
Context-sensitive	Tailor feedback to the specific context and individual receiving it.[106] Example: Consider the trainee's learning style and current skill level when providing feedback.

Steps to provide effective feedback

Create a feedback schedule	• Establish a mutually agreed-upon schedule for regular feedback sessions.[101,105,107,108] • This provides a consistent, safe space for setting and assessing goals and developing the trainee-supervisor relationship.
Ask for feedback on your role	• Ask the trainee for feedback on your role as a supervisor. This encourages them to reflect on feedback delivery methods and purpose.[103,108] • A positive feedback culture encourages open dialogue and greater personal investment from the trainee
Prompt the trainee to reflect	• Encourage the trainee to reflect on their performance by asking questions such as, "What challenges are you experiencing?" or "What are you doing well?" • This enhances the trainee's self-awareness and responsibility for their learning progress.[100,103,107,109]
Provide your own reflection	• Think through what has been said and decide what you hope to achieve through your feedback.[16,104,110] Use precise, neutral language and specify relevant examples.[107] • Example: "I see what you are saying here, and I have also noticed…"
Provide suggestions & time frame	• Give specific examples of what the trainee should focus on and provide a time frame for assessing progress.[1,98] • Use the SMART framework to set objectives that are Specific, Measurable, Achievable, Relevant, and Time-bound.
Clarify understanding	• Ask the trainee to restate their understanding of the feedback to ensure clarity.[104] • Example: "Can you tell me again what we have decided?"
Make firm plans	• Make firm plans together, including a timeline, to meet and discuss progress.[101,104,106,107,108]

Guidelines for best practice

Avoid jokes	Keep the feedback professional and focused.[35,51]
Timing	Do not give feedback when either party is stressed or emotional.[1,35,51]
Positive focus	Emphasise positive feedback and avoid dampening it with negative statements.[103–105]
Public praise	Praise trainees in the presence of patients and colleagues.
Private criticism	Give constructive criticism in private.
Invite comments	Encourage trainees to ask questions and provide their input.[101]

Template: Feedback

Supervisor: **Date:**

Examination:

What were the goals for the examination?

What did they do well?

What areas need improvement?

Suggestions on how the improvements can be achieved?

Trainee: **Date:**

Examination:

What were the goals or learning objectives?

What do you think you did well?

What areas do you think you need to improve on?

Questions or comments

Appendix 10: Reflective practice

Reflective practice is a critical process that enables healthcare professionals to learn from their experiences, expand their knowledge base, and continuously improve their clinical skills. It involves a structured approach to analysing one's actions and decisions to gain deeper insights and enhance future performance. [2,11,55,70] Reflective practice is one of the most important skills for health professionals to develop. It allows trainee sonographers to:

Identify strengths and weaknesses	Recognise areas of proficiency and those needing improvement.[1]
Enhance clinical skills	Learn from challenging situations and develop confidence and competence.[1,11,58,73]
Develop clinical reasoning	Improve decision-making skills to ensure safe and effective patient care.[41,67]
Promote professional growth	Foster a culture of lifelong learning and continuous professional development.

A common model of reflection is Gibbs reflective cycle which can lead to a deeper level of thought and reflection.[111,112] This framework can be used to review experiences allowing the trainee to learn and plan from experiences.[112] Gibbs reflective cycle is described below:

Description: Describe the situation in detail.	What happened? When and where? Who was present? What did you do and what did other people do? What was the outcome? What did you want to happen?
Feelings: Explore any feelings and thoughts you had during the experience and how they may have impacted the experience.	What were you feeling during the situation? What were you feeling before and after the situation? What do you think other people were feeling about the situation? What were you thinking during the situation? What do you think about the situation now?
Evaluation: Evaluate what worked and what did not work in the situation.	What was good and about the experience? What went well? What did not go so well?
Analysis: Chance to make sense of what happened. Extract meaning from the situation.	Why did things go well? Why didn't it go well? What sense can I make of the situation? What knowledge can help me understand the situation?
Conclusion: Make conclusions about what happened, summarise your learning and highlight what changes to your actions could improve the outcome in the future.	What did I learn from this situation? How could this have been a more positive situation for everyone involved? What skills do I need to develop for me to handle a situation like this better? What else could I have done?
Action Plan: Plan for what you would do differently in a similar situation	If I had to do the same thing again, what would I do differently? How will I develop the required skills I need? How can I make sure that I can act differently next time?

Appendix 11: Addressing underperformance or overconfidence

Managing underperformance or overconfident trainees can be challenging and requires a thoughtful, supportive approach. Addressing performance issues early and constructively is crucial to ensure the trainee's development and maintain high standards of patient care.

Early Identification and Intervention	• Identify performance issues as soon as they arise to prevent them from escalating. • Raise concerns in a non-confrontational manner to avoid creating anxiety or defensiveness in the trainee.[94] If appropriate, contact the course provider early to discuss a joint plan of action.
Relationship with educational	• Maintain open communication with the educational course provider to ensure a collaborative approach to managing underperformance or overconfidence. This includes sharing relevant information about the trainee's progress and any concerns that arise. • Work together with the educational course provider to develop joint action plans for addressing performance issues. This ensures that both the clinical and educational aspects of the trainee's development are aligned. • Provide regular updates to the educational course provider on the trainee's progress and any interventions implemented. This helps ensure that the educational course provider is aware of the trainee's status and can offer additional support if needed. • Leverage the resources and expertise of the educational course provider to support the trainee's development. This may include access to additional training materials, workshops, or counselling services.
Regular meetings and documentation	• Schedule regular meetings to discuss progress and address any issues promptly. • Keep detailed records of performance issues and the steps taken to address them.[94] This documentation provides evidence and helps track improvements.
Understanding personal issues	• Consider whether personal issues may be affecting the trainee's performance.[94] Offer support and understanding, even if the trainee is not willing to share details. • Create a supportive environment where trainees feel comfortable discussing their challenges.
Positive reinforcement	• Provide positive reinforcement for what the trainee does well. Highlight their strengths and achievements to boost confidence. • Balance constructive criticism with positive feedback to maintain motivation.
One-on-one training and tutorials	• Offer more one-on-one supervised training sessions to address specific areas of difficulty. • Introduce tutorials focused on the trainee's areas needing improvement.
Reflective practice	• Increase the use of reflective practice exercises to help the trainee gain insights into their performance and identify areas for improvement. • Suggest maintaining a reflective journal to document experiences and reflections.
Re-evaluating learning plans	• Re-evaluate the original learning plan and adjust goals to respond to identified issues. Ensure goals are realistic and achievable. • Use SMART goals (Specific, Measurable, Achievable, Realistic, Timely) to set clear and attainable objectives.
Utilising other resources	• If personality differences or other issues persist, consider having the trainee spend more time with other sonographers or refer them to another supervisor. • Have the trainee reassessed by an experienced independent sonographer to provide an objective evaluation.[94]

Appendix 12: Orientation for new trainees

Preparation Stage
- Review trainee's background, learning objectives, and placement requirements.
- Ensure compliance with workplace policies (e.g. confidentiality, safety).
- This may be the role of the supervisor, senior sonographer, practice manager etc. and the appropriate person should be scheduled to meet the trainee
- Prepare an induction schedule.

Orientation Day
Welcome and Introductions
- Introduce the student to the team and key stakeholders.
- Provide an overview of the practice's mission, values, and culture.

Tour of the Department/Site
- Explain key areas and the workflow: ultrasound examination rooms, reporting station, bathrooms, emergency exits.
- Highlight infection control and safety procedures.

Employer Compliance Requirements
- Ensure the trainee has completed:
- Workplace health and safety (WHS) induction.
- Patient confidentiality and data protection training.
- Required vaccinations and health screenings.
- Student registry with the ASAR or NZ MRTB and professional indemnity insurance
- Trainees should have an overview and knowledge of workplace policies and ultrasound protocols, with access to these throughout their training on site.

Role and Expectations
- Discuss scope of practice for the trainee (adapted to level).
- Clarify supervision levels and escalation pathways.
- Set expectations for professional behaviour and attire.
- Name badge.
- Introduction to patient including the need for supervision. An example introduction is:
  "Hi [Patient's Name], my name is [Trainees Name], and I'm a trainee sonographer currently undergoing supervised training here at [Facility Name]. I'll be assisting with your ultrasound today under the close guidance of my supervising sonographer, [Supervisor's Name], who will be overseeing the entire process to ensure everything is conducted to the highest standard. I want to assure you that your comfort and wellbeing are my top priorities, and if you have any questions or concerns at any point, please don't hesitate to let me know. Thank you for allowing me to be a part of your care today."

Hands-on Training & Observation
- Shadow experienced sonographers to understand workflow.
- Participate in supervised patient interactions.
- Receive feedback on sonography techniques, critical thinking and protocols.

Regular Check-ins and Feedback
- Schedule progress meetings to review trainee's development.
- Address any challenges or additional learning needs.
- Document progress in line with employer and educational institution requirements.

Final Evaluation & Feedback
- Conduct a final review of the trainee's performance.
- Provide constructive feedback and advice.
- Complete required paperwork and signoffs for placement completion.

Appendix 13: Evaluating supervision

Foundation of trust and respect	• Establish a strong relationship based on trust, honesty and mutual respect.[11,24–26,37,38] • Create a safe environment where trainees feel comfortable providing honest feedback.
Regular evaluation	• Conduct evaluations at regular intervals (at a minimum every three months for novice trainees and every six months for advanced stage trainees. • Use evaluations to identify areas for improvement and to enhance the quality of supervision.
Components of evaluation	• Assess the overall supervision process, including the methods and approaches used. • Evaluate the skills and competencies of the supervisor, such as communication, support, and teaching abilities.[16] • Examine the quality of the relationship between the supervisor and trainee, focusing on trust, respect, and support. • Measure the outcomes of the supervision, including trainee progress and development.
Trainee feedback	• Provide trainees with the opportunity to give feedback on their supervision experience.[16] • Encourage trainees to provide honest feedback to help supervisors understand what works well and identify areas for improvement.[38,51]
360-degree feedback	• Collect performance feedback from multiple sources, including colleagues, team members, managers and self-evaluations.[76–78] • Use diverse viewpoints to create a balanced and comprehensive understanding of strengths and areas needing improvement.[76–78]
Reflective practice	• Promote self-reflection among trainees to critically evaluate their experiences and identify strengths and areas for growth.[63] • Encourage the use of reflective journals to help trainees systematically analyse their actions and decisions.
Third-party involvement	• Involve a third person within the department to facilitate communication during difficult conversations. • Use an objective perspective to assist in resolving conflicts.
Evaluation methods	• Use both formal evaluations (structured assessments) and informal evaluations (ongoing feedback) to get a comprehensive view of the supervision process. • Implement feedback forms and templates to standardise the evaluation process and ensure consistency.[16]

Template evaluating supervision

The following template outlines the skills of supervisors[113] **Supervisor skills**	Always	Most of the time	Some of the time	Never		Always	Most of the time	Some of the time	Never
Communication					Serves as a role model				
Is an active listener					Demonstrates practical applications of knowledge and skills				
Encourages dialogue and questions					Manages time well and demonstrates leadership				
Communicates in a non-threatening manner					**Supervision (teaching, instruction, evaluation)**				
Openly and honestly discusses perceptions and issues					Works with the trainee to develop goals				
Supervisory relationship					Allows progressive and appropriate independence				
Creates a comfortable learning environment					Assesses progress systematically				
Provides appropriate support for concerns, frustrations, and anxieties					Provides frequent and constructive feedback				
Demonstrates positive regard for the trainee as a person					Questions and coaches to facilitate learning				
Is accessible					Identifies discrepancies in trainee's performance				
Ensures regular meetings are held as per the learning agreement					Accurate in documenting trainee's performance				
Professional skills					Provides the trainee sufficient time to practise scanning				
Displays competence					Provides adequate one-on-one supervision during a scan				
Sensitive to patient needs					Are the goals and objectives within the learning agreement or learning plan being met?				
Demonstrates professional behaviour					Are your expectations being met/not met by your supervisor?				
Explains the basis of actions and clinical reasoning					What areas of your supervision are you concerned about? What modifications to the current supervision would you benefit from?				

Appendix 14: Acknowledgements

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