AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

DIAGNOSTIC IMAGING ACCREDITATION SCHEME

Draft

National Safety and Quality Medical Imaging Standards

And implementation resource

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About the Commission

The Australian Commission on Safety and Quality in Health Care (the Commission) leads and coordinates national improvements in health care safety and quality. The Commission partners with the Australian Government, state and territory governments and the private sector to achieve a safe, high-quality, sustainable health system. It also works closely with patients, carers, clinicians, managers, policymakers and healthcare organisations.

Key functions of the Commission include:

- Developing national safety and quality standards
- Developing clinical care standards to improve the implementation of evidence-based health care
- Coordinating work in specific areas to improve outcomes for patients
- Providing information, publications and resources about safety and quality

The Commission works in four priority areas:

- Safe delivery of health care
- Person-centred care
- Partnering with healthcare professionals
- Quality, value, and outcomes

Introduction

The National Safety and Quality Medical Imaging (NSQMI) Standards aim to protect the public from harm and improve the quality of imaging delivered by describing a nationally consistent framework that imaging providers should apply when providing health care. Where implemented, patients can be confident that their imaging provider is committed to delivering and continuously improving the practice's safety and quality.

Developing the NSQMI Standards involved extensive consultation with consumers, practitioners and providers, professional and peak bodies, and other sector representatives, and a review of the literature, best practice and evidence-based care.

The NSQMI Standards replace the Diagnostic Imaging Accreditation Scheme Standards.

Implementing the NSQMI Standards is the responsibility of all members of the imaging provider workforce. Imaging providers are accountable for compliance with the standards.

Application of the standards

Medical imaging refers to processes designed primarily to take images of the body's internal anatomy and functions using invisible light. The NSQMI Standards apply to providers who use medical imaging to investigate, diagnose, investigate treat, and monitor patients' conditions.

All health services that use medical imaging can implement the NSQMI Standards, including:

- Chiropractic practices
- Dental practices
- Private imaging practices
- Practices using imaging at the point of care
- Practices using imaging to complete an interventional procedure
- Private and public hospital imaging departments
- Specialist practices performing imaging in private rooms

The standards apply to:

- Medical imaging services under Medicare listed in the Diagnostic Imaging Services Table
- Medical imaging services under Medicare that do not require accreditation
- Non-Medicare medical imaging services

An imaging service can include any of the following modalities:

- Computed tomography (CT)
    - Cone beam computed tomography
- Dual-energy X-ray absorptiometry (DEXA)
- Fluoroscopy
    - Angiography
- Magnetic resonance imaging (MRI)
- Mammography
- Orthopantomography
- Radiography (X-ray)
- Positron emission tomography (PET)
- Single photon emission computed tomography (SPECT) (nuclear medicine)
- Ultrasound

Overview of the standards

The NSQMI Standards are:

1. Clinical Governance

Clinical governance refers to the structures, relationships, roles and responsibilities established by an imaging provider to ensure good clinical outcomes.

The community can be confident that systems are in place to deliver safe, high-quality, appropriate health care and continuously improve services.

2. Partnering with Consumers – delivering person-centred care

Partnering with Consumers – delivering person-centred care recognises the importance of working with patients and consumers in planning and delivering their health care and providing clear communication to minimise risks of harm.

It describes the systems and strategies to create a person-centred imaging practice.

The Clinical Governance and the Partnering with Consumers – delivering person-centred care Standard set the overarching requirements, or clinical governance framework, for effectively implementing the third and fourth standards: Clinical and Technical Safety.

3. Clinical Safety

Clinical Safety describes the systems and processes for minimising clinical risks and ensuring patients receive appropriate, safe, high-quality care.

4. Technical Safety

Technical Safety describes the systems and processes for ensuring a safe environment and appropriate use of imaging technology.

Structure of the standard

Each standard contains the following:

- A standard statement
- A consumer outcome statement
- A statement of intent
- Explanatory notes on the standard's context
- Criteria that describe the key areas covered by the standard

Each criterion contains the following:

- A consumer outcome statement
- Actions that describe what is required to meet each criterion
- Guidance for each action

Guidance to support implementation

Each action contains guidance to assist the imaging provider with implementing the NSQMI Standards. The guidance includes:

- Reflective questions focused on current practice
- Suggested strategies that imaging providers can use to ensure they meet the requirements of the standards or implement change. The strategies are **not** a checklist. Imaging providers can apply strategies relevant to the imaging practices' service context and risk or choose other strategies that better suit the context.
- Examples of evidence that imaging providers can submit at accreditation assessments. The structure and governance of image practices vary significantly, so the examples of evidence **will not be** relevant to all practices. The evidence is a **guide only**, and imaging providers can use other forms of evidence that are appropriate to their practice. Evidence, such as documents, data, and reports, should come from delivering patient care and **not be generated** separately for accreditation.
- Useful resources, including government and professional group materials, to support implementation.

Not all actions in the NSQMI Standards will apply to all imaging practices. Imaging providers must consider their service context and modalities. Indicative information on "not applicable actions" is in **Appendix 1**. Providers can apply to have actions deemed not applicable, and the accrediting agency will confirm the "not applicable status" before an assessment commences.

The structure and format of the NSQMI Standards align with other national safety and quality standards that some imaging providers have already implemented. Where an imaging practice is accredited to another set of national safety and quality standards, the Commission will map the actions to assess only those unique to the NSQMI Standards. These actions will form the Medical Imaging (MI) Module. For example, accreditation to the National Safety and Quality Health Service (NSQHS) Standards and the MI Module is equivalent to being assessed to the NSQHS and the NSQMI Standards.

For further information and access to supporting resources on the NSQMI Standards, visit the Commission's website.

Terminology

The Commission adopted the following terminology in the NSQMI Standards.

‘Patient’ or ‘consumer’

Patient refers to a person or group of people receiving imaging services. The term ‘consumer’ refers to a person who has used or may use an imaging practice, a consumer representative or an advocate. In addition, the term ‘patient’ encompasses all other relevant terms the imaging sector may use, including ‘client’, ‘person’, and ‘people’.

‘Imaging practitioner’

The NSQMI Standards use the term ‘imaging practitioner’ to describe trained and qualified individuals who perform imaging services, interpret images or support the delivery of imaging services. The term practitioner encompasses all other relevant terms that the imaging sector may use, including health practitioners, clinicians or profession-specific descriptions, for example, radiologist, radiographer, sonographer, nuclear medicine technologist or medical physicist.

‘Imaging provider’

The NSQMI Standards use the term ‘imaging provider’ to describe the organisation, group of organisations, facility or mobile service providers that govern and manage the provision of imaging services. Imaging providers range from owner-operated providers, where a single practitioner is also responsible for administrative and management operations, to complex organisations comprising many practitioners, a supporting workforce, management and an overarching governing body.

The term “imaging provider” can be called “imaging practice” by the sector, and these terms are interchangeable.

‘Governing body’

A board, chief executive officer, organisation owner, partnership or other highest level of governance (individual or group of individuals) that has ultimate responsibility for strategic and operational decisions affecting the safety and quality of the imaging practice.

‘Healthcare’ vs. ‘health care’ vs. ‘care’

The Commission uses the word ‘healthcare’ when referring to an adjective (for example, the ‘healthcare system’) and the words ‘health care’ when referring to a noun (for example, ‘the state of health care in Australia’).

Where the word ‘care’ is not preceded by a qualifying word (for example, episode of care, comprehensive care), this encompasses broader elements of care (for example, personal or social care).

‘Referrer and Referral’

A referrer is a healthcare practitioner who writes to another practitioner asking them to consult on a patient by investigating, diagnosing, or treating them. The health practitioner receiving the referral then determines the course of action, which may include medical imaging.

A referral is the written communication between the practitioners. It explains the reasons for referring the patient and includes the patient's symptoms, conditions, and medications.

The practitioner who receives the referral is responsible for selecting the imaging service, seeking consent and managing the patient.

'Requester and Request'

A requester is a healthcare practitioner who writes to an imaging provider to request that a patient receive specific imaging services. The requester selects the imaging modality.

The written communication is called a request; most requests are forms. A request identifies the imaging service and clinical details. The requester is responsible for managing the patient.

'Systems'

The NSQMI Standards rely on imaging providers to establish safety and quality systems. A system includes resources, policies, processes, and procedures that are organised, integrated, regulated, and delivered to accomplish a stated goal. Safety and quality systems will vary depending on the size of the imaging provider and the associated service risks.

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Standard 1. Clinical Governance

Leaders in an imaging practice are responsible for continuously measuring and improving the safety and quality of patient care services and ensuring the service improvements are evidence-based, person-centred, safe, appropriate and effective.

Consumer Outcome

Patients are confident that the imaging practice is organised, efficient, and effective and that they will receive safe, appropriate, high-quality, person-centred health care.

Intention of this standard

To implement a clinical governance framework that ensures patients receive safe, high-quality and appropriate, person-centred health care.

Explanatory notes

Clinical governance is the relationships, roles and responsibilities established by an imaging provider between regulators and funders, managers, owners and governing bodies (where relevant), healthcare providers, the workforce, patients, consumers and other stakeholders to ensure optimal clinical outcomes.

Governing bodies or owners are ultimately responsible for ensuring the imaging practice is well run and delivers safe, high-quality, person-centred health care. They must ensure that the governance system operates effectively and that robust monitoring systems focus on continuous quality improvement.

Standard 1 - Criteria

Standard 1 Criterion 1 Governance

The imaging provider establishes and uses clinical governance systems to improve the safety, quality, and appropriateness of patient health care.

Consumer outcome

The safety, quality and appropriateness of the patient care provided is a priority for the imaging practice's leadership, clinicians and workforce.

Governance actions

Action 1.01 Clinical governance, leadership and culture

The governing body:

a. Establishes and maintains a clinical governance framework

b. Provides leadership to develop a culture of safety, continuous quality improvement and clinically appropriate imaging service delivery

c. Sets the priorities and strategic directions for safe, high-quality and appropriate person-centred imaging services and communicates these to the workforce

d. Provides leadership to support partnerships with patients, carers, consumers, requesters and referrers.

e. Monitors the imaging practice's safety, quality and performance and directs action to improve performance and outcomes

Reflective questions

Is a clinical governance framework in place, and does it support effective, safe, high-quality care?

Is there a "learning" culture that promotes safety and quality improvements?

How are the priorities and strategic direction determined for the imaging practice?

How are patients empowered to partner in their care?

Is there a schedule for collecting and monitoring data on safety and quality performance?

Suggested strategies

- Ensure continuous compliance with these standards for a robust clinical governance framework.
- Inform the workforce of the components of the clinical governance framework and monitor the effectiveness of the framework.
- Establish organisational structures to support the clinical governance framework.
- Ensure the governing body, imaging practice leaders and managers understand and have the skills to fulfil their safety and quality roles.
- Create a transparent, supportive safety culture and a just work environment by acknowledging risk, encouraging collaboration, reporting, monitoring, improving patient outcomes across and within disciplines, and commit resources to address safety concerns.
- Align the imaging practice's strategic goals with the priorities of high-quality care.
- Have systems to ensure patients and their needs are key priorities.
- Establish audits, data collection, and a routine schedule for reporting on safety and quality performance to the governing body.

Examples of evidence

- Endorsed clinical governance framework and organisational structure.
- Meeting papers and reports on safety and quality are provided to the governing body.
- Examples of communication and engagement with patients, consumers, requesters, referrers, and the workforce.
- Reports on workforce feedback on the culture of safety.
- Strategic goals, key priorities and safety and quality plans.

Useful resources

Australian Commission on Safety and Quality in Health Care: National Model Clinical Governance Framework

NSW Clinical Excellence Commission: A guide to safety culture measurement

Action 1.02 Business decision-making

The imaging provider:

a. Prioritises patient safety, quality and imaging appropriateness in its business decisions

b. Applies ethical principles to its business decision-making about the design, development and delivery of services

Reflective questions

How is safety, quality and imaging appropriateness prioritised in decision-making?

How are ethical principles considered when making decisions?

Suggested strategies

- Prioritise safety, quality and appropriate patient care in the business vision, strategies, plans, proposals, procurement specifications, policies, processes, procedures and protocols.
- Have an ethical framework, including principles and values that guide ethical business decisions, a code of conduct and a conflict of interest process.
- Train the governing body, leaders and the workforce to recognise and consider ethical issues.
- Do not participate in activities that diminish the imaging practice's competence, impartiality, judgement and operational integrity.

Examples of evidence

- Business strategic documents and meeting minutes showing safety and quality were considered in decision-making.
- Ethical framework.
- Conflict of interest policy.
- Code of conduct and conflict of interest register.
- Processes that identify the importance of applying ethics to decision-making and prioritising safety, quality and appropriate patient care.

Useful resources

Australian Consensus Framework for Ethical Collaboration in the HealthCare Sector

National Health and Medical Research Council – Clinical Ethics Capacity Building Resource Manual

The Ethics Centre – Purpose, Values, Principles – An Ethics Framework

The ICN Code of Ethics

Action 1.03 Subcontracted services

The imaging provider subcontracting imaging services ensures the subcontractor complies with:

a. Commonwealth, state and territory legislation and regulations

b. The requirements of these standards relevant to the services they are providing

Reflective questions

Is there a formal agreement for the subcontracted imaging services to ensure subcontractors meet the Standard's requirements and provide safe, high-quality and clinically appropriate services?

What reporting is in place to allow monitoring of the safety and quality performance of the services provided by the subcontractor?

Suggested strategies

- Include in contractual arrangements and service agreements with subcontractors:
  - Compliance with relevant actions in the NSQMI standards.
  - Targets and requirements for safety, quality and clinical appropriateness required of the contractor.
  - Agreement on performance reporting on services delivered by the subcontractor.
- Evaluate and report to the governing body on the subcontractor's performance.

Examples of evidence

- Process for requiring and monitoring subcontractors to comply with standards and regulations.
- Contracts or agreements with subcontractors requiring compliance with NSQMI standards.
- Imaging provider and subcontractors meeting or reporting records.
- Subcontractor performance reports.
- Documentation provided to the governing body on subcontractors.

Useful resources

National

Australian Government Business: Prepare a contract

Royal Australian and New Zealand College of Radiologists: Standards of Practice for Clinical Radiology. Section 8. Teleradiology

International

Royal College of Radiologists: (United Kingdom): Standards for the provision of teleradiology within the United Kingdom

Standard 1 Criterion 2 Patient safety and quality systems

Safety and quality systems are integrated with governance processes to enable the imaging provider to actively manage and improve the safety, quality, and appropriateness of patient health care.

Consumer outcome

Patients attend imaging practices that have safety and quality systems that support and improve imaging services, so patients receive well-organised, safe, high-quality and appropriate person-centred imaging services. The imaging provider seeks, hears and addresses patient feedback.

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Patient safety and quality system actions

Action 1.04 Risk management

The imaging provider:

a. Supports the workforce to identify, prioritise, mitigate and manage safety and quality risks

b. Routinely monitors, documents and reports on safety and quality risks using a risk management approach

c. Plans for and manages internal and external emergencies and disasters.

Reflective questions

How are risks identified and documented? Where are they reported?

How does the workforce identify, prioritise and report risks and how are they informed about key organisational risks?

How is the risk management system used to improve safety and quality?

How are risks to business continuity, disruptions, emergencies and disasters managed?

Suggested strategies

- Define the roles responsible and accountable for managing risk.
- Develop a risk management system including risk management processes, a risk register, and a systematic approach to identifying, assigning, assessing and addressing risks.
- Apply a risk management approach to the self-assessment of compliance and implementation of the actions in the NSQMI actions.
- Allocate resources to support the risk management system.
- Provide the workforce with an orientation and training on risk management.
- Inform the workforce of their roles, responsibilities, and accountabilities for managing risk.
- Encourage the workforce, consumers, requesters, and other stakeholders to identify and report risks.
- Identify potential risks and develop plans to respond to emergencies and disasters.

Examples of evidence

- Risk management processes.
- Risk register.
- Risks and mitigation strategies for NSQMI actions.
- Risk management training materials and participation records.

- Workforce's risk management roles, responsibilities and accountabilities.
- Safety and quality activities undertaken in response to the risk management system.
- Emergency management plans.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: Risk Management Approach

Australian Government Business: Assess and manage risk

Australian Government Business: Develop an emergency management plan

International

International Organization for Standardization (ISO): 31000:2018 Risk management – Guidelines

New England Journal of Medicine Catalyst: What Is Risk Management in Healthcare?

Action 1.05 Policies and procedures

The imaging provider:

a. Establishes and maintains policies, procedures and protocols for its imaging practice

b. Ensures policies, procedures and protocols are readily available to the workforce

c. Monitors and improves adherence to policies, procedures and protocols

d. Ensures compliance with safety and quality legislation, regulation and jurisdictional requirements

Reflective questions

What is the process for developing and keeping current, accurate and effective policies, procedures, or protocols?

How is the workforce informed about and provided with ready access to the policies, procedures and protocols?

How is compliance with policies, procedures and protocols ensured?

How are policies, procedures and protocols kept compliant with legislation, regulations, state or territory requirements, and industry standards?

Suggested strategies

- Have processes to develop, regularly review, rescind and document policies, procedures, and protocols, which ensures their currency, accuracy and effectiveness.
- Have processes to check policies, procedures and protocols are updated and authorised and reflect legislative and regulatory changes and industry standards.
- Review current policies, procedures, and protocols to ensure they address the NSQMI actions.
- Establish a policies, procedures, and protocols register.
- Keep the workforce informed about the policies, procedures and protocols, ensure access and monitor compliance.
- Act to minimise non-compliance with policies, procedures and protocols.

Examples of evidence

- Policies, procedures and protocols and a policy register.
- Documented processes for monitoring legislation, regulation, state or territory requirements, and industry standards.
- Documented processes for establishing, reviewing and rescinding policies, procedures and protocols.
- Workforce communications related to policies, procedures and protocols.

- Assessor observations at accreditation assessment of everyday use of policies, procedures and protocols.
- Feedback on the accessibility and usability of policies, procedures and protocols.
- Examples of safety and quality system feedback being used to update policies, procedures and protocols.
- Audits of clinical practice and healthcare records to evaluate compliance with policies, procedures and protocols and actions taken to fix non-compliance.

Useful resources

Australian Commission on Safety and Quality in Health Care: National Model Clinical Governance Framework

Australian Government Business: Policies, procedures and processes

Action 1.06 Quality improvement, measurement, and performance

The imaging provider has quality improvement processes that:

a. Identify and apply safety and quality measures

b. Monitor performance and outcomes

c. Implement safety and quality improvement activities

d. Provide the workforce and governing body with timely and accessible information on safety and quality performance

Reflective questions

What measures are used to check the imaging practice's safety and quality performance?

Are jurisdictional or national measures used and is performance compared with other similar services?

Is the workforce receiving information on the imaging practices or their performance?

Suggested strategies

- Agree or describe performance indicators and outcome measures to be collected and a collection schedule.
- Schedule, conduct and record the outcomes of quality improvement activities, clinical and technical audits and performance measurements.
- Establish structures, such as committees or forums for reviewing performance results and reporting these through the clinical governance system to the executive, the governing body and the workforce.
- Participate in external quality assessment schemes and benchmarking.

Examples of evidence

- Governing body quality improvement and performance reports.
- Quality improvement objectives, priorities and processes.
- Performance indicators and outcomes measure results and improvement actions.
- Completed audits, reviews and quality improvement activities.
- Quality improvement activities demonstrating changes in clinical practices.

Useful resources

International

Canadian Association of Radiologists (Canada): Maximizing the effectiveness of clinical audits

Healthcare Quality Improvement Partnerships (United Kingdom): A guide to quality improvement tools

Healthcare Quality Improvement Partnerships (United Kingdom): Best practice in clinical

audit

Healthcare Quality Improvement Partnerships (United Kingdom): Patient and public involvement in quality improvement

European Society of Radiology: ESR guide to clinical audit in Radiology 3rd edition

Institute for Healthcare Improvement (USA): How to improve: Model for Improvement

Institute for Healthcare Improvement (USA): Plan, Do, Study, Action (PDSA) Worksheet

Royal College of Radiologists (United Kingdom): Audit Live

The Health Foundation (United Kingdom): Quality improvement made simple

Action 1.07 Incident management

The imaging provider has an incident management system that:

a. Supports the workforce to recognise and report incidents

b. Facilitates patients, carers, families, requesters and referrers to communicate concerns and report incidents

c. Involves the workforce in the review of incidents

d. Provides timely feedback on the analysis of incidents to the patients, workforce and governing body

e. Uses the information from the analysis of incidents to improve safety and quality

f. Regularly reviews and acts to improve the effectiveness of the incident management and investigation systems

Reflective questions

How are incidents identified and managed?

How are the workforce and consumers involved in reviewing incidents?

How is the incident management system used to improve safety and quality?

How are imaging practitioners trained to discuss incidents that cause harm to patients?

Suggested strategies

- Encourage and support incident reporting. Acknowledge and learn from mistakes and incidents.
- Have processes that outline the incident management system elements, roles and responsibilities, reportable events and how to report, respond to, investigate and analyse incidents, near misses and adverse events.
- Adopt a process to classify and escalate serious incidents and incidents with major risks.
- Apply the incident management system to the NSQMI actions.
- Link the incident management system to the risk management and quality improvement systems.
- Support patients and carers by informing them how to report incidents.
- Regularly update patients and carers about the incident investigation and outcome.
- Inform the workforce about the incident management system, their responsibility to report incidents, and how to respond to patients and carers who raise concerns or report incidents.
- Ensure investigations are prompt and effective and all incidents are followed up.
- Involve the workforce in investigating incidents and implementing changes to reduce the risk of incidents re-occurring.

- Analyse incident data to identify trends and improvement opportunities.
- Report serious incidents, a summary of other incidents, system learnings and improvements to the workforce, governing body and other parties as required under legislation.

Examples of evidence

- Governing body's incident management accountabilities and responsibilities.
- Incident management processes.
- Incident reports and the actions taken to reduce the risk of or prevent a recurrence.
- Incident data, analysis and action reports.
- Incident management training materials and participation records.
- Workforce and patient incident management information and incident reporting form.
- Governing body incident reports.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: Incident Management Guide, 2021

NSW Clinical Excellence Commission: Serious Adverse Event Review. Incident analysis – Immediacy, Accountability, Kindness

International

Canadian Patient Safety Institute (Canada): Canadian Incident Analysis Framework

Action 1.08 Open disclosure

The imaging provider uses the Australian Open Disclosure Framework when there is an adverse patient event.

Reflective questions

Who manages open disclosure processes when a patient is harmed during an imaging service?

Have the people involved completed open disclosure training?

How is the information obtained from open disclosure processes used to improve safety and quality?

Suggested strategies

- Implement the Australian Open Disclosure Framework and assign responsibility for its performance.
- Foster a culture that supports open disclosure.
- Provide the workforce with open disclosure, empathetic and respectful communications training, peer support and mentorship, and support for managing open disclosure issues.
- Support patients and carers by informing and guiding them through the open disclosure process.
- Link open disclosure to the incident management system.
- Report open disclosure events that include system learning and improvements to the governing body.

Examples of evidence

- Processes consistent with the Australian Open Disclosure Framework.
- Workforce feedback on open disclosure and imaging practice culture.
- Open disclosure and communication training materials and participation records.
- Patient open disclosure information.
- Governing body open disclosure reports.

Useful resources

Australian Commission on Safety and Quality in Health Care: Australian Open Disclosure Framework – Better communication, a better way to care

Australian Commission on Safety and Quality in Health Care: Implementing the Australian Open Disclosure Framework in Small Practices

Australian Commission for Safety and Quality in Health Care Fact Sheet: Preparing and participating in open disclosure discussions. Information for consumers and carers

Australian Commission for Safety and Quality in Health Care Fact Sheet: Open disclosure – what to expect if you experience harm during health care? Information for consumers and carers

Action 1.09 Feedback and complaints management

The imaging provider has processes to:

a. Seek feedback from patients and their carers, requesters, referrers and the workforce about the imaging practice

b. Report on feedback and complaints from patients and their carers, requesters, referrers and other service providers to the executive and the governing body

c. Act on feedback and address complaints in a timely way

d. Provide patients and their carers with contact details to the appropriate healthcare complaints authority

e. Use the analysis from feedback and complaints to improve the safety, quality and appropriateness of its imaging services

Reflective questions

When and how is feedback collected from the patients and their carer, requesters, referrers and the workforce?

How are complaints received, reviewed and resolved in a timely manner?

How is feedback and complaints data used to improve safety and quality?

How is the effectiveness of the feedback and complaints management system reviewed?

Suggested strategies

- Have systems that identify roles and responsibilities for feedback and complaints processes.
- Have a systematic approach to collecting, reporting, assigning, assessing, responding to and analysing feedback and complaints, and ensure the privacy of the persons providing feedback and complaints.
- Have processes to support people providing feedback and complaints, including anonymously, when they are concerned about being identified.
- Link the feedback and complaints system to the risk management and quality improvement system.
- Train the workforce to identify and manage feedback and complaints.
- Have publicly accessible information on submitting feedback and complaints and the processes for assessing and responding to feedback and complaints.
- Ensure all feedback and complaints are followed up promptly, and effective responses are provided, and any agreed improvements are actioned.
- Collect feedback related to the NSQMI actions.
- Analyse feedback and complaints data to identify trends and improvement opportunities.
- Report feedback and complaints, system learnings and improvement opportunities to the workforce and governing body.

Examples of evidence

- Feedback and complaints processes, methods and tools.
- Feedback and complaints register.
- Feedback and complaints management training materials and participation records.
- Public information on feedback and complaints process.
- Feedback and complaints data and analysis.
- Actions taken to improve the imaging practice in response to feedback and complaints.

Useful resources

National

Australian Health Practitioners Regulation Agency and National Boards and the Australian Commission for Safety and Quality in Health Care: Checklist for practitioners handling feedback and complaints

Australian Commission for Safety and Quality in Health Care: Australian Hospital Patient Experience Question Set

Australian Health Practitioners Regulation Agency: Concerns about practitioners

Commonwealth Ombudsman: Better practice complaint handling guide

Office of Disability Services Commissioner Victoria: Good practice guide and self audit tool. Developing an effective person-centred complaints resolution culture and process

Health Services Review Council Victoria: Guide to complaint handling in health care services

Royal Australian College of General Practice: Standards for general practice – patient feedback guide

SA Health (South Australia): Consumer, carer and community feedback and complaints management

Action 1.10 Information security

The imaging provider has information security management systems that comply with the legislation and uses a risk-based approach to protect information confidentiality, integrity and availability from unauthorised user access, data modification and removal.

Reflective questions

What information security management systems are in place?

Are the responsibilities and processes for managing information security clear?

Suggested strategies

- Have an access control policy.
- Establish an information security management system that reflects business and regulatory needs and the size and extent of threats. It includes security roles, responsibilities, and authorities, security controls that account for the information's sensitive nature, and management of security breaches, and malicious actors, and attacks, including mandatory reporting.
- Link the information security management system to the risk management and quality improvement system.
- Allocate sufficient resources to maintain the imaging practice's information security capability.
- Protect computer programs and routines from unauthorised access, alteration or deletion.
- Seek expert input when needed to minimise the risk of data security incidents (actual and near misses), data breaches, technical faults and feedback to improve the system.
- Provide the workforce and governing body with an orientation and training on information security management, including their roles, responsibilities and accountabilities.
- Ensure those with information security roles and responsibilities are competent, have relevant qualifications and have access to training to maintain their competence.
- Support and encourage the workforce to identify and report information security incidents, breaches and faults.
- Routinely measure, analyse, evaluate and report on information security.
- Report serious incidents to the governing body and other parties as legislation requires.

Examples of evidence

- Documented information security processes.
- Information security orientation and training materials and participation records.
- Workforce's information security roles, responsibilities and accountabilities.
- Assessor observations at accreditation assessment that IT services are password protected.

- Information security management audits and review schedule, records and reports that include actions for improvement.
- Information security incident reports and the actions taken to reduce the risk of or prevent a recurrence.

Useful resources

National

Australian Cyber Security Centre: Information Security Manual

Australian Cyber Security Centre: Small Business Cyber Security Guide

Australian Prudential Regulation Authority: Prudential Standard CPS 234 – Information Security

Digitalhealth.gov.au: Cyber security

Digitalhealth.gov.au: Digital Health Security Awareness eLearning course

Therapeutic Goods Administration: Medical device cyber security information for users

International

International Organization for Standardization (ISO): ISO/IEC 27000 series. Information Security Standards

Action 1.11 Healthcare records

The imaging provider has a healthcare record system that:

a. Complies with jurisdictional legislation, including privacy, security and retention regulations

b. Establishes and manages the creation, identification, collection, correction, storage, protection and disposal of healthcare records

c. Captures requests, referrals, details of the imaging practitioners who performed and reported the imaging service, examination findings, all diagnostic quality images and reports

d. Makes the healthcare record, images and reports available to imaging practitioners

e. Supports audits of healthcare records

f. Enables retrieval and transmission of patient information, images and reports

g. Provides requesters, other healthcare practitioners and patients with healthcare records, images and reports when requested

Reflective questions

What documentation is contained in the patient's healthcare record?

What processes ensure the patients' healthcare records are accurate, comprehensive and complete?

How are healthcare records accessed by those involved in the patient's imaging service?

How is the privacy and security of healthcare records protected?

Suggested strategies

- Use a Picture Archiving and Communication and a Radiology Information System as the health record system.
- Have processes that clearly describe the healthcare records system elements, roles and responsibilities, the recording of clinical information, standards for documentation, procedures for accessing, managing, retaining and disposal of healthcare records, authorisation of record changes and using healthcare records for quality assurance, teaching and research.
- Provide the workforce with an orientation and training on healthcare records, including their roles, responsibilities and accountabilities, when documentation is required, the requirements for healthcare record documentation and why those requirements support safety and quality.
- Ensure roles and responsibilities address obligations to protect patient privacy and confidentiality.
- Support patients by informing and guiding them to access their images and reports.
- Analyse healthcare records to identify trends and improvement opportunities.

Examples of evidence

- Healthcare record processes.
- Healthcare records.
- Healthcare records orientation and training materials, and participation records.
- A code of conduct that includes privacy and confidentiality.
- Workforce confidentiality agreements.
- Healthcare record audits.

Useful resources

National

Federal Register of Legislation: Privacy Act 1988

Office of Australian Information Commissioner: Australian Privacy Principles

Office of Australian Information Commissioner: Guide to Health Privacy

International

National Institute of Standards and Technology (USA): Securing Picture Archiving and Communication System (PACS): Cybersecurity for the Healthcare sector

Royal College of Radiologists (United Kingdom): Picture archiving and communication systems (PACS) and guidelines on diagnostic display devices

Action 1.12 My Health Record

The imaging provider contributes to My Health Record and has processes to:

a. Comply with legislative requirements

b. Use national healthcare identifiers for patients and practitioners

c. Use standard national terminologies

d. Support the workforce to use My Health Record

e. Ensure the accuracy and completeness of the information uploaded

Reflective questions

What are the imaging practice's obligations for My Health record?

Are the IT systems compatible with My Health Record?

Does the imaging provider contribute to My Health Record?

Do policy and IT systems comply with legislative and other requirements for using My Health Record?

Is the workforce trained in the use of the My Health Record system?

How is the accuracy and completeness of information in the My Health Record checked?

How is the information in My Health record used to minimise the risk of patient harm from an imaging service?

Suggested strategies

- Have processes for using My Health Record.
- Ensure access to My Health Records follows legislative requirements.
- Authorise and train the workforce to use My Health Record.
- Establish policies and protocols for the use of unique national identifiers for patients, imaging practitioners, and imaging practices reports to upload to My Health Record
- Use nationally standardised terms in reports uploaded to My Health Record.

Examples of evidence

- My Health Record processes.
- Information in My Health Record.
- My Health Record training materials and participation records.

Useful resources

Australian Department of Health and Aged Care: Healthcare Identifiers and the Healthcare Identifier Service

Australian Digital Health Agency: My Health Record

Federal Register of Legislation: Healthcare Identifiers Act 2010

Federal Register of Legislation: My Health Records Act 2012

National Clinical Terminology Service: What is clinical terminology?

Officer of Australian Information Commission: Healthcare identifiers

Standard 1 Criterion 3 Clinical performance and effectiveness

The workforce has the right qualifications, knowledge and skills to provide patients with safe, high-quality, person-centred health care.

Consumer outcome

Patients receive imaging services from competent and caring professional imaging practitioners in a timely way.

Clinical performance and effectiveness actions

Action 1.13 Scope of clinical practice

The imaging provider has processes that ensure each imaging practitioner has the qualifications, knowledge and skills required to perform their role by:

a. Setting the scope of clinical practice and reviewing an imaging practitioner's registration, licenses, and recency of practice for modalities and imaging services

b. Defining their safety and quality roles, responsibilities and accountabilities and supporting them to fulfill these roles

c. Monitoring to ensure imaging practitioners are operating within their designated scope of clinical practice

d. Reviewing imaging practitioners' scope of clinical practice when a modality, imaging service, or technology is introduced or substantially altered

Reflective questions

Is the scope of practice and recency of clinical practice described for each imaging practitioner role?

What processes are in place to ensure imaging practitioners have appropriate qualifications, experience, professional standing, competencies and other relevant professional attributes?

How is the workforce being supported in fulfilling their safety and quality roles?

How is monitoring undertaken to ensure imaging practitioners work within the agreed scope of clinical practice?

Are imaging practitioners' scope of clinical practice reviewed when new imaging services, technologies or equipment are introduced?

Suggested strategies

- Have processes that support defining, assessing, and monitoring imaging practitioners' credentials, competency, recency of practice and scope of clinical practice.
- Define, review and inform imaging practitioners of their scope of clinical practice and ensure it is maintained.
- Define the roles, responsibilities and accountabilities of those assessing imaging practitioners' credentials, competency, recency of practice and scope of clinical practice.
- Define, monitor and communicate to the workforce their safety and quality roles, responsibilities and accountabilities.
- Support, monitor, evaluate and document the workforce's performance.
- Keep imaging practitioners' records that contain their qualifications, credentials, scope of clinical practice, training, supervision, recency of practice and performance evaluation.
- Establish the imaging practitioner has the qualifications, competency and recency of practice to perform their role.

- To assess the competency of new and returning employees, provide supervision, mentoring, training, observation and buddying, and address any gaps identified.

Examples of evidence

- Scope of clinical practice and recency of practice processes.
- Roles, responsibilities, and accountabilities of those monitoring scope and recency of clinical practice.
- Workforce's safety and quality roles, responsibilities and accountabilities descriptions.
- Imaging practitioners' qualifications, registrations, licenses and credentials.
- Imaging practitioners' feedback at assessment demonstrating understanding of their scope of practice.
- Assessor observations at accreditation assessment of imaging practitioners' adherence to scope of practice.
- Evidence of a regular review of imaging practitioners' registrations, licenses, credentials and scope of practice.

Useful resources

Australian Commission on Safety and Quality in Health Care: Credentialing health practitioners and defining their scope of clinical practice: A guide for managers and practitioners

Australian Commission on Safety and Quality in Health Care: Credentialling of clinicians

Australian Commission on Safety and Quality in Health Care: Standard for Credentialling and Defining the Scope of Clinical Practice

Australian Health Practitioner Regulation Agency: Continuing Professional Development

Australian Health Practitioner Regulation Agency and National Boards: Guidelines for mandatory notifications

Australian Health Practitioner Regulation Agency and National Boards: Shared Code of Conduct

Australian Society for Ultrasound in Medicine: Code of conduct

Australian Society for Ultrasound in Medicine: Statement on the Practice of Ultrasound by Sonographers

Australian Sonographer Accreditation Registry:

Council of Australian Governments Health Council: National Code of Conduct for health care workers

Chiropractic Board: Registration Standards

Dental Board of Australia: Registration Standards

Medical Board of Australia: Registration Standards

Medical Radiation Practice Board: Our Standards

Medical Radiation Practice Board: Professional Capabilities

Nursing and Midwifery Board: Registration Standards

Action 1.14 Safety and quality training

The imaging provider:

a. Supports interprofessional collaboration

b. Provides its workforce with orientation to and training in their safety and quality roles on commencement, when safety and quality responsibilities change and when introducing new imaging services, technology or equipment

c. Provides access to training to meet its requirements arising from these standards

d. Monitors the workforce participation in training

Reflective questions

What support is there for imaging practitioners from different professional backgrounds to work together?

How does the workforce access training on safety and quality?

How are workforce training needs identified?

How is workforce participation in training monitored?

Suggested strategies

- Orientate the workforce to the imaging practice.
- Clarify and define the workforce's roles and responsibilities as part of an inter-professional team.
- Orientate and train the governing body and workforce on interprofessional collaborative practice, and safety and quality.
- Provide opportunities for the workforce to address barriers to effectively operating inter-disciplinary teams.
- Use information from the performance development and other HR systems to identify the training needed, the support and resources to develop and maintain the workforce's capabilities.
- Assess the validity, currency and scope of training and address gaps.
- Undertake a risk assessment and determine how often training should be provided.
- Provide and communicate training opportunities to the workforce.
- Have training that addresses the requirements in the NSQMI Standards.
- Keep training participation records and collect feedback on training quality to identify trends and improvement opportunities.

Examples of evidence

- Records of the governing body and workforce's safety and quality roles, responsibilities and accountabilities.
- Processes that include interprofessional teams in decision-making.

- Workforce feedback on interprofessional collaboration and culture of respect and trust between professions.
- Assessor observations at accreditation assessment of the workforce with different professional backgrounds working together effectively.
- Analysis of the workforce training needs.
- Workplace orientation materials and participation records.
- Communication about training opportunities.
- Workforce training schedule.
- Training materials, participation records and training feedback.
- Records of multi-professional education and training sessions and participation.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: National Model Clinical Governance Framework.

Australian Health Practitioner Regulation Agency: Continuing Professional Development

International

Canadian Interprofessional Health Collaborative (Canada): A National Interprofessional Competency Framework

World Health Organisation: Patient Safety Curriculum Guide

Action 1.15 Clinical supervision

The imaging provider makes supervision available that:

a. Ensures supervised imaging practitioners can safely fulfil their designated roles

b. Ensures access to after-hours advice when required.

c. Is delivered by qualified imaging practitioners who have time to supervise effectively

Reflective questions

How is the need for supervision identified, documented, actioned and monitored?

How are the workforce selected, trained and supported to provide supervision?

Suggested strategies

- Have processes to determine the need and level of clinical supervision required.
- Identify imaging practitioners who require supervision, assign supervisors, and outline their clinical supervision requirements and competencies to be obtained.
- Outline roles, responsibilities and accountabilities for supervised imaging practitioners and supervisors.
- Provide resources and time for supervision.
- Provide clinical supervisor training.
- Assess and monitor the clinical supervisors and address development needs.
- Assess and monitor supervised imaging practitioners and capture information about them developing and achieving competencies and capabilities.
- Obtain supervisors and supervised imaging practitioners feedback about the supervision arrangements and make improvements.

Examples of evidence

- Clinical supervision processes.
- Supervisors and supervised imaging practitioners' roles, accountabilities and responsibilities.
- Assessor observations at accreditation assessment of supervised imaging practitioners and supervisors.
- Supervisor and supervised imaging practitioners' performance reviews.
- Feedback on supervision.

Useful resources

Australasian Society for Ultrasound in Medicine: Statement on the Education, Training and Supervision of Trainee Sonographers

Australian Sonographers Association: A sonographers guide to clinical supervision

Federal Register of Legislation: Health Insurance (Diagnostic Imaging Services Table) Regulations (No. 2) 2020

Action 1.16 Performance management

The imaging provider has reliable processes to:

a. Regularly engage the workforce in a review of their performance

b. Identify the training, development and supervision needs of workforce members

Reflective questions

When and how is the workforce engaged in performance review processes?

What systems are used for performance management, practice improvement and the identifying training needs?

Suggested strategies

- Develop a performance evaluation policy that addresses how the imaging provider will manage the workforce's performance and how it will develop their workforce.
- Develop processes for regular workforce performance evaluation and requirements for participation in formal audit, peer review and continuing professional development.
- Develop a process to identify individual training needs, to complete competency-based skills assessment and provide performance data to the workforce.
- Periodically conduct a training needs analysis and review the training system, including identifying the support, resources, and training required to develop the workforce's capabilities.
- Undertake workforce performance reviews, including setting expectations, monitoring performance, recognising workforce achievements and resolving unsatisfactory performance.
- Monitor and review the performance management system.

Examples of evidence

- Policy documents and systems on performance evaluation and development.
- Workforce professional evaluation results and development plans.
- Audit results of the workforce numbers who completed performance reviews, including actions taken to deliver identified training and development needs.
- Mentoring or peer-review reports.
- Feedback from the workforce about their training needs.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: Review by peers: A guide for professional, clinical and administrative processes

International

Canadian Radiologist Association (Canada): The CAR Guide to Peer Review Systems

Action 1.17 Evidence-based care

The imaging provider:

a. Provides its imaging practitioners with ready access to current evidence-based guidelines, resources, and clinical care standards

b. Supports its imaging practitioners to use evidence-based guidelines and practices relevant to their clinical practice

Reflective questions

How are relevant guidelines and clinical care standards identified and made available?

What processes ensure the currency of the guidelines?

What supports are available to imaging practitioners for using evidence-based guidelines and practices?

Suggested strategies

- Have processes for formally adopting, accessing, using and updating guidelines and clinical care standards.
- Identify the guidelines and clinical care standards, incorporate them into the imaging practice's services and provide access to imaging practitioners.
- Evaluate the adoption of guidelines and clinical care standards and monitor and address variations, especially for high-volume or high-risk imaging services.

Examples of evidence

- Records of the authorisation adopting evidence-based guidelines, resources, and clinical care standards.
- Communication with the workforce about the availability of evidence-based care resources.
- Adoption of evidence-based guidelines, resources and clinical care standards.
- Imaging practitioners' feedback on access to and use of guidelines and clinical care standards.
- Evaluation reports.

*Guidelines include imaging protocols

Standard 1 Criterion 4 Safe delivery of care environment

The delivery of imaging services occurs in an environment that enables safe and high-quality health care for patients.

Consumer outcome

Patients are safe and comfortable when accessing imaging services.

Safe delivery of care environment actions

Action 1.18 Safe environment

The imaging provider maximises the safety and quality of imaging services by:

a. Ensuring the location, design, functions and maintenance of the facilities and equipment support safe care

b. Providing access to an environment, facilities, equipment and devices that are fit for purpose, well-maintained and meet the needs of patients, including those with a disability and from diverse backgrounds

c. Ensuring patients' privacy, dignity and security when providing imaging services

Reflective questions

How does the design of the environment support the quality of patient care?

How are buildings, plant and equipment kept safe and in good working order?

How is patient privacy, dignity and security achieved?

Suggested strategies

- Have processes that outline the requirements for acquiring, maintaining, upgrading, and disposing of facilities, infrastructure, equipment and devices.
- Manage the environmental conditions and conduct regular checks to ensure the environment is safe, promote best practice and ensure efficient work completion.
- Maintain a record of all facilities, infrastructure, plant, equipment, devices and software.
- Monitor facilities, infrastructure and plant so they are fit for purpose, safe and in working order.
- Ensure equipment and devices are in appropriate environments and functioning correctly.
- Ensure that software is suitable, operational and effective.
- Develop a schedule for maintaining, upgrading and replacing facilities, infrastructure, plant, equipment, devices and software.
- Document maintenance, repairs and upgrades.
- Obtain patient and workforce feedback about the environment, facilities, infrastructure, plant, equipment, devices and feedback.

Examples of evidence

- Facility, infrastructure, plant, equipment, device and software management processes.
- Records of facilities, infrastructure, plant, equipment, devices, and software.
- Maintenance, upgrade and replacement schedule for facilities, infrastructure, plant, equipment, devices and software.

- Records of environmental checks, maintenance, repairs and upgrades.

Useful resources

National

Australasian Health Infrastructure Alliance: Australasian Health Facility Guidelines Part B – Health Facility Briefing and Planning. 0440 – Medical Imaging Unit

Australasian Health Infrastructure Alliance: Australasian Health Facility Guidelines Part B – Health Facility Briefing and Planning. 0500 – Nuclear Medicine / PET Unit

Australasian Health Infrastructure Alliance: Australasian Health Facility Guidelines Part C – Design for access, mobility, safety and security

International

The Society of Radiographers(United Kingdom): Inclusive pregnancy guidelines for ionising radiation: diagnostic and therapeutic exposures

World Health Organisation: Medical equipment maintenance programme overview

Action 1.19 People with diverse care needs

The imaging provider provides a culturally safe environment, manages risks and plans imaging services when they provide services to:

a. Aboriginal and Torres Strait Islander people

b. People at increased risk because of their diverse care needs or background

c. People with disabilities

d. Children

Reflective questions

What cultural safety training has the workforce undertaken?

How is the workforce supported in providing culturally safe services?

How are Aboriginal and Torres Strait Islander people, people with disabilities and diverse care needs and backgrounds, and children made to feel welcome and safe when accessing the imaging practice and its imaging services?

How are Aboriginal and Torres Strait Islander people, people with disabilities and diverse care needs and backgrounds, and children's diverse care needs identified, supported and managed?

What specific risks do children face from imaging services and how are they managed?

Suggested strategies

- Outline the imaging practice's commitment to providing culturally safe healthcare.
- Communicate with the workforce about cultural safety, respect, and competence.
- Provide resources and time to accommodate the needs of Aboriginal and Torres Strait Islander peoples, people with disabilities, people with diverse care needs or backgrounds and children accessing imaging services.
- Assess the risks Aboriginal and Torres Strait Islander people, people with disabilities or diverse care needs and children face accessing imaging practices and its services.
- Seek feedback from Aboriginal and Torres Strait Islander peoples, people with disabilities or diverse care needs or background, children, their representatives and the workforce on the barriers and challenges to using the imaging practice or receiving quality imaging.
- Use feedback to inform and improve access and imaging services for Aboriginal and Torres Strait Islander people, people with disabilities or diverse care needs or backgrounds and children.
- Provide the workforce with cultural safety training to improve understanding of people with diverse care needs.
- Have a Reconciliation Action Plan.
- Participate in and celebrate events significant to communities.

- Partner with Aboriginal and Torres Strait Islander people, people with disabilities, people with diverse care needs or backgrounds, and community-controlled organisations and collaborate with them to improve cultural safety, respect and competence within the imaging practice and its workforce.

Examples of evidence

- Statements and strategies supporting Aboriginal and Torres Strait Islander people, people with disabilities, people with diverse care needs or backgrounds with culturally safe and respectful healthcare.
- Aboriginal and Torres Strait Islander peoples, people with disabilities, people with diverse care needs or background feedback about the imaging practice's cultural safety.
- Analysis of feedback and actions taken to improve access and imaging quality for people with diverse care needs.
- Records of diversity and cultural awareness training materials and participation by the workforce.
- Consumer information in various formats and languages.
- Evidence of using interpreters.
- Adjustments to the imaging practice and provision of disability care equipment.
- Referring patients to imaging practices that can meet their access needs.
- Reconciliation Action Plan.
- Patient information in various languages and formats appropriate to the imaging service's patient population demographics.
- Evidence of partnerships with diverse peoples' community organisations to build a culturally safe environment.
- Workforce communications about cultural safety, respect, and competence.
- Cultural safety training materials and participation records.
- Evidence of participation in events significant to the communities.

Useful resources

Australian Bureau of Statistics: Census Data

Australian Commission on Safety and Quality in Health Care: NSQHS Standards User Guide for acute and community health service organisations that provide care for children

Australian Commission on Safety and Quality in Health Care: NSQHS Standards User guide for health service organisations providing care for patients from migrant and refugee backgrounds

Australian Commission on Safety and Quality in Health Care: NSQHS Standards User Guide for health services providing care for people with mental health issues

Australian Commission on Safety and Quality in Health Care: User guide for Aboriginal and Torres Strait Islander Health

Australian Department of Home Affairs: Translation and Interpreting Service

Australian Human Rights Commission: Access for all. Improving accessibility for consumers with disability

Australian Institute of Health and Welfare: Cultural competency in the delivery of health services for Indigenous people

Council for Intellectual Disability, Australia: Resources for health practitioners

National Aboriginal and Torres Strait Islander Health Worker Association: Cultural Safety Framework, 2016

NSW Agency for Clinical Innovation: Intellectual Disability Network Resources

National Aboriginal and Torres Strait Islander Health Standing Committee of the Australian Health Ministers' Advisory Council: Cultural respect framework 2016–2026 for Aboriginal and Torres Strait Islander health, 2016

Reconciliation Australia. Reconciliation Action Plans

Standard 2. Partnering with Consumers – Delivering person-centred care

Imaging providers develop, implement and maintain systems to deliver person-centred care by partnering with patients and consumers in their health care.

Consumer Outcome

Patients are partners in their health care, and imaging providers deliver person-centred care and value patient and consumer opinions in delivering imaging services.

Intention of this standard

The Partnering with Consumers – delivering person-centred care Standard recognises the importance of working with patients and consumers in planning and delivering their health care and providing clear communication to minimise risks of harm. This standard and the Clinical Governance Standard form a comprehensive clinical governance framework.

Explanatory notes

The evidence shows that partnering with consumers in person-centred care is integral to improving patient outcomes and benefits consumers, healthcare services and the health system. Patient partnerships are central to person-centred care, which is respectful of and responsive to the individual patient's preferences, needs and values.

Effective partnerships, a positive patient experience, high-quality health care and improved safety are linked. Partnerships between imaging providers and consumers involve incorporating consumers' values and views into the imaging practice's planning, design, monitoring and evaluation.

The processes to partner with patients and consumers will vary according to the type and size of imaging services delivered.

The imaging provider needs to monitor its processes, review its findings, and refine its practices to improve the effectiveness of patient and consumer partnerships.

Standard 2 - Criteria

Standard 2 Criterion 1 Person-centred care

Person-centred care and partnering with patients underpin the delivery of care. Patients are partners in their health care to the extent that they choose.

Consumer outcome

Patients and their carers have a positive imaging service experience and are partners in their health care.

Person centred care

Action 2.01 Healthcare rights

The imaging provider:

a. Uses a Charter of Rights consistent with the Australian Charter of Healthcare Rights

b. Supports its workforce to apply the principles of the Charter of Rights

c. Makes the Charter of Rights easily accessible for patients, carers, families and consumers

Reflective questions

Does the imaging practice have a Charter of Rights?

How do patients and consumers know about their rights when accessing imaging services?

Suggested strategies

- Adopt and display the Australian Charter of Healthcare Rights.
- Incorporate the Charter into relevant organisational processes and documents.
- Support the workforce to apply the principles of the Charter in the planning and delivering care.
- Provide access to the Charter in appropriate languages and formats.
- Assess the imaging providers'application of the Charter by seeking feedback from patients and the workforce.

Examples of evidence

- The Charter is displayed publicly and on the website.
- Patient information materials cover their healthcare rights.
- Patients and workforce feedback on the application of the Charter.

Useful resources

Australian Commission on Safety and Quality in Health Care: Australian Charter of Healthcare Rights

Australian Commission on Safety and Quality in Health Care: Your healthcare rights – Key contacts

Action 2.02 Informed consent

The imaging provider:

a. Ensures its informed consent processes comply with legislation and guidelines

b. Ensures financial consent is transparent and completed before the imaging service occurs.

c. Has processes to identify the patient's capacity to make decisions about their health care and uses a substitute decision-maker if a patient cannot make decisions for themselves

d. Has mechanisms for patients and their carers to consent to collecting, storing and distributing personal data and records for purposes other than direct care

Reflective questions

How is compliance with consent processes monitored?

How is a patient's capacity to make decisions about their care assessed?

Is the consent process appropriate for the risk of the imaging procedure?

Does the consent process inform the patient about the potential collection, storage, and distribution of personal data and records for purposes other than direct care?

Suggested strategies

- Have informed consent processes that align with guidelines and legislative requirements.
- Ensure consent processes consider a patient's preferences, inform patients on the imaging service risks, clinical benefits, alternatives to imaging, and fees
- Document informed consent.
- Provide the workforce with training on informed consent.
- Audit compliance with informed consent processes and fix non-compliance.

Examples of evidence

- Informed consent processes.
- Written consent forms and verbal consent records.
- Informed financial consent forms.
- Assessors' observation of imaging practitioners obtaining informed consent.
- Informed consent training materials and participation records.
- Informed consent audit results and communications with the workforce about the results.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: Informed consent.

Australian Commission on Safety and Quality in Health Care: Fact sheets for clinicians. Informed consent in health care

Australian Medical Association: Informed Financial Consent – A collaboration between doctors and patients, 2020

Australasian Sonographers Association: Intimate Examination Consent and Chaperones

Clinical Excellence Queensland. Guide to informed decision making in Health Care

Royal Australian and New Zealand College of Radiologists: Medical imaging informed consent guidelines

International

General Medical Council (United Kingdom): Intimate examinations and chaperones

Royal College of Radiologists (United Kingdom): Standards for patient consent particular to radiology

UK Society of Radiographers (United Kingdom): Obtaining consent: a clinical guideline for the diagnostic imaging and radiotherapy workforce

Action 2.03 Shared decision-making

The imaging provider supports imaging practitioners to provide patients centred care and actively involve patients in their own care.

Reflective questions

How are patients involved in their care?

How is the workforce supported in providing person-centred care?

Suggested strategies

- Have processes that involve patients in planning, communication and informed decision-making.
- Create an environment where patients confidently asking questions and imaging practitioners respond positively to patient needs.
- Provide workforce training on shared decision-making.
- Assess patients for risks of harm and discuss with patients at risk what their imaging service options are.
- Implement ways to support patients to self-manage their health care.
- Obtain patient feedback on person-centred care and take action to improve.

Examples of evidence

- Shared informed decision-making processes.
- Assessor observations at accreditation assessment of interactions between patients and imaging practitioners.
- Patient feedback
- Patient healthcare records with recorded discussions.
- Training documents on shared decision-making and participation records.
- Actions taken to improve patient experiences and involvement in decision-making.

Useful resources

Australian Commission on Safety and Quality in Health Care: Shared decision making

Australasian Society for Ultrasound in Medicine: Parent-centred communication in obstetric ultrasound

Standard 2 Criterion 2 Health literacy

Imaging providers communicate with patients and consumers in a way that supports person-centred care and effective partnerships.

Consumer outcome

Patients are given the information they need in a way they can understand to support them in making decisions about their imaging service.

Health literacy

Action 2.04 Communication that supports person-centred care

The imaging provider supports the workforce to tailor their communication with patients and their carers to meet the patient's needs and preferences.

Reflective questions

When, what and how is information about imaging services communicated to patients?

How is the workforce supported to meet the individual information needs of patients?

Suggested strategies

- Have patient communication processes that support open and effective patient communications on their imaging services.
- Have a process for identifying and selecting consumer information materials and resources that fit the community's diversity.
- Have a plain language process and provide accessible and easy-to-understand patient information in a format that meets their needs.
- Provide the workforce communications training.
- Obtain patient feedback on the imaging practice's communications and take action to improve.

Examples of evidence

- Communication processes.
- Information materials and resources.
- Access to translating services.
- Assessor observations at accreditation assessment that the workforce and patients have access to imaging services information.
- Assessor observations at accreditation assessment of interactions between patients and the workforce.
- Communication training materials and participation records.
- Actions taken to improve communication with patients.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: Health literacy

Australian Commission on Safety and Quality in Health Care: Health Literacy - Taking action to improve safety and quality

Australian Commission on Safety and Quality in Health Care: National Statement on Health Literacy

Australian Commission on Safety and Quality in Health Care: Supportive resources on health literacy

Australian Institute of Health and Welfare: Health Literacy

Centre for Cultural, Ethnicity & Health, Victoria: Resources in Health literacy

South Australian Health: Engaging with Consumers, Carers and the Community. Guide and Resources

International

Agency for Healthcare Research and Quality (USA): Health literacy Universal Precautions Toolkit

Action 2.05 Accessing imaging practice and service information

The imaging provider makes information available to patients regarding:

a. The modalities and imaging services provided

b. The location(s), opening hours, booking appointments and access to the imaging practice

c. Restrictions to patient access

d. Their estimated service costs and out-of-pocket costs

e. Their imaging service, preparation for the imaging service before attending the practice, post-imaging follow-up and aftercare

f. Access to their images and reports

Reflective questions

What imaging practice and services information is available to patients and consumers??

How do patients know if there are restrictions to access?

Who do consumers contact when the imaging practice is closed or an imaging service is unavailable?

Is information on imaging service costs and out-of-pocket costs readily available?

When and how is the patient informed about the imaging service they are to receive?

What post-procedure follow-up and aftercare information is available to patients?

What information is available on how and when patients can access their results?

Suggested strategies

- Have accessible information on the imaging services available, opening hours, who can and how to access the imaging practice (including public transport and parking), booking an appointment, estimated costs and alternative imaging practices when the imaging practice is closed.
- Obtain patient and workforce feedback on practice information and its accessibility and take action to improve.
- Have processes to ensure patients receive specific imaging service information.
- Inform patients of payment plan options
- Have accessible documented patient and requester information on pre-examination management, preparation requirements, post-imaging service follow-up and aftercare.
- Obtain feedback from patients, requesters and imaging practitioners on specific imaging service information and take actions to improve.

Examples of evidence

- Imaging practice information.

- Website.
- Appointment booking system.
- Actions taken to improve the imaging practice information and its accessibility.
- Imaging service information processes.
- Pre-examination management, preparation requirements and post-procedure follow-up and aftercare information.
- Assessor observations at accreditation assessment of the imaging practitioner discussing the imaging service and aftercare with the patient.
- Actions taken to improve the imaging service information.

Resources

Australian Medical Association. Informed Financial Consent. A collaboration between doctors and patients

Royal Australian and New Zealand College of Radiologists. Inside radiology

HealthDirect: Get health information and advice

HealthDirect: Medical Imaging Service Finder

Standard 3. Clinical Safety Standard

Imaging providers implement clinical safety systems and processes to maximise safe, high-quality care and minimise safety risks from imaging services.

Consumer Outcome

The imaging practice's patients receive safe high-quality care

Intention of this standard

This standard intends to identify and mitigate common clinical safety risks in imaging services.

Explanatory notes

The Clinical Safety Standard provides a framework for imaging providers to address and mitigate risks to safety and quality commonly encountered in imaging services.

This standard requires the workforce to use the safety and quality systems and processes developed from implementing the Clinical Governance and Partnering with Consumer Standards to implement policies and procedures, manage risks, identify training requirements and apply continuous quality improvement to clinical safety. Thereby ensuring a consistent approach to managing safety and quality in the imaging service.

As the National Safety and Quality Medical Imaging Standards apply to a wide range of imaging providers, some actions may not be applicable in some service contexts. Appendix 1 provides more information on "not applicable" actions.

Standard 3 - Criteria

Standard 3 Criterion 1 Infection control

The imaging provider has a clean and hygienic imaging practice, identifies and manages patients with infection or infection risk factors and uses evidence-based processes to prevent and control infections.

Consumer outcome

The risk of patients acquiring or spreading infection is assessed and minimised.

Explanatory notes

Each year, many infections are associated with the provision of health care and affect many patients and, in some cases, consumers and workforce members. These infections:

- Cause considerable harm and may increase the risk of morbidity and mortality
- Increase the use of healthcare services
- Place greater demands on the workforce

Infection prevention and control within imaging services aims to minimise the risk of transmission of infections and the development of resistant organisms.

Infection control

Action 3.01 Clean and hygienic environment

The imaging provider has processes to:

a. Maintain a clean, safe and hygienic environment consistent with the current edition of *Guidelines for the Prevention and Control of Infection in Healthcare* and state or territory requirements

b. Evaluate and respond to infection risks

c. Clean and disinfect using products listed on the *Australian Register of Therapeutic Goods* consistent with the manufacturers' instructions for use and at recommended frequencies

d. Provide access to training on cleaning processes for routine and outbreak situations and novel infections

Reflective questions

How frequently and with what disinfectants are the facilities cleaned, for example, clinical and patient waiting areas?

How are infection risks for equipment, devices and products determined?

Is the equipment cleaned in accordance with the manufacturer's instructions?

Suggested strategies

- Have processes to maintain a clean, safe, and hygienic environment.
- Define roles, responsibilities and accountabilities for environmental cleaning and disinfection.
- Use cleaning products listed on the Australian Register of Therapeutic Goods.
- Have contracts with external cleaning providers that outline the imaging provider's cleaning and disinfection requirements.
- Provide the workforce with cleaning and disinfection training.
- Obtain feedback from patients and the workforce on the imaging practice's cleanliness and hygiene and take action to improve.
- Audit compliance with environmental cleaning processes and fix non-compliance.

Examples of evidence

- Environmental cleaning processes.
- Workforce position descriptions.
- Cleaning and disinfection schedules.
- Relevant extract of cleaning provider contracts.
- Assessor observations at accreditation assessment of cleaning and disinfection.

- Environmental cleaning and disinfection training materials and participation records.
- Environment's cleanliness and hygiene feedback.
- Audit results of cleaning and disinfection practices.
- Actions taken to improve the environment's cleanliness and hygiene.

Useful resources

Australasian Health Infrastructure Alliance: Australasian Health Facility Guidelines Part D – Infection Prevention and Control

Australian Commission on Safety and Quality in Healthcare: Environmental cleaning and infection prevention and control resources

Australian Commission on Safety and Quality in Healthcare: Infection Prevention and Control eLearning Modules – clean and safe healthcare environment

Australian Commission on Safety and Quality in Healthcare: Infection prevention and control workbook- Module 4, 2023

Australian Commission on Safety and Quality in Healthcare and National Health and Medical Research Council: Australian Guidelines for the prevention and control of infection in Healthcare

Australasian Health Infrastructure Alliance: Australian Health Facility Guidelines Part D – Infection Prevention and Control

Therapeutic Goods Administration: Australian Register of Therapeutic Goods

Action 3.02 Standard and transmission-based infection prevention and control precautions

The imaging provider has infection prevention and control processes that:

a. Apply standard and transmission-based precautions consistent with the current edition of the *Australian Guidelines for the Prevention and Control of Infection in Healthcare*

b. Comply with jurisdictional laws, requirements, and policies, including work health and safety laws

c. Are consistent with the National Hand Hygiene Initiative (NHHI)

d. Support the workforce and patients by promoting and practising hand and respiratory hygiene and cough etiquette

e. Use and manage invasive medical devices consistently with the current edition of the *Australian Guidelines for the Prevention and Control of Infection in Healthcare*

Reflective questions

Are standard and transmission-based precautions consistent with the Australian Guidelines for the Prevention and Control of Infection in Healthcare and jurisdictional laws and policies applied?

Is hand hygiene routinely practised, and is it consistent with the NHHI?

How are hand and respiratory hygiene and cough etiquette practised?

How are key messages regarding hand and respiratory hygiene and cough etiquette promoted to the workforce and patients?

When are invasive medical devices used?

How is the use of invasive medical devices monitored to ensure compliance with the Australian Guidelines for the Prevention and Control of Infection in Healthcare?

Suggested strategies

- Have processes for standard and transmission-based precautions, hand and respiratory hygiene, cough etiquette and invasive medical devices that align with jurisdictional laws, requirements, policies and guidelines.
- Assess risks associated with healthcare-associated infection and using and managing invasive medical devices and identify strategies to mitigate the risks.
- Have sterile stock management processes.
- Provide the workforce with accessible, appropriate equipment, supplies and products to work safely and minimise the transmission of infections.
- Provide hand hygiene products and dedicated hand washing basins.
- Identify the invasive medical devices, the associated imaging services and the imaging practitioners using them.

- Have processes for introducing, using, managing and removing invasive medical devices, which includes escalation pathways to handle difficult device insertions.
- Document the use of an invasive medical device, including the time frame and reasons for insertion, management and removal of invasive medical devices in the patient's healthcare record.
- Have processes for procurement, storage, transport, disposal, reuse, fault management and recall of invasive medical devices.
- Have signage, alert systems, information and resources to raise awareness and encourage the use of standard and transmission-based precautions, hand and respiratory hygiene and cough etiquette.
- Orientate and train the workforce on standard and transmission-based precautions, hand and respiratory hygiene, cough etiquette and using invasive medical devices.
- Assess imaging practitioners' competence using invasive medical devices, provide feedback and address gaps.
- Audit compliance with the standard and transmission-based precautions, hand hygiene and the use of medical devices processes and fix non-compliance. Communicate audit outcomes to the workforce.

Examples of evidence

- Standard and transmission-based precaution, sterile stock management, hand and respiratory hygiene, cough etiquette and invasive medical device processes.
- Invasive medical devices and infection control risks and mitigation strategies.
- Assessor observations at accreditation assessment of:
    - promotional material, signage and other communications on standard and transmission-based precautions, hand and respiratory hygiene, and cough etiquette
    - hand hygiene products and dedicated hand washing basins
    - the workforce applying standard and transmission-based precautions, hand and respiratory hygiene, cough etiquette practices and using invasive medical devices
    - workforce promotion of hand and respiratory hygiene and cough etiquette with patients.
- Infection prevention and control, hand and respiratory hygiene, cough etiquette and invasive medical devices orientation and training materials, and participation records.
- Assessments of competence of imaging practitioners' use of invasive medical devices.
- Standard and transmission-based precautions, hand and respiratory hygiene, cough etiquette and invasive medical devices audit results, and communication of results to the workforce.
- Actions taken to improve compliance with standard and transmission-based precautions, hand and respiratory hygiene, cough etiquette and the use of invasive medical devices.

Useful resources

National

Australian Commission on Safety and Quality in Healthcare and National Health and Medical Research Council: Australian Guidelines for the prevention and control of infection in Healthcare

Australian Commission on Safety and Quality in Healthcare and National Health and Medical Research Council: Healthcare-Associated Infections. Information for patients, visitors and carers

Australian Commission on Safety and Quality in Health Care: Break the Chain of Infection Poster.

Australian Commission on Safety and Quality in Healthcare: Hand hygiene factsheet for children and carers

Australian Commission on Safety and Quality in Healthcare: Hand hygiene factsheet for patients and carers

Australian Commission on Safety and Quality in Healthcare: Infection Prevention and Control eLearning Modules: Principles of infection prevention and control course

Australian Commission on Safety and Quality in Healthcare: Infection prevention and control workbook- Module 1

Australian Commission on Safety and Quality in Healthcare: Materials to support improved hand hygiene in Australia – NHHI

Australian Commission on Safety and Quality in Healthcare: National Hand Hygiene Initiative

Australian Commission on Safety and Quality in Healthcare: What is hand hygiene?

Australian and New Zealand College of Anaesthetists: Guide in infection control in anaesthesia

Australasian Sonographers Association Clinical Statement: Infection prevention and control

Australasian Sonographers Association Clinical Statement: The safe use and storage of ultrasound gel

International

UK Health Security Agency Guidance (United Kingdom): Good infection prevention practice: using ultrasound gel, 2022

Action 3.03 Workforce infection and immunisation

The imaging provider has infection prevention and control processes for managing transmissible infections in the workforce that:

a. Are consistent with the state or territory work health and safety regulations and the *Australian Guidelines for the Prevention and Control of Infection in Healthcare*

b. Include a workforce immunisation program consistent with the *Australian Immunisation Handbook* and jurisdictional requirements for vaccine-preventable diseases

c. Align with state and territory public health requirements for workforce screening and exclusion periods

d. Promote the non-attendance or remote attendance of the workforce and, in situations where it is not possible, minimise transmission risks

e. Plan for and manage ongoing imaging service provision during outbreaks or events where there is an increased risk of infection transmission

Reflective questions

Are workforce infection prevention and management processes consistent with state or territory work health and safety regulations and the Australian Guidelines for the Prevention and Control of Infection in Healthcare?

Is the workforce immunisation program consistent with the national immunisation guidelines and state or territory requirements?

What are the recommended and required immunisations for the workforce?

How is workforce immunisation verified?

How are risks managed for workforce members who do not follow immunisation guidelines?

How are staff encouraged only to attend work if they are well?

How are imaging services provided when workforce numbers decrease due to an infection?

Suggested strategies

- Have workforce infection prevention and management processes and an immunisation program.
- Assess workforce infection prevention and immunisation risks and identify strategies to mitigate the risks.
- Have outbreak management processes that address workforce monitoring, investigation and management.
- Define the circumstances when the workforce will not attend the imaging practice, whether they can work via remote attendance and how the imaging provider will facilitate this.
- Define if and plan how imaging services will continue when there is an increased risk of infection transmission events and during outbreaks.

- Define employer and employee responsibilities for managing occupational and patient risks for vaccine-preventable infections.
- Communicate with the workforce about immunisation requirements, facilitate vaccine-preventable diseases immunisation and audit workforce compliance with immunisation program.
- Provide the workforce with preventing and managing infection exposure training.

Examples of evidence

- Workforce infection prevention, management and outbreak processes, and immunisation program.
- Workforce infection and immunisation risks and mitigation strategies.
- Plans for maintaining imaging service when workforce infection events and breakouts occur.
- Workforce infection training materials and participation records.
- Employer and employee responsibilities for managing vaccine-preventable infections.
- Workforce communications on immunisation requirements.
- Mitigation strategies to reduce the transmission risks when staff attend work with a transmissible infection.
- Workforce immunisation schedule and record and compliance audit results.
- Actions taken to improve workforce immunisation.

Useful resources

Australian Commission on Safety and Quality in Healthcare and National Health and Medical Research Council: Australian Guidelines for the prevention and control of infection in Healthcare: Section 4.2 Staff Health and Safety

Australian Commission on Safety and Quality in Healthcare: Infection Prevention and Control eLearning Modules – health workforce screening and immunisation for vaccine preventable diseases

Australian Commission on Safety and Quality in Healthcare: Infection Prevention and Control eLearning Modules: Preventing and managing occupational exposure

Australian Commission on Safety and Quality in Healthcare: Infection prevention and control workbook- Module 7, 2023

Australian Commission on Safety and Quality in Health Care: NSQHS Standards Workforce Immunisation Risk Matrix.

Australian Government Department of Health and Aged Care: Australian Immunisation Handbook

Australian Government Department of Health and Aged Care: Communicable Diseases Network Australia – Series of National Guidelines

Australian Government Department of Health and Aged Care: Local state and territory health departments

Action 3.04 Aseptic technique

The imaging provider has aseptic technique processes to:

a. Identify imaging services where the aseptic technique applies

b. Monitor compliance with the aseptic technique policies

c. Provide training to address gaps in aseptic technique competencies

Reflective questions

What imaging services use an aseptic technique? Who performs these imaging services?

How is the workforce supported in competently practising aseptic technique?

Is training on aseptic technique provided?

Suggested strategies

- Identify the imaging services requiring an aseptic technique and which imaging practitioners perform the technique.
- Have aseptic technique management processes.
- Communicate aseptic technique processes to imaging practitioners.
- Assess imaging practitioners' aseptic technique competence, provide feedback and address gaps.
- Provide the imaging practitioners with aseptic technique training.
- Complete audits on the application of aseptic technique, identify where it is not applied appropriately and address gaps.
- Consider technological advances to improve the aseptic technique.

Examples of evidence

- List of imaging services requiring aseptic technique.
- Aseptic technique processes.
- Communications to imaging practitioners on aseptic technique.
- Imaging practitioners' aseptic technique competence assessments.
- Aseptic technique training materials and participation records.
- Assessor observations at accreditation assessment of imaging practitioners' aseptic technique practice and sterile stock.
- Aseptic technique audits results and workforce communications on the results.
- Actions taken to improve aseptic technique.

Useful resources

Australasian College for Infection Prevention and Control: Aseptic Technique Resources

Australian Commission on Safety and Quality in Healthcare: NSQHS Standards Implementation Guide for Action 3.11 Aseptic Technique

Australian Commission on Safety and Quality in Healthcare: Principles for aseptic technique: Information for healthcare workers

Australian Commission on Safety and Quality in Healthcare and National Health and Medical Research Council: Australian Guidelines for the prevention and control of infection in Healthcare: Section 3.1.6 Aseptic Technique

Action 3.05 Reprocessing of reusable equipment and devices

The imaging provider using reusable equipment and devices has processes:

a. For reprocessing that is consistent with national or international standards and manufacturers' guidelines

b. To identify and trace the patient, imaging service and reusable critical and semi-critical equipment and devices used

c. To plan and manage reprocessing requirements and additional controls for emerging infections

Reflective questions

What critical and semi-critical reusable equipment and devices are used by the imaging provider that require reprocessing?

Does reprocessing reusable equipment and devices comply with national standards, guidelines and manufacturers' instructions?

How is the use of critical and semi-critical reusable equipment and devices recorded?

How is reprocessed equipment transported and stored?

What mechanism exists to identify, communicate and recall patients at risk of acquiring an infection because of breaches in infection protocols involving reusable instruments and devices?

Suggested strategies

- Specify the critical and semi-critical reusable equipment and devices requiring reprocessing and what reprocessing procedure based on the manufacturers' guidelines and relevant reprocessing standards.
- Have processes for reprocessing reusable equipment that comply with national standards, guidelines and manufacturers' instructions.
- Have processes that address equipment transportation, storage and maintenance.
- Have processes for linking reusable equipment to the patient and steriliser cycle batch and collecting the information so it is retrievable.
- When using external service providers, ensure their reprocessing requirements comply with relevant national and international standards. In contractual agreements include performance measures and reporting of reprocessing failures.
- Assess risks associated with tracing and reprocessing reusable equipment and identify strategies to mitigate the risks.
- Use disinfection products listed on the Australian Register of Therapeutic Goods.
- Provide the workforce training on tracing and reprocessing of reusable equipment.
- Audit compliance with the tracing and reprocessing of equipment processes and fix non-compliance.

Examples of evidence

- A list of imaging services using reusable equipment.
- Tracing and reprocessing reusable equipment processes.
- Records of reusable equipment, their manufacturer's disinfection instructions and sterilisation records.
- Patient tracing and reusable equipment tracking system.
- Equipment reprocessing services provider contracts.
- Tracing and reprocessing of reusable equipment risk and mitigation strategies.
- A list of disinfection products.
- Tracing and reprocessing reusable equipment training materials and participation records.
- Tracing and reprocessing equipment audit results.
- Actions taken to improve the tracing and reprocessing of equipment.

Useful resources

National

Australian Commission on Safety and Quality in Healthcare and National Health and Medical Research Council: Australian Guidelines for the prevention and control of infection in Healthcare: Section 3.1.4 Reprocessing of reusable medical devices

Australasian Society for ultrasound in Medicine: Guidelines for Reprocessing Ultrasound Transducers

Australasian Sonographers Association Clinical Statement: Disinfection of intracavity and semi critical ultrasound transducers, 2022

Standards Australia: AS/NZS 4187:2014 Reprocessing of reusable medical devices in health service organisations

Standards Australia: AS/NZS 4815:2006 Office-based health care facilities — Reprocessing of reusable medical and surgical instruments and equipment, and maintenance of the associated environment

International

Society of Diagnostic Medical Sonography (USA): Guidelines for infection prevention and control in Sonography: Reprocessing the Ultrasound Transducer

World Federation for Hospital Sterilisation Sciences: Guidelines

Standard 3 Criterion 2 Medication, contrast media and radiopharmaceutical safety

Imaging providers have processes and equipment to support the safe, appropriate, and effective use of medicines, contrast media and radiopharmaceuticals to reduce the risks of adverse events and improve the safety and quality of their use.

Consumer outcome

The risks to patients from medicines, contrast media and radiopharmaceuticals are assessed and minimised. Patients understand the risks and are supported to make decisions about their use. Processes are in place to deal with adverse outcomes.

Explanatory notes

Imaging providers commonly use medicines, contrast media and radiopharmaceuticals; they can contribute to improved diagnosis and treatment. However, medicines, contrast media, and radiopharmaceuticals are associated with adverse events, and they should be prescribed, stored, handled, and administered appropriately to prevent avoidable errors and patient harm. Adverse events, both avoidable and unavoidable can impact health outcomes for consumers and healthcare costs. Standardising and systemising processes can reduce medicine, contrast media and radiopharmaceutical incidents

Medication, contrast media and radiopharmaceutical

Action 3.06 Safe management and administration of medicines, contrast media and radiopharmaceuticals

The imaging provider administering medicines, contrast media, or radiopharmaceuticals has processes to ensure:

a. Compliance with manufacturer's instructions, jurisdictional legislation and requirements for the prescription, safe and secure storage, handling, supply, administration and disposal of medicines, contrast media, or radiopharmaceuticals

b. Imaging practitioners administer blood and blood products with radiopharmaceuticals in accordance with evidence-based guidelines.

c. Imaging practitioners:

   I. Provide patients with information on medicines, contrast media or radiopharmaceuticals and their risks

   II. Document a medication history on presentation and check for contraindications to medicines, contrast media or radiopharmaceuticals

   III. Use the information to minimise risks in planning an imaging service and providing patient aftercare

   IV. Are competent to administer medicine, contrast media or radiopharmaceuticals, actively prepare and monitor for medication effects, and respond to and escalate care to severe reactions, including anaphylaxis

d. Adverse events are reported to the Therapeutic Goods Administration (TGA) and other regulators

Reflective questions

Are medicines, contrast media, or radiopharmaceuticals prescription, storage, handling, supply, administration, and disposal processes safe and consistent with legislation, other requirements, and the manufacturer's instructions?

How are high-risk medicines, contrast media, or radiopharmaceuticals identified?

How do you ensure that only imaging practitioners with the relevant authority can prescribe, mix or administer medicines, contrast media, or radiopharmaceuticals?

How do you ensure that only medicines, contrast media and radiopharmaceuticals prepared and ready for use are stored and administered?

How are risks associated with the safe and secure handling and storage of medicines, contrast media, or radiopharmaceuticals managed and reported?

Is a medication history being taken and recorded in the patient's healthcare record?

How are patients at risk of medicines, contrast or radiopharmaceutical problems or have experienced previous adverse reactions (including allergies) identified, recorded and managed?

How are patients and carers provided with medicines, contrast or radiopharmaceutical

information and supported to raise concerns?

What actions are enacted when a new or unidentified adverse reaction is suspected?

How are adverse reactions to medicines, contrast media or radiopharmaceuticals reported to the TGA?

Suggested strategies

- Comply with legislation, regulations and requirements associated with medicines, contrast media, or radiopharmaceuticals.
- Establish imaging practitioners' requisite authority, qualifications, and credentials to administer medicines.
- Have processes to:
    - Safely store, handle, supply, administer, and dispose of medicines, contrast media, or radiopharmaceuticals and blood.
    - Ensure only preprepared medicines and contrast media are stored and administered.
    - Refer to pharmacy services for assistance if any 'mixing of chemicals' is required pre-procedure.
    - Determine the dose of contrast media administered, who administered it and under whose authorisation.
    - Take and record medication history in the patient's healthcare record.
    - Modify imaging service protocols for patients with previous adverse medicine reactions.
    - Identify, manage and escalate adverse reactions.
    - Capture adverse reactions in the patient's healthcare record and incident management system, inform the requestor and report all new suspected adverse drug reactions to the TGA.
- Assess the storage, handling, supply, administration and disposal of high-risk medicines, contrast media, or radiopharmaceuticals and identify strategies to mitigate the risks.
- Provide infrastructure and equipment for the safe and secure storage, handling, supply, administration and disposal of medicines, contrast media, or radiopharmaceuticals.
- Monitor the administration and expiry of medicines, contrast media, or radiopharmaceuticals.
- Have accessible, up-to-date, evidence-based medicines, contrast media, or radiopharmaceutical information and decision support tools.
- Have easy-to-understand and accessible medicines-related patient resources that help patients make informed choices and provide consent.
- Have a standard form and structured interview process to document a patient's current list of medicines, allergies and history of adverse drug reactions.
- Have alerts so the workforce is aware a patient has presented who has had previous adverse reactions to medicines, contrast media or radiopharmaceuticals.

- Ensure ready access to equipment, medicines and appropriately trained staff to manage adverse reactions.
- Provide the workforce with an orientation and training on:
    - Safe and secure storage, handling, supply, administration and disposal of medicines, contrast media, or radiopharmaceuticals.
    - medication history, health care record documentation and management of patients' previous adverse reactions to medicines, contrast media, or radiopharmaceuticals
- Assess imaging practitioners' competence, provide feedback and address gaps to:
    - Undertake and record a medication history (including allergies) and manage a patient's previous adverse reactions competence.
    - Administer medicines, contrast media and radiopharmaceuticals, identify and manage adverse reactions, and provide resuscitation and life support.
- Audit, identify and address non-compliance with:
    - The storage, handling, supply, administration and disposal of medicines, contrast media, or radiopharmaceuticals.
    - Taking and recording a medication history (including any adverse reactions).

Examples of evidence

- Imaging practitioners' responsibilities, accountabilities, and scope of clinical practice for medication management.
- Medicine, contrast media, or radiopharmaceutical prescription, storage, handling, supply, administration, disposal risks and mitigation strategies, processes, registers and expiration logs, and usage pattern reports.
- Infrastructure and equipment for the storage, handling, supply, administration, and disposal of medicine, contrast media, or radiopharmaceuticals.
- Information for patients on administration of medicines.
- Accessible medicine, contrast media, or radiopharmaceutical information and decision-support tools.
- Medication history forms, interview and informed consent process.
- Assessor observation of imaging practitioners administering medicines, contrast media or radiopharmaceuticals safely and appropriately
- Process for management of patients with previous adverse reactions.
- List of high-risk medicines, contrast media, or radiopharmaceuticals.
- Drug administration protocols for point of care anaphylaxis.
- Equipment, medicines, and accessible trained clinicians to manage adverse drug reactions.
- Patients' healthcare and TGA records.

- Workforce orientation and training materials, participation records and assessment for the safe management and administration of medicines, contrast media and radiopharmaceuticals.
- Medication history, health care record documentation, patient management of previous adverse reactions, imaging practitioner competence assessments, training materials, and participation records.
- Audits results, communications on the results and actions taken to improve management and administration of medicines, contrast media and radiopharmaceuticals.
- Medication incident data and the actions taken to improve outcomes.

Useful resources

National

Australian Commission on Safety and Quality in Health Care: High-risk medicines

Australian Commission on Safety and Quality in Healthcare: National Standard for User applied labelling for Injectable Medicines, Fluids and Lines

Australian Commission on Safety and Quality in Healthcare: Principles for the safe selection and storage of medicines. Guidance on the principles and survey tool

Australian Commission on Safety and Quality in Healthcare: Recommendations for terminology, abbreviations and symbols used in medicines documentation.

Australian and New Zealand College of Anaesthesia: Guideline for the safe management and use of medications in anaesthesia

Australian and New Zealand Committee on Resuscitation: Guideline 9.2.7 - First Aid Management of Anaphylaxis

Australian Prescriber: Anaphylaxis: emergency management for health professionals

Australian Radiation Protection and Nuclear Safety Agency: Code of Radiation Protection in Medical Exposure

Australian Society of Clinical immunology and allergy: Guidelines. Acute Management of Anaphylaxis

National Prescribing Service MedicineWise: Prescribing Competencies Framework

NSW Clinical Excellence Commission: Best Possible Medication History

NSW Clinical Excellence Commission: Best Possible Medication History Interview Guide

Royal Australian and New Zealand College of Radiologists: Contrast Guideline: Anaphylaxis Point of Care Tool

Royal Australian and New Zealand College of Radiologists: Gadolinium containing MRI contrast agents guidelines

Royal Australian and New Zealand College of Radiologists: Iodinated Contrast Media Guidelines

Royal Australian and New Zealand College of Radiologists. Inside radiology. Consumer and Health Professional information: Gadolinium Contrast Medium

Royal Australian and New Zealand College of Radiologists Inside radiology. Consumer and Health Professional information: Iodine Containing contrast medium

Therapeutic Goods Administration: Contacts for State/Territory medicines & poisons regulation units

Therapeutic Goods Administration: Consumer Medicine Information

Therapeutic Goods Administration: Reporting an adverse event to a medicine or vaccine

Therapeutic Goods Administration: The Poisons Standard

Action 3.07 Peripheral intravenous catheters

The imaging provider administering medicines, contrast media, or radiopharmaceuticals has processes to ensure imaging practitioners:

a. Are competent to insert, maintain and remove peripheral intravenous catheters

b. Provide information to patients on the risks of extravasation

c. Identify, mitigate risks of, respond to and manage extravasation

d. Document extravasation in the patient healthcare record and inform requesters

Reflective questions

How does the imaging provider ensure the competency of imaging practitioners inserting, maintaining and removing peripheral intravenous catheters (PIVC)?

Is the latest evidence for extravasation management applied?

How are patients informed about extravasation?

How are vascular access devices and extravasation issues recorded in a patient's healthcare record and reported to the requester and the incident management system?

Suggested strategies

- Establish imaging practitioners' requisite authority, qualifications, and credentials to insert, maintain and remove PIVCs.
- Have accessible, relevant, up-to-date, evidence-based information on PIVCs and extravasation.
- Have processes for the insertion, maintenance and removal of PIVCs.
- Have easy-to-understand and accessible extravasation patient resources and document provision in patient health care records.
- Have processes for the identification, management, and escalation of extravasation.
- Ensure ready access to equipment and medications to manage extravasation.
- Assess imaging practitioners' competence to insert, maintain and remove PIVCs and manage extravasation. Address any gaps identified.
- Provide imaging practitioners with training on PIVCs and extravasation.
- Capture extravasation events in the patient's healthcare record, inform the requester and add to the incident management system.

Examples of evidence

- Imaging practitioners' responsibilities, accountabilities, and scope of clinical practice for PIVCs and extravasation.
- Evidence-based PIVCs and extravasation information.
- PIVC and extravasation processes.

- Assessor observations at accreditation assessment of imaging practitioners using PIVCs safely and appropriately.
- Patient extravasation resources.
- Imaging practitioners' PIVC and extravasation competence assessments.
- PIVC and extravasation training materials and participation records.
- PIVC and extravasation incident data and the actions taken to improve outcomes.

Useful resources

Australian Commission of Safety and Quality in Healthcare: Management of Peripheral Intravenous Catheters Clinical Care Standard

NSW Agency for Clinical Innovation: Clinical Practice Guide – Central venous access devices

Action 3.08 Sedation and anaesthesia

The imaging provider sedating or anaesthetising patients has processes to:

a. Ensure only qualified healthcare practitioners sedate and anaesthetise patients

b. Ensure facilities and equipment are available to treat, monitor and resuscitate patients

c. Implement current *evidence-based* guidelines for sedation and anaesthetics relevant to their service

Reflective questions

How are patients assessed before the administration of sedation or anaesthesia?

What equipment and processes are in place to treat, monitor and resuscitate a sedated or anaesthetised patient?

Suggested strategies

- Assess risks associated with patient sedation, including facilities and equipment and identify strategies to mitigate the risks.
- Have easy-to-understand and accessible sedation and anaesthesia patient resources and document the provision to patients in the healthcare record and consent.
- Assess imaging practitioners' competence to sedate and anaesthetise patients.
- Provide imaging practitioners with training on patient sedation and anaesthetisation.
- Audit compliance with the processes and fix non-compliance.
- Capture sedation and anaesthetisation events in the patient's healthcare record, inform the requester and add to the incident management system.

Examples of evidence

- Documents describing imaging practitioners' responsibilities, accountabilities, and scope of clinical practice for sedation and anaesthetisation.
- Policy documents for patient sedation and anaesthetisation processes.
- Patient sedation and anaesthesia resources.
- Imaging practitioners' sedation and anaesthetisation competence assessments.
- Sedation and anaesthetisation training materials and participation records.
- Sedation and anaesthetisation process compliance audit reports.
- Sedation and anaesthetisation incident data and the actions taken to improve.

Useful resources

National

Australian and New Zealand College of Anaesthetists: PG03(A) Guideline for management of major regional analgesia

Australian and New Zealand College of Anaesthetists: PG09G – Guideline on procedural sedation

Australian and New Zealand College of Anaesthetists: PO18(A) Guidelines for monitoring during anaesthesia

Australian and New Zealand College of Anaesthetists: PG37A – Guideline for health practitioners administering local anaesthesia

Australian and New Zealand College of Anaesthetists: PS55(A)BP Position Statement on the minimum facilities for safe administration of anaesthesia in operating suites and other anaesthetising locations. Background Paper

Royal Australian and New Zealand College of Radiologists: Use of sedation and Anaesthesia in paediatric imaging. Position statement

The Cardiac Society of Australia and New Zealand: Position Statement on Sedation for Cardiovascular Procedures

International

Royal College of Radiologists (United Kingdom): Sedation, analgesia and anaesthesia in the radiology department

Standard 3 Criterion 3 Recognising and responding to acute deterioration

Imaging providers have systems to recognise and respond to a patient's acute health deterioration and appropriately escalate health care.

Consumer outcome

If a patient’s health deteriorates, they receive the health care they need promptly.

Explanatory Notes

Observable physiological and clinical abnormalities often precede serious adverse events. Early identification of deterioration may improve outcomes and lessen the intervention required to stabilise patients whose condition deteriorates.

Recognising and responding to acute deterioration action

Action 3.10 Recognising acute deterioration or distress and escalating care

The imaging provider has processes to support imaging practitioners to:

a. Promptly respond to a patient whose physical, mental or cognitive state acutely deteriorates

b. Maintain the skills required to manage episodes of acute deterioration

c. Have ready access to equipment and medicines to support life until emergency assistance arrives

d. Notify a patient's requesting or referring healthcare providers, other healthcare providers and carers or family when a patient's health care is escalated

Reflective questions

What systems are in place to recognise and detect deterioration?

What processes are in place to call for emergency assistance when a patient experiences physical, mental, or cognitive health deterioration?

Suggested strategies

- Have processes for responding to acute deterioration and escalating care.
- Assess risks associated with recognising and managing a patient who acutely deteriorates, including facilities and equipment and identify strategies to mitigate the risks.
- Assess imaging practitioners' competence to recognise and manage the deteriorating patient.
- Provide the workforce with training on recognising and managing the deteriorating patient, including emergency interventions for acute deterioration and specialist training for responders.
- Have a process to ensure rapid access to advanced life support for acutely deteriorating patients.
- Assess the effectiveness and performance of recognition and response systems and take action to improve them.
- Audit compliance with the processes and fix non-compliance.
- Capture deteriorating patient events in the patient's healthcare record, inform the requester and add to the incident management system.
- Communicate audit results, incidents and quality improvement activities to the governing body and the workforce.
- Have protocols to manage deteriorating patients when the environment cannot cater for the patients.

Examples of evidence

- Patient deterioration and advanced life support access processes and policies.
- Patient deterioration risks and mitigation strategies.
- Access to an AED (Automated External Defibrillator).
- Workforce patient deterioration competence assessments.
- Patient deterioration and life support training materials and participation records.
- Patient deterioration compliance audit reports and quality improvements.
- Patient deterioration incident data and the actions taken to improve.
- Communications to governing body.

Useful resources

Australian Commission on Safety and Quality in Health Care: Communicating acute deterioration and escalating care

Australian and New Zealand Committee on Resuscitation: Guidelines

Australian Commission on Safety and Quality in Health Care: Escalation mapping tools

Australian Commission on Safety and Quality in Health Care: National consensus statement: essential elements for recognising and responding to acute physiological deterioration

Australian Commission on Safety and Quality in Health Care: NSQHS Standards User Guide for health service organisations providing care for patients with cognitive impairment or at risk of delirium

Australian Commission on Safety and Quality in Health Care: NSQHS Standards User Guide for health services providing care for people with mental health issues

Standard 3 Criterion 4 Communicating for safety

Communicating for safety aims to ensure timely, purpose-driven, effective communication and documentation to support continuous, coordinated and safe patient care.

Consumer outcome

Imaging and healthcare providers communicate to ensure their patients receive the required healthcare.

Explanatory notes

Communication is a key safety and quality issue in health care. The actions relating to communicating for safety recognise the importance of effective communication and its role in supporting continuous, coordinated and safe patient care.

Communication is inherent to patient care, and informal communications will occur throughout healthcare delivery. These actions do not apply to all communications. Instead, the intention is to ensure that systems and processes are in place at crucial times when effective communication is critical to patient safety, such as communicating urgent results.

Communicating for safety actions

Action 3.11 Communication to support referrers and requesters

The imaging provider supports and collaborates with requesters, referrers and a patient's other healthcare providers by:

a. Using best practice, structured communication processes at transitions of care

b. Communicating information that is timely, current, comprehensive and accurate

c. Advising requesters about modality and imaging service options, imaging service preparation and aftercare, risks and patient management

d. Providing requesters with the information requirements for imaging requests and the appropriateness of imaging services

Reflective questions

What processes support communication and collaboration with requesters, referrers, and other care providers?

How is your workforce supported in developing and maintaining effective communication skills?

What information do you require from requesters to safely perform an imaging service, and how do you inform requesters of these information requirements?

What information to you provide to requesters on what imaging services are appropriate and when?

Suggested strategies

- Have processes and tools to support and encourage effective structured communication.
- Have easy-to-understand and accessible resources for requesters and referrers that provide information about the imaging practice, imaging modalities and services, imaging service preparation and aftercare and risks.
- Have decision support tools to assist requesters in selecting the correct imaging modality and service.
- Have processes to review and update resources for requesters and referrers.
- Provide the workforce with communications training and to use the organisation's communication systems effectively.
- Obtain feedback from requesters and referrers on the resources, communications with the imaging practice and decision support tools and take action to improve.

Examples of evidence

- Communications and resource processes.
- Requester and referrer resources.
- Decision support tools.

- Assessor observations at accreditation assessment of communications between the imaging practice and requesters.
- Documented communication with requesters.
- Communication training materials and participation records.
- Requester and referrer resources, communications feedback, and actions taken to improve them.

Useful resources

National

Australian Commission on safety and Quality in Healthcare. Communicating for safety resource portal

Australian Radiation Protection and Nuclear Safety Agency: Radiation Protection of the Patient

Royal Australian and New Zealand College of Radiologists. Inside radiology

International

Royal Australian and New Zealand College of Radiologists and Royal College of Radiologists (United Kingdom): iRefer Guidelines

Action 3.12 Request assessment

The imaging provider has processes to assess imaging service requests that:

a. Ensure the request complies with the *Health Insurance Act 1973* legislation

b. Ensure the request is from an authorised requester

c. Ensure there is an identifiable clinical need

d. Determine the clinical objective and appropriateness of the request

e. Outline how to manage a request with insufficient or incorrect information

Reflective questions

How are requests from imaging services assessed to ensure they are clinically justified and correctly authorised?

How does the imaging provider manage requests that are not authorised?

Suggested strategies

- Assess risks associated with the request system and mitigate the risks.
- Have processes to justify, authorise and prioritise requests or referrals, including instructions for when to seek a request or referral review.
- Have minimum information requirements for requests, ensure the requirements comply with the legislation and verify that the requests contain the information.
- Have processes to manage requests which do not meet minimum information requirements.
- Have a process to check patients' past imaging history, reduce unwarranted requests and actively manage patients with a recent similar imaging service to reduce overservicing.
- Provide orientation and training to the workforce on the request system.
- Have an authorised imaging practitioner readily available to review requests.
- Identify and manage non-conforming requests and referrals, including substitution and additional imaging services and cancellation of patients and requested imaging services.
- Have quality measures to evaluate the request system and take action to improve it.
- Audit requests to check compliance with the processes and fix non-compliance.

Examples of evidence

- Request system risks and mitigation strategies.
- Request form or referral minimum requirements.
- Request process and system orientation and training materials, and participation records.

- Authorised and unauthorised request forms and the actions taken to manage unauthorised requests.
- Patient healthcare records noting substitute and additional imaging services completed and patient informed consent and reports stating the imaging service changed.
- Request process data and action taken to improve it.
- Request compliance audit reports and quality improvements.

Useful resources

National

Royal Australian and New Zealand College of Radiologists: Education modules for appropriate imaging referrals

Royal Australian and New Zealand College of Radiologists and Royal College of Radiologists(United Kingdom): iRefer Guidelines

International

Royal College of Radiologists (United Kingdom): Vetting(triaging) and cancellation of inappropriate radiology requests

Standard 3 Criterion 5 Delivering quality imaging services

The imaging provider has explicit processes to identify the patient, inform the patient about the nature of the imaging service, perform the correct imaging service, acquire optimal quality images and interpret them correctly, and effectively communicate the results.

Consumer outcome

Patients understand the preparations and what is involved in their imaging service and have the correct imaging service performed. Patients imaging services result in high-quality images that are interpreted correctly and promptly reported in clear, actionable reports

Explanatory notes

Safety and quality gaps are failures to provide adequate health care or to achieve expected outcomes. The actions relating to delivering quality imaging services aim to address these gaps.

Delivering quality imaging service actions

Action 3.13 Patient identification and imaging service matching

The imaging provider:

a. Defines and approves at least three unique patient identifiers

b. Uses the approved identifiers for registration, during imaging services and when providing images and reports

c. Correctly matches the patient to their imaging service

d. Correctly matches the anatomical site and side of the imaging service

e. Labels all images and reports so they can be traced to the patient

f. Documents and takes prompt corrective action when a patient identification, imaging service, site or side discrepancy is identified.

Reflective questions

How is the patient's identity confirmed?

What processes ensure correct patient identification on all images and records?

How does the imaging provider ensure the correct imaging service is performed on the correct patient at the correct site and side?

What happens when the patient's identity or imaging service cannot be confirmed?

What are the high-risk situations where patient identification and imaging service matching are critical to patient safety?

Suggested strategies

- Agree to a list of patient identifiers.
- Have processes that check a patient's information is accurate, complete and up to date before being documented in the RIS, PACS and patient healthcare record.
- Have patient identification and imaging service matching processes that define when confirmation of identification and matching will occur and what action occurs when patient identity and matching is not confirmed.
- Have a "time-out" protocol involving imaging practitioners and patients that confirms the correct patient, correct procedure, correct site and side, and confirms allergy status.
- Have checklists for complex imaging services.
- Provide the workforce training on patient identification and imaging service matching.
- Have quality measures to evaluate patient identification and imaging service matching and take action to improve it.
- Audit patient identifications and image service matching to check compliance with the processes and fix non-compliance.

Examples of evidence

- Patient identification and matching processes and list of patient identifiers.
- Time-out protocols.
- Checklists for matching a patient to their intended imaging service.
- Assessor observations at accreditation assessment of the workforce undertaking patient identification and service matching.
- Patient healthcare records containing identifiers.
- Patient identification and service matching training materials and workforce participation records.
- Patient identification and imaging service matching data risks and actions taken to improve them.
- Patient identification and image service matching compliance audit reports and quality improvements.

Useful resources

National

Australian Bureau of Statistics. Standards for Sex, Gender, Variations of Sex Characteristics and Sexual Orientation Variables

Australian Commission on safety and Quality in Healthcare. Communicating for safety resource portal

Australian Commission on safety and Quality in Healthcare: Fact Sheet: Ensuring correct patient, correct site and correct procedure in Radiology, Nuclear Medicine, Radiation Therapy and Oral Surgery

Australian Commission on safety and Quality in Healthcare: Fact Sheet. Patient identification and procedure matching

Australian Commission on safety and Quality in Healthcare: Protocol. Ensuring Correct Patient, Correct Site, Correct Procedure in CT and MRI

Australian Commission on safety and Quality in Healthcare: Protocol. Ensuring Correct Patient, Correct Site, Correct Procedure in General Radiology and Ultrasound

Australian Commission on safety and Quality in Healthcare: Protocol. Ensuring Correct Patient, Correct Site, Correct Procedure in Interventional Radiology

Australian Commission on safety and Quality in Healthcare: Protocol. Ensuring Correct Patient, Correct Site, Correct Procedure in Nuclear Medicine

Queensland Health: Patient identification and procedure matching in diagnostic imaging

International

Institute of Physics and Engineering in Medicine, College of Radiographers and Royal College of Radiologists (United Kingdom): Patient Identification. Guidance and advice

Action 3.14 Planning an imaging service

The imaging provider has processes for planning an imaging service, which includes:

a. Observing a patient on presentation, during and after the imaging service

b. Taking a history, and where required, a clinical examination

c. Assessing the patient's health status, medical information and risk of harm

d. Reviewing previous images and reports, where available

e. Considering the clinical benefits and potential for harm of the imaging service and the use of alternative imaging services

f. Documenting the assessment outcomes in the healthcare record

Reflective questions

What processes ensure the collection of a patient's best possible clinical history?

How does the imaging practice identify, assess, and address patient conditions and risks?

How are patients engaged in this process and the decision-making?

How does the imaging provider determine whether alternative imaging services are clinically more appropriate?

Suggested strategies

- Use information about conditions and risks encountered in medical imaging, feedback from incidents and quality improvement activities to determine what patient observations and questions will occur.
- Assess the risks, conditions and clinical requirements, talk with the patient and use the information to shape imaging service delivery.
- Have processes to check a patient's health status and take the patient's clinical history.
- Have processes to record clinical history not contained or varying from the request form's patient status in the patient's healthcare record.
- Check clinical history differences with the requester or referrer when relevant to the imaging service.
- Have an authorised imaging practitioner available to discuss imaging services.
- Work with imaging practitioners to integrate the identification and assessment of conditions, issues and risks into their workflow.
- Support imaging practitioners to document their findings.
- Have quality measures for history taking and identification of patient conditions and risks of harm and take action to improve it.
- Audit history taking, identification of risks and documenting assessment outcomes to check compliance with the processes and fix non-compliance.

Examples of evidence

- Clinical history and request processes and systems.
- Imaging service planning processes.
- Assessor observations at accreditation assessment of imaging practitioners taking histories, identifying risks, assessing the findings and shaping the imaging service..
- Patient healthcare records with medical histories, risks and assessment outcomes.
- Planning an imaging service training materials and workforce participation records.
- Risk identification and assessment outcomes audit reports and quality improvements.

Action 3.15 Minimising patient harm

Imaging providers delivering imaging services to patients at risk of harm have processes consistent with best-practice guidelines for:

a. Fall prevention

b. Patient transfers

c. Patient positioning

Reflective questions

Are fall prevention, patient transfers, and positioning processes consistent with best-practice guidelines?

Suggested strategies

- Have processes to prevent falls, transfer patients safely and position patients comfortably and safely.
- Provide access to manual handling training for the workforce.
- Assess risks associated with falls, patient transfers and positioning, and identify strategies to mitigate the risks.
- Have signage to raise awareness about falls, patient transfers, positioning, harm minimisation and alert systems when a fall or poor positioning occurs.
- During the clinical assessment, inform patients at risk of harm and how to communicate their concerns.

Examples of evidence

- Fall prevention, patient transfer and positioning processes and mitigation strategies.
- Manual handling training materials and workforce participation records.
- Assessor observation of the workforce, informing patients how best to communicate their concerns.
- A trip hazard-free clinical area that reduces the risk of patient falls.
- Falls prevention promotional material.
- Assessor observation of transfer board or hover mat patient transfers.
- Equipment to support patients, prevent falls and minimise harm.
- Patient transfer equipment that supports current and local OHS legislation and guidelines.
- Falls, patient transfer and poor positioning incident data.

Useful resources

Australian Commission on Safety and Quality in Health Care: Preventing Falls and Harm from Falls in Older People: Best practice guidelines for Australian hospitals, 2009

NSW Clinical Excellence Commission: Hospital Falls Prevention

Action 3.16 Changing the imaging service

The imaging provider complies with legislation regarding substitution of and additional imaging services and has processes to:

a. Remove, substitute, or add an imaging service

b. Contact the requester before removing, substituting or adding an imaging service

c. Seek informed consent from patients before substituting or adding an imaging service

d. Record the imaging service changes, the reasons and patient consent in the healthcare record

Reflective questions

What processes are there for changing an imaging service?

How are requesters informed of imaging service changes?

How is a patient's informed consent obtained when an imaging service is removed, substituted or added?

Suggested strategies

- Have processes for managing the removal, substitution and addition of imaging services, including speaking with requesters about and obtaining a patient's informed consent for the altered imaging services and documenting them in the patient's health care record.
- Where an imaging practice seeks Medicare rebates, ensure processes align with section 16B (10A) of the *Health Insurance Act 1973* when substituting services.
- Have criteria to determine whether an imaging service is appropriate.
- Have an authorised imaging practitioner readily available to review requests and remove, substitute or add an imaging service.
- Audit how imaging services are changed to check compliance with processes and fix non-compliance.

Examples of evidence

- Processes for obtaining informed consent for changing the imaging services provided.
- Appropriateness criteria for imaging services.
- List of authorised imaging practitioners.
- Assessor observations at accreditation assessment of authorised imaging practitioners discussing changes to their patient's imaging service.
- Compliance audit reports and quality improvements for changing an imaging service.

Action 3.17 Image interpretation and reporting

The imaging provider has processes to ensure imaging practitioners reporting on images:

a. Interpret and report images in an environment with optimal viewing conditions using monitors and display software that meet evidence-based guidelines

b. Have access to the patient's clinical history, diagnostic quality images, image practitioner findings, and, where available prior images and reports

c. Are integrated into the image quality, interpretation and report quality assurance processes

Reflective questions

Do the monitors' specifications meet evidence-based guidelines?

How does the imaging practice ensure an appropriate environment and equipment for interpreting and reporting imaging services?

What image quality, interpretation and report quality assurance processes are there?

How is the accuracy of image interpretation and reporting monitored?

Suggested strategies

- Have a calibration program that schedules and records calibrations of each monitor.
- Have quality assurance testing of monitors and image display characteristics.
- Have processes to maintain an appropriate viewing environment that considers reflections and ambient light.
- Provide training in the causes of diagnostic errors and strategies to improve diagnostic performance.
- Where previous results are available and relevant, reports include comparisons with prior imaging services.
- Have strategies to improve interpretation and reporting, including diagnostic time outs, second opinions and double reporting.
- Have processes to seek feedback on imaging interpretation and reporting that encourage requesters, patients and colleagues to report diagnostic errors.
- Develop a regular peer review process to monitor the interpretation of imaging studies for each modality provided.
- Have multidisciplinary imaging meetings to analyse cases, record outcomes, provide feedback and manage discrepancies that can result in patient harm.
- Encourage practitioners who routinely report on imaging services to participate in morbidity and mortality meetings.
- Have quality measures to evaluate diagnostic performance and take action to improve it.
- Audit compliance with the processes and strategies and fix non-compliance.

- Capture diagnostic errors in the patient's healthcare record, inform the requester or referrer and add to the incident management system.
- Communicate quality measures, audit results, incidents and quality improvement activities to the governing body and reporting imaging practitioners.

Examples of evidence

- Appropriate viewing environment, second opinion, diagnosis feedback and peer review processes.
- Interpretation and reporting improvement strategies.
- Patient reports containing comparisons with previous imaging services.
- Applied strategies to improve timeliness and accuracy of interpretation and reporting.
- Imaging practitioner peer review, imaging meetings, and morbidity and mortality meeting participation records.
- Multidisciplinary imaging meetings records.
- Diagnostic performance data and action taken to improve it.
- Process compliance reports and quality improvements.
- Diagnostic error incidents and the actions taken to improve.
- Communications to the governing body.

Useful resources

NSW Clinical Excellence Commission: Diagnostic Error. Learning resource for clinicians

Royal College of Radiologists (United Kingdom): Standards for radiology events and learning meetings

Royal College of Radiologists (United Kingdom): Standards for the interpretation and reporting of imaging investigations

Society of Radiographers (United Kingdom): Preliminary Clinical Evaluation and Clinical Reporting by Radiographers" Policy and Practice Guidance

Action 3.18 Communicating results

The imaging provider has processes to:

a. Promptly provide structured, accurate, clear, concise, and verified written reports to requesters, referrers, patients and other healthcare providers

b. Document the reporting imaging practitioner's professional status on the report

c. Provide lossless compressed images and image data to the requester and other healthcare providers in a digital format that enables subsequent analysis and secondary diagnosis

d. Ensure an imaging practitioner is available to explain the results and provide follow-up advice to requesters and other healthcare providers

e. Inform patients how and when to access their images and results

f. Ensure the availability and readability of images and reports for the required retention period

Reflective questions

Do the reports use standardised reporting?

How do the processes ensure the reports address the clinical question, are accurate and concise and contain the professional details of the imaging practitioners?

How do the processes ensure that only verified reports are released?

How are preliminary and final reports reconciled when there are differences?

What processes support prompt communication of reports?

Are images readily available in the DICOM format?

Are the images fit for purpose?

Is image compression aligned to the compression algorithm in the DICOM standard?

Are diagnostic quality images provided in an accessible digital format, such as an online portal?

Does the image data include image size and image adjustments?

Are clinically appropriate cross-sectional images supplied with pilot views?

Suggested strategies

- Use standard templates, formats and terminology from recognised bodies to provide actionable results.
- Have processes for formatting, reviewing, authorising and transmitting reports so that authorised, legible and accurate reports are received by those authorised to have them.
- Have 'safety net' strategies to reduce the time to interpret and report imaging services, including outsourcing and preliminary reporting.

- Have a consultation service for requesters and other authorised users to explain results and provide follow-up advice from authorised imaging practitioners.
- Advise patients when and how they will receive their images and report and actions to take if they are not received.
- Audit compliance with the communicating result process and fix any non-compliance.
- Have quality measures for the timeliness and accuracy of results and take action to improve them.
- Capture issues with communicating results in the incident management system.
- Have an online portal to make images available to patients, requesters and other relevant health practitioners.
- Have processes to ensure images provided to requesters are of diagnostic quality, meet the DICOM standard, have lossless compression and include metadata and imaging data.
- Have emergency access to images for health practitioners directly involved in the patient's care.

Examples of evidence

- Report templates and formats.
- Documents defining standard terminology.
- Image and result communication processes.
- "Safety net" strategies.
- Communications between requesters and the imaging practice.
- Assessor observations at accreditation assessment of imaging practitioners informing patients about timing and report access.
- Patient healthcare records documenting communication of critical results.
- Compliance reports on the image and results communication process and quality improvements.
- Image and results communication incidents and the actions taken to improve.
- Assessor observations at accreditation assessment of digital images and online portal.

Useful resources

National

Royal Australian and New Zealand College of Radiologists: Clinical Radiology Written Report Guidelines

Royal Australian and New Zealand College of Radiologists: Guideline for the Use of Image Compression in Diagnostic Imaging

Royal Australian and New Zealand College of Radiologists. Structured Reporting Guidelines

Standards Australia: ATS 5816-2013: Digital images for diagnostic and other clinical purposes: Presentation, communication, display and manipulation

International

American College of Radiologists (USA). ACR Practice Parameter for Communication of Diagnostic Imaging Findings

Canadian Association of Radiologists (Canada): Position Statement on Structured Reporting

European Society of Radiology (Europe): ESR paper on structured reporting in radiology

National Electrical Manufacturers Association (USA): Digital Imaging and Communication in Medicine Standard

Royal College of Radiologists (United Kingdom): Standards for the communication of radiological reports and fail-safe alert notification

Action 3.19 Reporting critical results

The imaging provider has processes that:

a. Establish and maintain definitions of ‘critical’, ‘urgent’ and ‘significant unexpected’ imaging findings

b. Require imaging practitioners completing imaging services to promptly communicate ‘critical’, ‘urgent’ and ‘significant unexpected’ findings to imaging practitioners who interpret and report images

c. Promptly alert requesters of ‘critical’, ‘urgent’ and ‘significant unexpected’ imaging findings and seek an acknowledgment of the report. Inform patients or their carers of ‘critical’, ‘urgent’ or ‘significant unexpected’ findings and escalate care when there is no acknowledgement of the report from the requestor or when the situation warrants urgent action

Reflective questions

How are ‘critical’, ‘urgent’, and ‘significant unexpected’ results defined, highlighted in imaging reports and provided to the requester?

Is there a process that describes the expected timeframe and method for communicating critical results to requesters?

How is appropriate patient care ensured when the requester cannot be alerted?

Suggested strategies

- Have a process for promptly reporting critical results to the requester and patient.
- Communicate to the workforce the importance of relaying critical findings and the actions required.
- Assess risks associated with reporting critical results and mitigate the risks.
- Have quality measures for critical results reporting and take action to improve them.
- Audit compliance with processes and fix non-compliance.
- Capture issues by reporting critical findings in the incident management system.
- Communicate quality measures, audit results, incidents and quality improvement activities to the governing body.

Examples of evidence

- Process for reporting critical results.
- Work communications related to reporting critical results.
- Patient healthcare records documenting communication of critical results.
- Risks and mitigation strategies for reporting critical results.
- Reporting critical results data and action taken to improve it.
- Process for compliance reports and quality improvements.

- Reporting critical results incidents and the actions taken to improve.
- Communications to the governing body.

Useful resources

National

Royal Australian and New Zealand College of Radiologists: Clinical Radiology Unexpected Notifications Written Report Guidelines

International

Canadian Association of Radiologists (Canada): Position Statement on Structured Reporting

European Society of Radiology (Europe): ESR paper on structured reporting in radiology

Royal College of Radiologists (United Kingdom): Standards for the communication of radiological reports and fail-safe alert notification

Action 3.20 Interventional radiology

The imaging provider providing interventional radiology services, ensures:

a. Patients receive documented coordinated care, which includes:

   i. Pre-treatment assessments that adhere to best practice guidelines and evidence

   ii. Treatment plans that are discussed with patients and address patients' needs

   iii. Post-procedure care

   iv. Providing patient outcomes to their referrers or requesters and copied recipients.

b. Imaging practitioners promptly identify and manage treatment complications and inform patients

c. Imaging practitioners participate in peer review processes

Reflective questions

What processes are in place to ensure a quality framework supports interventional radiology?

What data is collected to assess the effectiveness of the facilities, treatment, and imaging practitioner competence?

Suggested strategies

- Assess risks associated with the specific interventional radiological procedure and identify strategies to mitigate the risks.
- The risks associated with ablative and therapeutic devices and radiation-induced tissue reactions are defined, assessed, and managed.
- Have pre-treatment assessments that allow time for a patient to review and discuss the treatment plan with the patient.
- Assess the patient's risk from sedation and pain relief.
- Have a process to assess patient comfort, provide pain management, and ensure clinical follow-up occurs in relevant clinical time frame.
- Provide patients receiving a substantial radiation skin dose, a radiation dose assessment and follow-up.
- Have peer review meetings to discuss morbidity and mortality and take action to improve patient outcome.
- Audit complications.

Examples of evidence

- Interventional radiology risks and mitigation strategies.
- Mitigation strategies proportional to the level of risk

- Patient healthcare records containing pre-treatment assessments, treatment plans, patient monitoring, radiation dose assessments and follow-up plans.
- Interventional radiology protocols aligned with best practice guidelines.
- Workforce awareness of follow-up processes.
- Record of peer review meetings, morbidity and mortality cases, and actions to improve patient outcomes.
- Record of cases discussed at morbidity and mortality meetings.
- Audit results on interventional radiology complications and actions taken to reduce them.

Useful resources

Choosing Wisely, Australia: Recommendations

Royal Australian and New Zealand College of Radiologists: Standards of Practice for interventional radiology and interventional Neuroradiology

Standard 4. Technical Safety Standard

Imaging providers implement technical safety systems and processes to maximise the imaging service's appropriateness, effectiveness, safety and quality.

Consumer Outcome

Patient imaging services use safe and well-maintained imaging equipment that provides diagnostic quality images.

Intention of this standard

This standard aims to ensure that the equipment used for an imaging service is safe for imaging patients and delivering clinical quality images.

Explanatory notes

The Technical Safety Standard provides a framework for imaging providers to address and mitigate safety and quality risks associated with imaging equipment.

This standard requires the workforce to use the safety and quality systems and processes outlined in the Clinical Governance Standard. The workforce will implement policies and procedures, manage risks, identify training requirements and apply continuous quality improvement to technical safety to ensure a consistent approach to managing safety and quality in the imaging practice.

As the National Safety and Quality Medical Imaging Standards apply to a wide range of imaging providers, there may be actions that are not applicable in some service contexts. More information on "not applicable" action is available in Appendix 1.

Standard 4 Criteria

Standard 4 Criterion 1 Imaging equipment effectiveness

Imaging providers ensure that all imaging equipment, devices, and information technology systems are appropriate for use and technical efficiency is maintained.

Consumer outcome

The imaging equipment and devices used for a patient's imaging service are effective and maintained.

Explanatory notes

The imaging provider has all the equipment required to perform the imaging services and the expertise to manage patients before, during and after their imaging service.

Equipment includes imaging and peripheral equipment, such as mobile equipment, equipment used for injections, sedation, monitoring and anaesthesia, reference phantoms, consumables, computers, clinical review displays, diagnostic workstations and software.

Upon installation and during routine use, the equipment achieves the required performance and complies with the specifications relevant to the imaging services.

The imaging practice has an integrated system that manages the images and patient information. The system stores, retrieves, and transmits patient information and images.

Imaging equipment effectiveness actions

Action 4.01 Equipment replacement

The imaging provider has a replacement program for equipment and devices that:

a. Maintains dedicated equipment for the imaging services being performed

b. Complies with regulations and best practice guidelines

c. Ensures relevant equipment, medical devices and medical imaging decision support software are on the Australian Register of Therapeutic Goods

d. Includes acceptance testing, installation and commissioning of imaging equipment

e. Involves a multidisciplinary imaging practitioner team in selecting, testing and commissioning of imaging equipment and devices

f. Actively manages the risk of aging equipment

Reflective questions

Is the equipment appropriate for the imaging services provided?

How does the procurement process consider the equipment appropriateness for patients, including children and those with disabilities?

What processes ensure equipment is within its life age, not technologically obsolete, and replacements occur on time?

Suggested strategies

- Have equipment and devices approved by the Therapeutic Goods Administration (TGA
- Involve a multidisciplinary imaging practitioner team in selecting, testing and commissioning imaging equipment and devices.
- Have equipment and devices that fit patients' diverse needs and have a lower environmental impact than alternatives.
- Assess the risks associated with equipment and implement risk mitigation strategies.
- Have a plan, schedule and processes for equipment replacement and procurement (including consumables) that consider life age based on capital sensitivity guidelines.
- Use multidisciplinary experts, including imaging practitioners, clinical engineers, medical physicists and radiation safety experts, to evaluate and select equipment.
- Uniquely identify each equipment item and ensure they are on the Location Specific Practice Number (LSPN) Register with Services Australia before using them for Medicare-eligible services.
- Register radiation-producing equipment with a jurisdictional radiation regulator.
- Audit equipment procurement and replacement process compliance and fix non-compliance.

Examples of evidence

- Equipment inventory containing equipment approved by TGA (contains ARTG ID).
- Services Australia, Location Specific Practice Number (LSPN) Equipment List.
- Radiation regulator equipment list
- Risks and mitigation strategies for equipment replacement and procurement.
- Plans, schedules, and processes for equipment replacement and procurement.
- Acceptance testing report.
- Equipment replacement and procurement process quality improvements.

Useful resources

National

Department of Health and Aged Care: Medicare Benefits Schedule. Note IN.0.5. Capital Sensitivity Diagnostic Imaging Equipment

Royal College of Radiologists (United Kingdom): Imaging equipment from procurement to installation to commissioning. The role of the medical physicist

Therapeutic Goods Administration: About Australian recall actions

Therapeutic Goods Administration: Australian Register of Therapeutic Goods

Therapeutic Goods Administration: Report a medical device incident – for consumers and health professionals

International

The World Bank: Procurement Guidance. Medical Diagnostic Imaging Equipment. Section 6

World Health Organisation: Medical device technical series. Procurement process resource guide

Action 4.02 Equipment maintenance

The imaging provider has processes to ensure its equipment and devices are safe, fit for its intended purpose and performing optimally by:

a. Maintaining a current and complete equipment inventory

b. Conducting manufacturers' recommended services in accordance with the manufacturers' guidelines, planned maintenance and repair

c. Engaging qualified equipment service personnel trained to service imaging equipment and devices

d. Performance testing equipment after maintenance and repair

e. Reporting adverse events and side effects to the manufacturer and Therapeutic Goods Administration

Reflective questions

What equipment and device records does the imaging practice maintain?

Who is responsible for overseeing equipment maintenance, and how is regular equipment maintenance ensured?

Do qualified and reputable service providers conduct equipment and device maintenance?

How are adverse events arising from equipment and devices reported?

Is there a downtime process and recovery plan for equipment, radiology information systems, and picture archiving and communication systems?

Which equipment and devices require performance testing following maintenance or repair?

Suggested strategies

- Have records for the life of each equipment item, including manufacturer details and instructions, purchase date, current location, condition when received, performance records, maintenance completed, repairs and replacement date.
- Have a preventive maintenance program that schedules and records maintenance and the qualifications of the service providers who completed the maintenance.
- Have scientific expertise, advice and support for equipment and device maintenance.
- Have a process to manage defective equipment and devices, including contingency plans for breakdown, removal from service, the repair process, acceptance criteria for return to service, management of safety warnings, alerts and recalls, and reporting to the TGA.
- Have a process to safeguard equipment, devices, phantoms and consumables from adjustments or tampering.

Examples of evidence

- Maintenance and defective equipment and device processes.
- Maintenance schedule.
- Equipment and device inventory, manufacturer instructions, maintenance, and performance records.
- Service provider contracts.
- Service provider qualifications or attestation statements.
- Performance testing records post maintenance or repair.

Useful resources

National

Standards Australia: AS/NZS 3551.2012 Management programs for medical equipment

International

Medicines and Healthcare Products Regulatory Agency (United Kingdom). Managing Medical Devices. Guidance for health and social care organisations

Action 4.03 Equipment quality assurance

The imaging provider completes regular internal and external quality assurance of its imaging equipment and devices to ensure:

a. Compliance with professional and regulatory quality assurance codes and guidance

b. Routine calibration and evaluation of the operation and performance of imaging equipment and devices are conducted

c. Diagnostic quality images are produced

d. Timely corrective action when the equipment and monitors are operating outside the specified tolerance parameters

Reflective questions

What processes ensure routine calibration of imaging equipment?

How is the operation and performance of imaging equipment routinely evaluated?

What external quality assurance programs does the imaging provider participate in?

Suggested strategies

- Follow the manufacturer's instructions and apply equipment quality assurance guidelines.
- Have an equipment quality assurance program, including equipment calibration, and verification of equipment consistency and optimisation of equipment performance.
- Participate in external quality assessment programs, monitor the results and make improvements.
- Have a mechanism to assess modality acceptability when not part of an external quality assessment program.
- Assess compliance with the equipment quality assurance program and fix non-compliance.

Examples of evidence

- Equipment quality assurance program with references to relevant guidelines.
- Equipment calibration, consistency, and performance records and corrective actions.
- Participation records and corrective actions for external quality assurance programs.
- Modality acceptability reports and corrective actions.
- Compliance certificates.
- Protocols to address out-of-tolerance results.
- Equipment quality assurance compliance reports and corrective actions

Useful resources

MRI

Royal Australian and New Zealand College of Radiologists: MRI Safety Guidelines

American Association of Physicists in Medicine (USA): Acceptance testing of Magnetic Resonance Imaging systems

American College of Radiology (USA): Magnetic Resonance Imaging Quality Control Manual

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Physics Performance Monitoring of Magnetic Resonance Imaging Equipment

PET/CT

Australian and New Zealand Society of Nuclear Medicine Inc.: Requirements for PET Accreditation (Instrumentation and Radiation Safety)

National Electrical Manufacturers Association (NEMA) Standard Publication NEMA NU 2-2018: Performance Measurements of Positron Emission Tomographs (PET)

American Association of Physicists in Medicine (USA): PET/CT acceptance testing and quality assurance

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Physics Performance Monitoring of PET/CT Imaging equipment

International Atomic Energy Agency: Quality Assurance for PET and PET/CT Systems

Display monitors

Standards Australia: ATS 5816-2013: Digital images for diagnostic and other clinical purposes: Presentation, communication, display and manipulation.

American Association of Physicists in Medicine (USA): Display quality assurance

European Reference Organisation for Quality Assured Breast Screening and Diagnostic Services (Netherlands). Monitor QC Test Patterns

CT

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Physics Performance Monitoring of Computed Tomography (CT) Equipment

American College of Radiology and American Association of Physicists in Medicine (USA): Performance Evaluation of Computed Tomography Systems (Report No. 233)

DEXA

Royal Australian and New Zealand College of Radiologists: BMD in Vivo Short Term Precision Testing

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Pgysics Performance Monitoring of Dual-Energy X-Ray Absorptiometry (DEXA) Equipment

Fluoroscopy

Australasian Physical and Engineering Sciences in Medicine: Recommendations for a fluoroscopic system quality assurance program (To be released soon)

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Physics Performance Monitoring of Fluoroscopy Equipment

Radiography

Australasian Physical and Engineering Sciences in Medicine: Recommendation for a technical quality control program for diagnostic X-ray Equipment

Royal Australian and New Zealand College of Radiologists: General X-ray Quality Assurance and Quality Control guidelines

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Physics Performance Monitoring of Radiographic Equipment

Ultrasound

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard fo Diagnostic Medical Physics Performance Monitoring of Real Time Ultrasound Equipment

SPECT/CT

Australian and Nuclear Zealand Society of Nuclear Medicine:. Minimum Quality Control Schedule for Gamma Cameras

American Association of Physicists in Medicine Report of AAPM Task Group 177: Acceptance Testing and Annual Physics Survey Recommendations for Gamma Camera

European Association of Nuclear Medicine: Routine quality control recommendations for nuclear medicine instrumentation

National Electrical Manufacturers Association (NEMA) Standard Publication NEMA NU 1-2023: Standard for Performance Measurements of Gamma Cameras

American College of Radiology and American Association of Physicists in Medicine (USA): Technical Standard for Diagnostic Medical Physics Performance Monitoring of SPECT-CT Imaging Equipment

International Atomic Energy Agency: Quality Assurance for SPECT Systems

Mammography

Australasian Physical and Engineering Sciences in Medicine: ACPSEM position paper. Recommendations for a digital mammography quality assurance program v4.0

Royal Australian and New Zealand College of Radiologists: Mammography Quality Assurance Program

Royal Australian and New Zealand College of Radiologists: Guidelines for Quality Control testing for Digital CR DR Mammography

International Atomic Energy Agency: Quality Assurance for Digital Mammography

Action 4.04 Magnetic resonance imaging (MRI) safety

The imaging provider delivering magnetic resonance imaging services has processes to ensure compliance with best practice guidance on MRI safety.

Reflective questions

How does the imaging provider ensure it complies with best-practice magnetic resonance imaging (MRI) safety guidance?

Suggested strategies

- Assess risks associated with MRI and mitigate the risks.
- Control access and use of magnetic fields and safeguard patients and resources.
- Delineate the five-gauss safety line around the perimeter of the magnet.
- Minimise exposure to electromagnetic fields, including radio frequencies and audible noise.
- Assess all equipment in an MRI room to ensure it is compatible with the environment.
- Provide workforce training on MRI Safety.
- Have easy-to-understand and accessible patient resources on magnetic resonance imaging and its risks, including the contraindications to a magnetic resonance imaging service.
- Have processes to complete patient, carer and workforce magnetic resonance pre-entry safety checks.
- Audit compliance with MRI safety processes and fix non-compliance.
- Dedicated MRI safety officer
- Have quality measures for MRI safety and take action to improve them.
- Capture MRI incidents in the patient's healthcare record, inform the requester and add to the incident management system.

Examples of evidence

- MRI safety risks and mitigation strategies.
- Assessor observations at accreditation assessment of signage and mechanisms to control access to magnetic fields.
- MRI safety training materials and workforce participation records.
- Patient resources on MRI and the risks.
- MRI safety processes.
- MRI safety compliance reports and quality improvements.
- MRI safety data and action taken to improve it.

- MRI safety incidents and the actions taken to improve.
- Completed MRI safety screening checklists for patients before they enter the MRI environment.

Useful resources

National

Royal Australian and New Zealand College of Radiologists: MRI Safety Guidelines

International

Medicines and Healthcare Products Regulatory Agency (United Kingdom): Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use

Action 4.05 Medical imaging decision support software

Imaging practices using medical imaging decision support software and systems to interpret imaging data or determine results have processes to:

a. Ensure the software is on the Australian Register of Therapeutic Goods

b. Comply with regulations and best practice guidelines

c. Procure software that considers the ethical issues, biases and suitability for the patient population where it will be used

d. Undertake acceptance testing and commissioning of the software

e. Ensure the software's use for image interpretation and results determination is documented and monitored to assess the impact on patient safety

f. Train imaging practitioners to use and evaluate the software

g. Evaluate the software's performance over time, determine if it is operating within performance expectations and report this to the governing body

Reflective questions

What are the benefits and the risks to the individual of implementing AI into their clinical care?

Is the software appropriate for the imaging services offered?

How does the procurement process consider the ethical issues, biases, and suitability of the imaging practice's patient population?

What processes evaluate tthe software's safety and performance is within expectations?

How are imaging practitioners trained in the use and evaluation of artificial intelligence?

What processes are in place for record keeping, audits and reporting?

How are imaging practitioners trained in the use of artificial intelligence?

Suggested strategies

- Have software approved by the Therapeutic Goods Administration (TGA)
- Assess the risks associated with the medical imaging decision support software and mitigate the risks.
- Have processes to procure, test and deploy the software, which addresses the risks associated with medical imaging decision support software.
- Understand the software's degree of autonomy and general mode of operation, including how it arrives at conclusions and the confidence level for decisions.
- Ensure the hardware, imaging parameters, and software settings align with the medical imaging decision support software.
- Provide training to imaging practitioners using or evaluating the software.

- Record the use of medical imaging decision support software in the patient's healthcare record.
- Have processes to evaluate the software at defined times after deployment, including checking its performance.
- Capture patient incidents related to the performance of medical imaging decision support software in the incident management system and act.

Examples of evidence

- Equipment inventory containing medical imaging decision support software approved by TGA (contains ARTG ID).
- Risks and mitigation strategies for medical imaging decision support software.
- Processes for the procurement, acceptance testing and commissioning of software.
- Description of the software's mode of operation and how it arrives at a conclusion.
- Patient medical records that reference the use of medical imaging decision support software.
- Medical imaging decision support software training materials and participation records.
- Evaluation reports on software performance.
- Medical imaging decision support software incident reports and actions.

Useful resources

Department of Industry, Science and Resources: Australia's AI Ethics Principles

Royal Australian and New Zealand College of Radiologists: Ethical Principles in the use of Artificial Intelligence in Medicine Version 2

Royal Australian and New Zealand College of Radiologists: Standards of Practice for Artificial Intelligence

Therapeutic Goods Administration: Australian Register of Therapeutic Goods

Therapeutic Goods Administration: Regulation of software based medical devices

Therapeutic Goods Administration: Report a medical device incident – for consumers and health professionals

Standard 4 Criterion 2 Imaging optimisation

The imaging provider optimises imaging protocols to balance benefits and risks, provide “as low as reasonably achievable” exposure and produce diagnostic quality images.

Consumer outcome

Patient images are obtained with the minimum exposure to ionising radiation needed to achieve optimum image quality.

Explanatory notes

Standardised imaging protocols support the appropriate use and delivery of high-quality imaging. Standardisation can lead to predictable and consistent delivery of best practices, reducing error and improving patient outcomes.

Imaging optimisation actions

Action 4.06 Clinical Protocols

The imaging provider has imaging protocols for its imaging services, which:

a. Describe the imaging service type and process

b. Align with evidence-based guidelines

c. Use the minimum exposure required to achieve diagnostic image quality

d. Specifically address the requirements and risks for children and young people

e. Outline the authority required to alter an imaging protocol to meet a patients' needs

Reflective questions

Are there imaging protocols for each imaging service?

How do you develop, maintain and apply imaging protocols?

How are imaging services modified for children and young, pregnant, or breastfeeding people?

Suggested strategies

- Have imaging protocol processes that address the development, agreement, application, monitoring and review of imaging protocols.
- Have protocols that:
  - Are based on professional guidelines.
  - Have the necessary information to conduct the imaging service properly.
  - Include the qualification, experience, and specialisation of the imaging practitioner.
  - Outline when and to whom an imaging practitioner should seek guidance.
  - Include the management of emergencies.
- Have modified protocols for children and young people that obtain diagnostic quality images whilst delivering the lowest radiation doses possible.
- Have accessible imaging protocols and communicate with imaging practitioners when imaging protocols are introduced and modified.
- Have a process to manage imaging services when protocols and professional guidelines are unavailable.
- Audit compliance with imaging protocols and fix non-compliance.

Examples of evidence

- Imaging protocols and processes and evidence of regular review.
- Optimised imaging protocols for children and young people.
- Imaging protocol communications.

- Assessor observations at accreditation assessment of imaging practitioners using protocols when conducting imaging services.
- Imaging protocols, compliance reports, and quality improvements.

Useful resources

National

Australian Society for Ultrasound in Medicine: Standards of Practice

International

American College of Radiology (USA): Practice Parameters and Technical Standards

Canadian Association of Radiologists (Canada): Practice guidelines

Canadian Association of Interventional Radiology (Canada): Guidelines and Standards

European Federation of Societies for Ultrasound in Medicine and Biology (Europe): Guidelines and Recommendations

Image Wisely (USA): CT Protocol Design

The Image Gently Alliance (USA): Image Gently

Standard 4 Criterion 3 Radiation safety

An imaging provider implements and monitors systems that manage the risks associated with ionising radiation.

Consumer outcome

Patient exposure to ionising radiation is as low as reasonably achievable (ALARA) while meeting their clinical needs.

Explanatory notes

In an imaging practice, the protection of patients and the workforce is key to the optimal use of ionising radiation, including the protection of pregnant or potentially pregnant persons and children. A patient's exposure to ionising radiation requires the imaging service to be justified and optimised. Hence, the radiation dose delivered is equal but does not exceed the radiation dose needed to achieve diagnostic images (ALARA principle). Controlling exposure to ionising radiation reduces the risk of adverse health outcomes.

The Commonwealth, States or Territories manage radiation protection and exposure using legislation and regulations and reference the Australian Radiation Protection and Nuclear Safety Agency's (ARPANSA) radiation codes and safety guidelines for planned medical exposures.

Radiation Safety Actions

Action 4.07 Radiation legislation and regulation

The imaging provider has processes to monitor the imaging practice's compliance with:

a. State or territory ionising radiation legislation and regulations, and acts when there is non-compliance

b. The Australian Radiation Protection and Nuclear Safety Agency's Radiation Protection Series codes of practice

Reflective questions

How are radiation protection legislation, requirements and Radiation Protection Series (RPS) codes of practice and guides met?

Suggested strategies

- Have a process that checks for changes to radiation protection legislation, regulations and guidelines, adjusts processes when required, and informs the workforce of the changes.
- Audit compliance with legislation, regulation and RPS codes of practice and fix non-compliance.
- Have processes to report non-compliance and take corrective action.

Examples of evidence

- Monitoring legislation, regulations and requirements process.
- Compliant radiation protection processes and records.
- State or territory radiation protection audit reports.
- Corrective action notices and the corrective action taken.
- Audit compliance reports and quality improvements.

Useful resources

ACT Government Health: Radiation safety

Australian Radiation Protection and Nuclear Safety Agency: Code of Practice and Safety Guide for Radiation Protection in Dentistry

Australian Radiation Protection and Nuclear Safety Agency: Code of Practice for Radiation Protection in the application of Ionising Radiation by Chiropractors

Australian Radiation Protection and Nuclear Safety Agency: Code for Radiation Protection in Planned Exposure Situations

Australian Radiation Protection and Nuclear Safety Agency: Code for Radiation Protection in Medical Exposure

Australian Radiation Protection and Nuclear Safety Agency: Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology

Australian Radiation Protection and Nuclear Safety Agency: Safety Guide for Radiation

Protection in Nuclear Medicine

EPA South Australia: Radiation licensing

Government of Western Australia: Radiological Council

Northern Territory: Radiation Protection

NSW EPA: Radiation

Queensland Health: Radiation licensing and regulation

Tasmanian Department of Health: Radiation protection

Victorian Department of Health: Radiation

Action 4.08 Radiation protection

The imaging provider:

a. Protects patients, carers, the workforce and the community from ionising radiation

b. Has processes to inform patients, carers and requesters of the radiation risk of imaging services

c. Has processes to identify and protect children, pregnant patients and other patients with increased sensitivities from the effects of ionising radiation

Reflective questions

What processes manage the risks associated with ionising radiation?

How does the imaging provider inform patients of the radiation risks?

How is the workforce's exposure to radiation monitored?

Suggested strategies

- Have a designated radiation safety officer and a radiation management plan.
- Assess risks associated with patient and workforce radiation exposure and mitigate the risks.
- Have processes to identify, classify and monitor the environments in the imaging practice with ionising radiation.
- Have a process to manage people with greater sensitivity to radiation.
- Control access to radiation environments and radioactive materials and prevent unauthorised access.
- Have signage to identify radiation environments.
- Have easy-to-understand and accessible patient resources on radiation exposure and its risks, including the contraindications to ionising radiation imaging services.
- Have a process that ensures ionising radiation pre-imaging service safety checks are complete and patients are informed of post-imaging service aftercare.
- Maintain records of patient radiation exposures so that these can be retrieved if required by a medical radiation physicist for effective dose estimation.
- Provide the workforce with radiation protection training.
- Capture radiation incidents in the patient's healthcare record, inform the patient, requester and workforce, add to the incident management system and report it to the state or territory regulator as required.

Examples of evidence

- Radiation safety officer.

- Radiation safety management plan.
- Radiation exposure risks and mitigation strategies.
- Radiation exposures are recorded, monitored with appropriate devices, and acted upon when more than the prescribed annual limit for the workforce.
- Policies and processes for management of radiation exposure.
- Assessor observations at accreditation assessment of radiation signage and shielding.
- Patient, carer and requester radiation resources.
- Assessor observations at accreditation assessment of imaging practitioners discussing radiation risks, completing radiation safety checks, and informing patients of post-imaging service aftercare.
- Radiation protection training materials and workforce participation records.
- Radiation incidents, the actions taken and state or territory regulator submission records.

Useful resources

Australian Radiation Protection and Nuclear Safety Agency: Australian National Radiation Dose Register

Australian Radiation Protection and Nuclear Safety Agency: Occupational Radiation Exposure for medical facilities

Australian Radiation Protection and Nuclear Safety Agency: Radiation Protection of the Patient

Australian Radiation Protection and Nuclear Safety Agency: Radiation safety training courses

Action 4.09 Radiation optimisation

The imaging provider has processes to:

a. Optimise radiation doses administered to patients in line with evidence-based practice

b. Routinely audit ionising radiation use, including the radiation doses administered to patients

c. Compare annually their administered radiation doses with diagnostic reference levels published by the Australian Radiation Protection and Nuclear Safety Agency

Reflective questions

What processes ensure adherence to the principles of optimisation and “as low as reasonably achievable” when administering radiation?

Suggested strategies

- Have standard imaging protocols for each imaging service, which optimise the service, so the radiation doses are as low as reasonably achievable to obtain diagnostic-quality images.
- Have a process to authorise variation from the imaging protocol’s radiation dose, including processes to account for patient body habitus.
- Have the radiation dose settings, dose metrics, and exposure/technique charts for commonly used imaging protocols.
- Compare facility reference levels (median or typical dose) with Australian Diagnostic Reference Levels (DRLs) and, where exceeded, review to determine if the radiation dose protocol is optimised.
- Have a mechanism to assess facility reference levels when Australian DRLs are unavailable by comparing equipment within and across imaging practices.

Examples of evidence

- Facility and diagnostic reference levels comparisons and actions taken to optimise radiation doses.
- Facility reference level comparisons.

Useful resources

Australian Radiation Protection and Nuclear Safety Agency: National Diagnostic Reference Level Service

European Association of Nuclear Medicine (Europe): Radiation protection and dose optimisation

The Image Gently Alliance: (USA): Image Gently

Appendix 1: Not applicable actions

Not all actions within the National Safety and Quality Medical Imaging Standards will apply to every imaging provider. Table 1 outlines the circumstances where it may not be necessary to implement individual actions of the National Safety and Quality Medical Imaging Standards.

Imaging providers implementing the National Safety and Quality Medical Imaging Standards consider their circumstances in determining whether the actions in the table below are not applicable. It is not intended that actions be implemented where they are not essential in the delivery of safe and high-quality care for patients or are beyond the scope of clinical practice of imaging practitioners. Large imaging providers, with multiple imaging practitioners operating from different locations and delivering different levels of health care, may find that an action is not applicable in an area of service while remaining relevant in other parts of its service. In these cases, the action is implemented in areas of the service where it is relevant but not in an area of the service where the action does not apply.

Table 1: Circumstances where actions are not applicable.

Criterion	Action Number	Circumstances where actions not applicable
Clinical Governance		
Governance	1.01	Not applicable to imaging providers accredited to the NSQHS or NSQPCH Standards
Governance	1.02	Not applicable to imaging providers accredited to the NSQHS Standards
Governance	1.03	Not applicable to imaging providers not subcontracting services
Patient safety and quality systems	1.04 to 1.09 and 1.11	Not applicable to imaging providers accredited to the NSQHS or NSQPCH Standards
Patient safety and quality systems	1.12	Not applicable to imaging providers who are not providing R-type imaging services
Clinical performance and effectiveness	1.13 to 1.14 and 1.16 to 1.17	Not applicable to imaging providers accredited to the NSQHS or NSQPCH Standards
Safe delivery of care environment	1.18 to 1.19	Not applicable to imaging providers accredited to the NSQHS or NSQPCH

Criterion	Action Number	Circumstances where actions not applicable
		Standards
Partnering with Consumers – Delivering person-centred care		
Person-centred care	2.01 to 2.03	Not applicable to imaging providers accredited to the NSQHS or NSQPCH Standards
Health Literacy	2.04	Not applicable to imaging providers accredited to the NSQHS or NSQPCH Standards
Clinical Safety		
Infection control	3.01 to 3.03	Not applicable to imaging providers accredited to the NSQHS or NSQPCH Standards
Infection control	3.02e	Not applicable to imaging providers not using invasive medical devices.
Infection control	3.04	Not applicable to imaging providers that do not undertake imaging services requiring aseptic technique
Infection control	3.05	Not applicable to imaging providers not using reusable equipment, instruments and devices.
Medication, contrast media and radiopharmaceutical safety	3.06	Not applicable to imaging providers not using medicine, contrast media or radiopharmaceuticals. Not applicable to imaging providers providing scanning ultrasound only. (Interventional ultrasound excluded)
Medication, contrast media and radiopharmaceutical safety	3.07	Not applicable to imaging providers not using peripheral intravenous catheters. Not applicable to imaging providers providing scanning ultrasound only.

Criterion	Action Number	Circumstances where actions not applicable
		(Interventional ultrasound excluded)
Medication, contrast media and radiopharmaceutical safety	3.08	Not applicable to an imaging provider with accreditation to the NSQHS Standards Not applicable to imaging providers that do not sedate or anaesthetise patients. Not applicable to imaging providers providing scanning ultrasound only. (Interventional ultrasound excluded)
Recognising and responding to acute deterioration	3.10	Not applicable to an imaging provider with accreditation to the NSQHS or NSQPCH Standards
Communicating for safety	3.11 c and d	Not applicable to imaging providers that do not accept requests.
Communicating for safety	3.12	Not applicable to imaging providers that do not accept requests. Not applicable to imaging providers that cannot alter imaging services.
Communicating for safety	3.12a	Not applicable to non MBS services
Delivering quality imaging services	3.15a	Not applicable to imaging providers accredited to the NSQHS Standards
Delivering quality imaging services	3.16 and 3.18 to 3.19	Not applicable to imaging providers that do not accept requests.
Delivering quality imaging services	3.20	Not applicable to imaging providers who do not undertake interventional radiology.
Technical Safety		

Criterion	Action Number	Circumstances where actions not applicable
Imaging equipment effectiveness	4.04	Not applicable to imaging providers who do not provide MRI services
Imaging equipment effectiveness	4.05	Not applicable to imaging providers not using medical imaging decision support software
Radiation safety	4.07 – 4.09	Not applicable to imaging providers not using ionising radiation

Glossary

Acceptance testing	Acceptance testing is a process to ensure the equipment and its performance meet manufacturer specifications and other defined criteria in the procurement specification.
Action	An action describes what outcome needs to be delivered to meet a criterion. Actions are mandatory unless deemed non-applicable to the imaging provider.
Acute deterioration	Physiological, psychological or cognitive changes that may indicate a worsening of the patient's health status.
Additional imaging service	An imaging service provided after a previous imaging, where the imaging practitioner determines an additional service is necessary based on the results.
Adverse event	An incident that results, or could have resulted, in harm to a patient or consumer. A near miss is a type of adverse event.
Algorithm	A set of rules followed by a computer for calculations and problem-solving.
Anaphylaxis	A severe form of allergic reaction that is potentially life-threatening, especially if not treated immediately. A sudden onset characterises anaphylaxis; however, the clinical presentation is variable.
Angiography	The X-ray imaging of blood vessels using contrast agents injected into the bloodstream through a catheter. The images taken are called angiograms and provide information about blood vessel abnormalities. Angiography guides procedures to treat abnormal blood vessels.
Anaesthesia	Anaesthesia is a form of sedation where the patient is unconscious and does not respond to external stimuli. The patient will require breathing assistance.
Artificial intelligence (AI)	AI is an area of computer science focused on creating machines that can perceive, synthesise, and infer information and engage in behaviour that is considered intelligent.
Aseptic technique	Aseptic technique is a set of practices aimed at minimising contamination by preventing microorganisms on hands, surfaces and equipment from being introduced to susceptible sites, thereby protecting the patient from infection during imaging services.
Audit	An audit is a systematic review of care and processes against a predetermined set of criteria.
Australian Charter of Healthcare Rights	Specifies the key rights of patients when seeking or receiving healthcare services.

Australian Open Disclosure Framework	A framework for imaging providers and practitioners to communicate openly with patients when imaging services do not go to plan.
Best practice	When the approach to care is in line with the best available evidence and is used to achieve the best possible patient outcomes, based on the consumer's needs, goals and preferences.
Best-practice guidelines	Are recommended actions developed using the best available evidence. They support imaging providers, imaging practitioners and patient decisions about appropriate imaging in specific clinical practice settings and circumstances.
Capital sensitivity	Refers to the Medicare Benefits Schedule provisions where diagnostic imaging services rendered on equipment that has exceeded its effective life age or maximum extended life age attract no Medicare benefit. Its intended purpose is to ensure patients have access to imaging services by encouraging imaging providers to upgrade and replace equipment as appropriate.
Carer	A person who provides personal care, support and assistance to another individual. The individual needs care because they have a disability, medical condition (including a terminal or chronic illness), mental illness, are frail or aged, or paediatric. A person is not a carer merely because they are a spouse, de facto partner, parent, child, other relative or guardian, or live with an individual who requires care. A person is not a carer when paid for, volunteers for an organisation, or provides care as part of a training or education program.

Clinical governance	The set of relationships and responsibilities established by an imaging provider between regulators and funders, owners and managers and governing bodies (where relevant), healthcare providers, the workforce, patients, consumers and other stakeholders to ensure optimal clinical outcomes. It ensures that: • The community can be confident that there are systems in place to deliver safe and high-quality health care • There is a commitment to improving services continuously • Everyone is accountable to patients and the community for ensuring safe, effective, high-quality health care. This includes imaging providers, other workforce members and managers, owners and governing bodies (where they exist) • Depending on the size of the imaging service, the same individual may carry out multiple roles.
Clinical governance framework	Describes the processes and structures needed to deliver safe, high-quality health care. These include: • Governance, leadership and culture • Patient safety and quality improvement systems • Clinical performance and effectiveness • Safe environment for the delivery of health care • Patient-centred care
Clinical practice	The assessment, diagnosis, treatment and health care delivered to a patient.
Complaint	Is an expression of dissatisfaction made to an organisation by a patient, consumer, or clinician related to its services where a response or resolution is expected. It is a form of feedback.
Computed tomography (CT)	A computerised X-ray imaging machine in which a beam of X-rays quickly rotates around the body, producing signals. The CT machine's computer generates cross-sectional images of the body based on the signals, which contain more detailed information about internal organs than conventional X-rays.
Consumer	A person who has used or may potentially use imaging services or is a carer for a patient using imaging services.
Consumer representative	A consumer who has a specific role in providing advice on behalf of consumers with the overall aim of improving health care.

Contraindication	A condition that indicates a specific medicine or medical treatment could cause patient harm if used.
Contrast media	Are chemical compounds that aid diagnosis in computer tomography, magnetic resonance imaging, ultrasound and fluoroscopy by making organs and bodily fluids opaque.
Criterion	Describe the key areas covered by the standard. Each criterion contains the following: • A consumer outcome statement • Actions that describe what is required to meet each criterion • Guidance for each action
Critical equipment, instruments and devices	Items that confer a high risk for infection if they are contaminated with any microorganism and must be sterile at the time of use. They include any objects that enter sterile tissue or the vascular system because microbial contamination could transmit disease.
Cultural safety	Recognition, protection and continued advancement of the inherent rights, cultures and traditions of Aboriginal and Torres Strait Islander peoples, people with a disability and diverse backgrounds and care needs.
Culture of safety	A product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determine the commitment to and the style and proficiency of an organisation's health and safety management. Positive patient safety cultures have strong leadership that drives and prioritises safety as well as: • Shared perceptions of the importance of safety • Constructive communication • Mutual trust • A workforce that is engaged and always aware that things can go wrong • Acknowledgement at all levels that mistakes occur

Diagnostic reference level	An indicative measure used to assess whether, in routine conditions, the amount of radiation used is high or low for a specified procedure. A DRL is usually set at the 75th percentile of an audited set of radiation exposures. A diagnostic reference level (DRL) is not a regulatory limit but rather a benchmark that, when exceeded, triggers a review. Conducting an imaging practice dose audit and comparing the results to a DRL provides an imaging provider with a simple method of benchmarking facility reference levels against population-based data to identify situations where the imaging practice delivers low or high patient doses. Australian DRLs are located on the ARPANSA Website.
Disability	The *Disability Discrimination Act 1992* (Cth) defines disability concerning a person to mean: • Total or partial loss of the person's bodily or mental functions • Total or partial loss of a part of the body • The presence in the body of organisms causing disease or illness • The malfunction, malformation or disfigurement of a part of the person's body • A disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction • A disorder, illness or disease that affects a person's thought processes, perception of reality, emotions or judgement that results in disturbed behaviour The World Health Organization International classification of functioning disability and health recognises that disability is multidimensional and is the product of an interaction between attributes of an individual and features of the person's physical, social and attitudinal environment. It broadens the perspective of disability and allows for the examination of medical, individual, social and environmental influences on functioning and disability.
Diverse background	The varying social, economic and geographic circumstances of consumers who use, or may use, the imaging services of an imaging provider, and their cultural backgrounds, disability status, religions, beliefs and practices, spoken languages, sexual orientation, gender identity and gender expression, and sex characteristics.

Dose	A generic term that may mean absorbed dose, equivalent dose, effective dose or organ dose, as indicated by the context.
Dual-energy X-ray absorptiometry (DEXA)	DEXA is a medical imaging modality used to measure bone density. Two X-ray beams with different energy levels are aimed at the bones andthe soft tissue absorbency is subtracted to determine the bone mineral density.
Environment	The context or surroundings in which health care is delivered. The environment can also include other patients, consumers, visitors and the workforce.
Equipment	Equipment includes imaging and peripheral equipment, including mobile equipment, equipment used for injections, sedation, monitoring and anaesthesia, reference phantoms, consumables, monitors, computers, clinical review displays, and mobile and diagnostic workstations.
Evidence-based care	Is an approach to care that integrates the best available research evidence with clinical expertise and patient values. It involves translating evidence into practice and ensuring that health practitioners and patients know and use research evidence to inform their health and healthcare decision-making.
Exposure	The state or condition of being subject to irradiation.
External quality assurance	It is the objective assessment of imaging equipment and imaging results by an external agency. It can include comparisons with other imaging services.
Extravasation	When a medicine, contrast medium, or radiopharmaceutical administered by a peripheral intravenous catheter leaks out of the veins and into the surrounding tissue. There is a potential to cause tissue damage if a vesicant drug leaks.
Facility reference level	Indicates the typical patient dose and is the quantity compared to the DRL. It is the median dose delivered to a sample of patients undergoing a routine diagnostic imaging protocol at a given imaging practice. In most cases, the dose is dependent on the type and specific piece of equipment used.
Feedback	Feedback is information about a patient, consumer or clinician’s reaction to an imaging practice. It enables an imaging service to discover areas of satisfaction and dissatisfaction, relative priorities of quality, identify patient, consumer, and clinician needs, and determine opportunities for improvement. An imaging practice continually seeks and monitors feedback.

Fluoroscopy	Fluoroscopy is a medical imaging modality that uses a pulsed beam of X-rays to create real-time dynamic images of a body part, and its motion. It is most often used to guide vascular and other interventional procedures.
Governance	The set of relationships and responsibilities a medical imaging service establishes between its management, workforce and stakeholders (including patients and consumers). Effective governance provides a clear statement of individual accountabilities within the organisation to help align the different participant's roles, interests and actions to achieve the organisation's objectives. Governance structures are tailored to the size and complexity of an organisation.
Governing body	A board, chief executive officer, organisation owner, partnership or other highest level of governance (individual or group of individuals) that has ultimate responsibility for strategic and operational decisions affecting safety and quality.
Hand hygiene	A general term applied to processes aiming to reduce the number of microorganisms on the hands. It includes the application of a waterless antimicrobial agent (e.g., alcohol-based hand rub) to the surface of the hands and the use of soap/solution (plain or antimicrobial) and water (if hands are visibly soiled) followed by patting dry with single-use towels.
Harm	Something that impairs or adversely affects a patient physically or mentally.
Health care	The prevention, diagnosis, treatment, and management of illness and injury, and the preservation of mental and physical well-being through the services offered by healthcare providers.

Healthcare identifiers	Are unique numbers assigned and used in health-related information to identify the patient, the treating professional and the organisation where healthcare is provided to reduce potential errors with healthcare related information and communication. In Australia, the Healthcare Identifiers (HI) Service is a national system that uniquely identifieshealthcare providers, healthcare organisations and individuals receiving healthcare. These include: • Individual Healthcare Identifier (IHI) – identifies a patient (individual) receiving healthcare. An IHI uniquely identifies individuals who receive healthcare, including Australian citizens, permanent residents and visitors to Australia • Healthcare Provider Identifier – Individual (HPI-I) – identifies an individual healthcare provider who provides healthcare, such as general practitioners, allied health professionals, specialists, nurses, dentists and pharmacists, among others • Healthcare Provider Identifier – Organisation (HPI-O) – identifies the healthcare provider organisation where healthcare is provided, such as hospitals, medical practices, pathology or radiology laboratories and pharmacies Healthcare providers (see definition) must be registered with the HI Service and assigned healthcare identifiers to access a patient's My Health Record.
Healthcare provider	Trained individuals involved in the provision of health care. Healthcare providers may also be referred to as health practitioners, clinicians or by a profession-specific description.
Healthcare record	A record of a patient's medical history, investigations, images, test results, medications, treatment notes, observations, and correspondence for an episode of care.
Healthcare record system	A healthcare record and management system used by imaging providers in healthcare settings. Healthcare record information must be managed appropriately and safeguarded from the start (record generation) to the finish (record destruction). It can be a picture archiving and communication system and a radiology information system.

Health literacy	health literacy has two components: individual health literacy and the health literacy environment. Individual health literacy is a consumer's skills, knowledge, motivation, and capacity to access, understand, appraise, and apply information to make effective decisions about health and health care and take appropriate action. The health literacy environment is the infrastructure, policies, processes, materials, people and relationships that make up the healthcare system, which affects how consumers access, understand, appraise and apply health-related information and services.
High-risk medicine	Medicines that have an increased risk of causing significant patient harm or death if they are misused or used in error. High-risk medicines may vary between healthcare settings, depending on the types of medicines used and patients treated. Errors with these medicines are not necessarily more common than with other medicines. Because they have a low margin of safety, the consequences of errors with high-risk medicines can be more devastating. At a minimum, the following classes of high-risk medicines should be considered: • Medicines with a narrow therapeutic index • Medicines that present a high risk when other system errors occur, such as administration via the wrong route.
Hygienic environment	An environment in which practical prevention and control measures are used to reduce the risk of infection from contamination by microbes.
Imaging provider	A separately constituted organisation responsible for implementing clinical governance, administration and financial management of a service unit or service units providing health care to patients. It can be in any location or setting, including community settings, hospitals, outpatient facilities, practices and clinicians' rooms.
Imaging practitioner	An individual who practises a profession related to the provision of imaging services. Imaging practitioners may be required to maintain profession-specific registration with a national board under the National Registration and Accreditation Scheme or be self-regulated. An imaging practitioner may also be referred to as a health care provider, health practitioner, clinician or profession-specific description.
Incident	An event or circumstance that resulted, or could have resulted, in unintended or unnecessary harm to a patient or consumer or a complaint, loss or damage.

Infection	An infection occurs when a microorganism enters the body, increases in number and causes a reaction in the body. It may cause tissue injury and disease.
Informed consent	A communication process between a patient and imaging practitioner about options for diagnosis, treatment, health care processes or potential outcomes. This communication results in the patient's authorisation or agreement to undergo a specific intervention or participate in planned care. The communication ensures that the patient understands the health care they will receive, all the available options and the expected outcomes, including success rates and side effects for each option. Informed consent can be verbal or written.
Interventional radiology	Interventional radiology combines imaging with invasive procedures. A variety of imaging modalities are used to examine internal parts of the body to target, guide, and monitor treatments. The procedures involve inserting small instruments through incisions in the skin to target sites deep within the body. These can include needles, catheters, wires or stents used to perform biopsies, drain fluids, deliver medication or open narrowed ducts and vessels throughout the body.
Invasive medical device	Devices that, in whole or part, enter the body through an orifice or any surface of the body. This includes penetrating skin, mucous membranes, organs or internal body cavities.
Ionising radiation	Is a form of energy that can remove electrons from atoms and molecules. It can produce ion pairs in biological materials.
Jurisdictional requirements	Systematically developed statements from state and territory governments about appropriate healthcare or service delivery for specific circumstances. Jurisdictional requirements encompass several document types from state and territory governments, including legislation, regulations, guidelines, policies, directives and circulars.
Justification	The process of determining whether an imaging service, is beneficial overall and whether the expected benefits to the patient outweigh the harm (including radiation exposure) resulting from conducting the imaging service.
Leadership	Having a vision of what can be achieved, communicating this to others, and evolving strategies for realising the vision. Leaders motivate people and can negotiate for resources and other support to achieve goals.
Lossless compression	Mechanism for reducing file sizes that retains all original data

Magnetic resonance imaging (MRI)	Is a medical imaging modality that uses strong magnetic fields and radio waves to generate three-dimensional images in multiple planes.
Mammography	Mammography is a medical imaging modality that uses low-energyX-rays to capture images of the human breast.
Medical exposure	Ionising radiation patients receive as part of their medical diagnosis (diagnostic exposure) or treatment (therapeutic exposure).
Medicine	A chemical substance given to prevent, diagnose, cure, control, or alleviate disease or otherwise improve peoples' physical or mental well-being. These include prescription, non-prescription, investigational, clinical trial and complementary medicines, irrespective of how they are administered.
Modality	A term used to refer to different forms of imaging.
My Health Record	The secure online summary of a consumer's health information, managed by the System Operator of the national My Health Record system (the Australian Digital Health Agency). Healthcare providers can share clinical health documents with a consumer's My Health Record, according to the consumer's access controls. These may include information on medical history and treatments, diagnoses, medicines and allergies. Patients can add their health information to My Health Record
Novel infection	It is a new infection that was not known to infect humans, and it may pose a public health threat, especially if it spreads quickly and causes serious illness.
Nuclear Medicine	Involves giving a patient a small amount of radioactive medication, called a radiopharmaceutical, which makes the body slightly radioactive for a short time. A nuclear medicine camera detects the radioactive substance collected in the body tissues and takes images to examine the tissue's function. Nuclear medicine also treats some diseases or conditions.
Open disclosure	An open discussion with a patient and carer about an incident that resulted in harm to the patient while receiving health care. The criteria of open disclosure are an expression of regret, a factual explanation of what happened, the potential consequences, and the steps taken to manage the event and prevent recurrence.
Optimisation	Involves maximising the benefit-risk ratio of the patient's exposure to ionising radiation. Radiation exposure is minimised yet sufficient to achieve the imaging service's objective of diagnostic image quality or therapeutic effectiveness.

Orientation	The action of familiarising the workforce with their roles, work areas, and environment. It occurs when staff commerce work and when there are changes to governance, work policies, procedures and operations.
Orthopantomography	A panoramic two-dimensional X-ray that captures the entire mouth (mandible, maxilla and teeth) in a single image. It is a form of focal plane tomography where images on multiple planes are taken to make up a composite panoramic image.
Outcome	The status of an individual, group of people or population wholly or partially attributable to an action, agent or circumstance.
Partnership	A situation that develops when patients and consumers are treated with dignity and respect, when information is shared with them, and when participation and collaboration in healthcare processes are encouraged and supported to the extent that patients and consumers choose. Partnerships can exist in different ways in an imaging service, including at the level of individual interactions, at the level of service, department or program, and the level of the organisation. Partnerships can also exist with consumers and community groups. Generally, partnerships at all levels are necessary to ensure that the imaging service is responsive to patient and consumer input and needs. However, the nature of the activities for these different types of partnerships will depend on the context of the imaging service.
Patient	A person who is receiving health care from an imaging provider.
Patient identifiers	Items of information used to identify a patient, including family and given names, date of birth, sex, address, a healthcare record number and individual healthcare identifiers.
Patient reports	Documentation and information relating to a patient's health care, such as patient healthcare records, referrals, scans and imaging reports.
Peripheral Intravenous Catheter (PIVC)	A thin tube inserted into a vein to administer medication, contrast media, blood products, radiopharmaceuticals or fluids directly into the bloodstream.
Person-centred care	An approach to the planning, delivering and evaluating of health care founded on mutually beneficial partnerships among healthcare providers and patients. Person-centred care is respectful of and responsive to patient and consumers' preferences, needs and values. Key dimensions of person-centred care include respect, emotional support, physical comfort, information and communication, continuity and transition, care coordination, involvement of carers and family, and access to care.

Picture archiving and communication system (PACS)	A medical imaging technology that provides storage and access to images from multiple modalities. Electronic images and reports are transmitted digitally.
Plain X-ray	A medical imaging modality where a single beam is projected at the body to create a two-dimensional image of a body part.
Policy	A set of principles that reflect the organisation's mission and direction.
Positron emission tomography (PET)	PET is a medical imaging modality used to measure the body's functions. Radiopharmaceuticals are delivered to the patient, usually by injection. When the radioisotope decays, a positron is emitted and collides with an electron, generating gamma rays. The gamma camera detects the gamma rays and reconstructs three-dimensional images.
Procedure	The set of instructions to make policies and protocols operational, which are specific to an organisation.
Process	A series of actions or steps taken to achieve a particular goal.
Protocol	An established set of rules used to complete tasks or a set of tasks.
Qualified equipment service personnel	A qualified equipment service person shall: • If servicing radiation equipment, hold a radiation use licence for service and repair issued by the Commonwealth, state or territory regulator relevant to where the service is performed. • Provide evidence of successful completion of a recognised service training course appropriate to the equipment being serviced.
Quality improvement	The combined efforts of the workforce and others – including consumers, patients and their families, researchers, planners and educators – to make changes that will lead to better patient outcomes (health), better system performance (care) and better professional development. Quality improvement activities may be undertaken in sequence, intermittently or continually.
Radiation environment	An area where specific protection measures and safety provisions are required to control exposure and limit the extent of potential exposures and areas where occupational exposure conditions are reviewed.
Radiopharmaceuticals	Radioisotopes bound to molecules that can target specific tissues for diagnostic and therapeutic purposes.

Radiology information system	A software for patient management in radiology, complementary to the Picture Archiving and Communication system. While systems vary, most include the following functions: • Patient scheduling and list management • Predefined database searches • Workflow management
Referral	Is a call for a health professional to consult on a patient. The referral explains the reasons for referring the patient and includes the patient's condition.
Referrer	A health professional who has asked in writing for another health professional to investigate, diagnose, or treat a patient. The referrer selects the imaging modality.
Regular	Occurring at recurring intervals. The specific interval for regular review, evaluation, audit or monitoring needs to be determined for each case. In the National Safety and Quality Medical Imaging Standards, the interval is consistent with best practice, risk-based, and determined by the subject and nature of the activity.
Request	Is a call for an imaging provider to perform imaging services on a patient. A request provides information to identify the imaging service and clinical information for the imaging provider. The requester selects the imaging modality.
Requester	A healthcare practitioner who has asked in writing that a patient receive specific imaging services from an imaging provider.
Respiratory hygiene and cough etiquette	Measures designed to minimise the transmission of respiratory pathogens via droplet or airborne routes in healthcare settings.
Reusable equipment, instruments and devices	A medical device designated by its manufacturer as suitable for reprocessing and reuse.
Risk	The chance of something happening that will have a negative impact. Risk is measured by the consequences of an event and its likelihood.
Risk assessment	It involves recognising events that may lead to harm in the future and analysing and managing them to minimise their likelihood and consequence.

Risk factor	A characteristic, condition or behaviour that increases the possibility of disease, injury or loss of well-being.
Risk management	Designing and implementing a program to identify and avoid or minimise risks to patients, employees, volunteers, visitors and the organisation.
Scope of clinical practice	Is the extent of an individual healthcare provider's approved clinical practice based on the individual's skills, knowledge, professional registration (where applicable), performance and professional suitability, and the needs and service capability of the organisation.
Sedation	A medication given before imaging services that cause patients pain or discomfort, which results in a medically induced temporary depression of consciousness whereby responses to external stimuli are limited.
Self-determined service	Is when an imaging service is provided by or on behalf of a consultant physician or specialist (other than a specialist in diagnostic radiology) after their clinical assessment determines that an imaging service is necessary. No written request is required.
Semi-critical equipment, instruments and devices	Items that contact mucous membranes or non-intact skin. They are single-use or sterilised after each use. If sterilisation is impossible, high-level disinfection is the minimum acceptable reprocessing level.
Service context	The environment or circumstance in which health care is delivered. Health service delivery occurs in many ways. The service context will depend on the organisation's function, size, and organisation of care, service delivery mode, location and workforce.
Shared decision-making	A consultation process in which an imaging practitioner and a patient jointly participate in making a health decision, discussing the options and their benefits and harms, and considering the patient's values, preferences and circumstances.
Side effects	The unintended consequences of a medicine, treatment or device.
Single photon emission computed tomography (SPECT)	SPECT is a medical imaging modality that measures the body's functions. Radiopharmaceuticals are delivered to the patient, usually by injection. When the radioisotope decays, gamma rays are released. The gamma camera acquires multiple two-dimensional images. Then, a computer reconstructs the images into a three-dimensional data set, which can be manipulated into thin sections along multiple body planes.

Standard	The agreed attributes and processes to ensure that a product, service or method will perform consistently at a designated level.
Standard national terminologies	Are structured vocabularies used in clinical practice to describe the care and treatment of patients accurately. Healthcare providers worldwide use specialised vocabularies to describe diseases, operations, clinical procedures, findings, treatments and medicines. In Australia, terminologies include SNOMED CT-AU and Australian Medicines Terminology.
Standard precautions	Work practices that provide a first-line approach to infection prevention and control and are used for the care and treatment of all patients. Standard precautions include: • hand hygiene • use of personal protective equipment (masks, gloves, gowns, protective eyewear) to prevent blood or bodily fluid exposure • routine environmental cleaning aligned to risk, • safe use and disposal of sharps • reprocessing of reusable equipment and devices • respiratory hygiene and cough etiquette (including physical distancing) • aseptic technique linen and waste management
Substitute decision-maker	A person appointed or identified by law to make health, medical, residential and other personal (but not financial or legal) decisions on behalf of a patient whose decision-making capacity is impaired. A substitute decision-maker may be appointed by the patient, appointed for (on behalf of) the person, or identified as the default decision-maker by legislation, which varies by state and territory.

Substitute imaging service	Is when an imaging service is replaced with another. An imaging provider can substitute a service when: • It determines, from the clinical information provided on the request, that a different imaging service would be more appropriate for diagnosing the patient's condition • It has consulted with the requester or taken all reasonable steps to do so before providing the substituted service • The substituted service would be accepted as a more appropriate service in the circumstances by the imaging practitioner's specialty group
Supervision (Clinical)	An agreed, collaborative process that monitors, develops and supports supervisees in their clinical role. The focus is on the patient's healthcare and the supervisee's professional development. The clinical supervision process encompasses a formal agreement between supervisor and supervisee, the provision of opportunities for the supervisee to present relevant material regarding their clinical practice, a space for reflective review by the supervisee, and feedback by the supervisor. The supervisory process meets the supervisee's developmental needs.
System	Describes all the components that comprise an approach to managing an issue. The resources, policies, processes, and procedures are organised, integrated, regulated, and administered to accomplish a stated goal. A system: • Brings together risk management, governance, and operational processes and procedures, including education, training and orientation • Deploys an active implementation plan; feedback mechanisms including agreed protocols and guidelines, decision support tools and other resource materials • Uses incentives and sanctions to influence behaviour and encourage compliance with policies, protocols, regulations and procedures The workforce is a resource in the system and involved in all elements of system development, implementation, monitoring, improvement, and evaluation.
Teleradiology	The use of information and communications technologies to deliver imaging services and transmit imaging information over both long and short distances.
Templated reporting	Is when a pre-defined template is used to control content. The report has a consistent layout and standard terminology.

Training	The development of the workforce's knowledge and skills.
Transitions of care	Occur when all or part of a patient's care is transferred between healthcare locations, providers, or levels of care within the same location as the patient's conditions and care needs change.
Transmission-based precautions	Are extra work practices used when standard precautions alone may not be enough to prevent infection transmission. Transmission-based precautions are used with standard precautions and include droplet, contact and airborne precautions or a combination of these based on the infection's transmission route.
Ultrasound	An imaging method that uses sound waves to produce images of structures within your body. A transducer emits sound waves and detects the sounds reflected. Then, a monitor displays the reflected sound waves as a picture.
Workforce	All people working in an imaging practice, including imaging practitioners and any other employed or contracted locum, agency, student, volunteer or peer workers. The workforce can be members of the imaging practice or medical company representatives providing technical support who have assigned roles and responsibilities for the care of, administration of, support of, or involvement with patients in the imaging practice or imaging equipment.