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WHAT IS CLINICAL AUDIT?

Clinical audit is a quality improvement tool central to providing good care and service to patients and people who use the services. The purpose of clinical audit is to systematically review care and or services against agreed standards to ensure that the standards are being met. Where standards are not fully met the necessary actions should be taken.

According to 2013/59/EURATOM (BSSD), carrying out clinical audit “in accordance with national procedures” is mandatory and a legal requirement within the European Union.

SI 256:

Procedures

13. (1) An undertaking shall ensure that written protocols for every type of standard medical radiological procedure are established for each type of equipment for relevant categories of patients.

(2) An undertaking shall ensure that information relating to patient exposure forms part of the report of the medical radiological procedure.

(3) An undertaking shall ensure that referral guidelines for medical imaging, taking into account the radiation doses, are available to referrers.

(4) An undertaking shall ensure that clinical audits are carried out in accordance with national procedures established by the Minister.

SI 528 2022, Regulation 3 - Regulation 13(4) of the Principal Regulations is amended by substituting “Authority” for “Minister”.

Monitoring and Regulation
of Healthcare Services

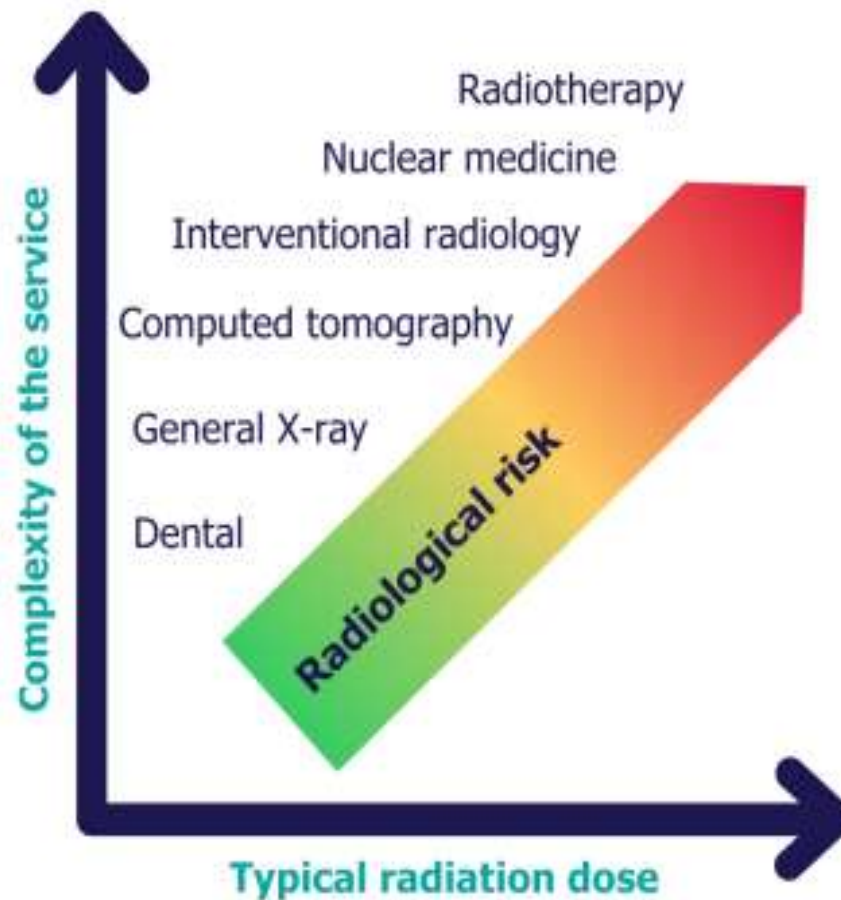
National procedures for clinical audit
of radiological procedures involving
medical exposure to ionising radiation

Updated 20 August 2024

Safer Better Care

It is the responsibility of an undertaking to ensure that clinical audit is carried out in line with these national procedures.

Figure 3. Service type, complexity and typical level of radiological risk



CLINICAL AUDIT STRATEGY

Assurance, Oversight, Resources

Management and responsibilities - who is responsible?

This section outlines the service's commitment to the delivery of safe and effective services, how it supports clinical audit as a tool through which the quality and safety of services can be improved and assured. This section details who has oversight for clinical audit, the resources in place for clinical audit and the time period the strategy applies to, for example, the next three years.

Communication, Teamwork

Personnel - who does it?

This section identifies the staff with direct responsibility for clinical audit to ensure the quality and safety of services they provide. This strategy identifies the staff working in the service who have delegated responsibility for clinical audit and it details how communication around clinical audit takes place.

Focus, coverage

Prioritisation and schedule - what should be done and when?

This section details to what extent clinical audit is carried out, including what is audited, how audits are prioritised, planned and agreed, and how often audits are conducted.

Tools, action

Method - how will it be done?

This section outlines how the service will implement clinical audit, what the agreed approach to clinical audit is and what methods and tools will be used. How progress with audit recommendations is ensured should also be included.

WHY DO IT?

Figure 1. Benefits of clinical audit



Good practice in clinical audit should cover the full clinical pathway

Structure	Structure demonstrates the attributes of the settings in which care occurs. This includes the material resources (such as facilities and equipment), human resources, and organisational structure.
Process	Process demonstrates what is actually done in giving and receiving care. It includes the referrer and practitioner's activities in making a diagnosis and recommending or implementing treatment.
Outcome	Outcome demonstrates the effects of care on the health status of patients and populations. It is appreciated that auditing the clinical outcome may be very difficult. In radiological procedures, outcome refers to the results of the examination or treatment as they apply to the patient.

Type	Topic
Audits of structure	Organisation and management structure
	Allocation of responsibilities
	Personnel, education and training
	Premises and equipment
Audits of process	Referral process
	Justification process
	Diagnostic and treatment procedures
	Optimisation
	Imaging process
	Radiopharmacy procedures (applicable in nuclear medicine)
	Treatment process (applicable in interventional radiology, radiotherapy and nuclear medicine)
	Diagnostic report
	Records
	Quality management
	Incident reporting and management
Audits of Outcome	Outcome of procedure (diagnostic)
	Clinical outcome (therapy)

AUDIT CYCLE

- 1. Plan resources and select audit topic
- 2. Select standards of best practice
- 3. Measure and analyse current practice against standard
- 4. Improve by implementing change if necessary
- 5. Check improvements have been sustained by re-audit

Overview of a clinical audit cycle



TRIPLE ID CHECK

2016 Observational Audit - 80% identified correctly

2017 100 observations across different areas

Summary

82% identified correctly

15% called by name and asked DoB and address

3% asked name and DoB only

2019 Small survey – 75% compliance

No significant improvement – We didn't follow through the audit cycle

2020 90% compliance

2021 – 2026 100% compliance

JUSTIFICATION OF EXAMINATIONS

Each patient examination should be properly justified with respect of benefits against risk and proper clinical information should be provided

- Retrospective audit in CT, Mammography, Fluoroscopy, NM, and General Radiography
- 30 pt's from each area
- Experienced radiographers and consultant radiologists reviewed exam requests to check if the examination was justified
 - CT- 100% justified
 - Mammography 6.66% not justified
 - Fluoroscopy 20% not justified
 - NM - 3.33% not justified
 - General - 6.66% not justified
- ❖ Follow-up: Communication to hospital consultants on clinical info
- ❖ Clinical Specialist communication

PEDIATRIC BARIUM SWALLOW AUDIT

- Audit was on the benefit of performing barium swallow for investigation of reflux in paediatrics
 - What's the standard?
 - 100 cases retrospectively reviewed
 - 55 studies - unremarkable
 - 37 studies - mild reflux
 - 1 study - gross reflux
 - 2 studies – delay in emptying of oesophagus or stomach
 - 1 study – significant spasm/stenosis
 - 4 limited exams
 - Met with clinicians and agreed that Ba Swallow is no longer used in the initial evaluation of potential reflux
 - Post audit follow number of exams fell from 109 to 20 in 12 month period
 - On-going monitoring
- PLAN**
- STANDARD**
- MEASURE**
- IMPROVEMENTS**
- SUSTAIN**

Interventional Radiology Audit – Optimisation of Lumbar Puncture

Audit Title

Positivity rates of

Introduction

The CT department to determine the detected.

Method

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Results

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Discussion

This audit was pe CT pulmonary an examination perf

Communication

Audit Type &

Outcome Auc

Audit Title

Optimisation

Key Stakeho

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Introduction

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Method

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Results

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Audit Type

Audit Topi

Audit Title

Key Stake Radiographi

Introductio

As per BSC-RD examination using the lo

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Method

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Results

Patient size Radiographi for 50 of the **Exposure p**

Audit Type and Audit Topic

Process Audit; Optimisation of Medical Exposure.

Audit Title

Optimisation of Lumbar Puncture in Interventional Radiology in 2025.

Key Stakeholders

IR Radiographers, Radiologists, Radiation Safety Committee, Radiation Protection Compliance Group.

Introduction

As per BSC-RAD0159 *Optimisation of Medical Exposures in the Radiology Department*, ionising radiation examinations should be optimised “to achieve the image quality required to answer the clinical question using the lowest dose possible”.

This audit evaluated Lumbar puncture examinations performed in Interventional Radiology under fluoroscopy guidance to establish whether adequate collimation had been used during the procedure to reduce radiation exposure to the lumbar region of the patient. The target compliance was 100%.

There were no previous audits for comparison.

Method

This audit retrospectively evaluated 30 Lumbar Puncture studies performed in Interventional Radiology between January 2025 and December 2025 where fluoroscopy guidance was used. Images were reviewed to assess whether four borders of collimation had been applied to the image, and whether this collimation was optimal. “Optimal collimation” in this scenario referred to the image being collimated to only include three lumbar vertebrae (L3 to L5) and the skin margin. Images were reviewed by a Radiographer and the Clinical Specialist Radiographer in Interventional.

Results

Four borders of collimation had been applied to the image in **100%** of studies.

Optimal collimation had been applied to the image in **60%** of studies.

Discussion

The results show that Radiographers are using optimisation techniques as outlined by the ALARA principle in collimating for lumbar puncture studies in Interventional Radiology.

WHAT DOES THE HIQA REPORTS SAY ABOUT AUDIT COMPLIANCE?

Inspectors reviewed a programme of clinical audit and a sample of audits reports related to radiological practices carried out at the facility. The document *Radiology Department Audit Policy* was reviewed which contained a clinical audit strategy. Inspectors were **satisfied that this strategy aligned with HIQA's National procedures for clinical audit of radiological procedures** published in November 2023 and included the principles and essential criteria that undertakings must apply to ensure compliance with Regulation 13(4). Inspectors noted that while work done to date met regulatory compliance, there was **scope to further enhance** the clinical audit programme in the future. For example, consideration should be given to **broadening multidisciplinary contribution** to clinical audit and expanding the range of audits carried out with a focus on high risk areas or services requiring specific attention.

a number of audits were routinely completed ...such as on referrals and justification, checks for pregnancy status, reject analysis, and high skin dose procedures. Inspectors also noted that a supplementary clinical audit had recently been completed on one set of DRLs following the introduction of a new piece of equipment. This was noted as an area of good practice in the service. However, inspectors were not satisfied that the undertaking's current approach .. was fully aligned to HIQA's national procedures on clinical audit. For example, ..a clinical audit strategy had not been fully developed... Inspectors also noted ... that it was not clear if any actions and recommendations had been identified from these audits and assigned to individuals with responsibility for implementing these actions..

This document outlined the audit strategy in place at the facility and noted that clinical audit topics are based on high-risk services and areas requiring specific attention. In addition, the inspector was informed that the clinical governance committee met monthly and provided oversight of clinical audit. While the inspector reviewed a sample of audits carried out of the facility including reject analysis, poster checks and patient identification/pregnancy check, it was noted that there was scope to further expand the range of audits completed to cover the full clinical pathway of the service user.

Inspectors were informed that a number of these **audit topics had been identified through incident learning** and as a result of quality improvement plan changes. This was identified as an area of good practice in the service. Inspectors also saw evidence that **action plans had been developed and implemented as a result of clinical audit outcomes**, and that re-audits were planned to monitor the level of improvement as a result of the action plans.

While a clinical audit strategy .. was available.. it was unclear if this document was approved for use, as it was not version controlled. There was also scope to **strengthen the alignment of this strategy with the principles and essential criteria of the national procedures**, specifically, the identification of high risk areas prioritised for audit, and ensuring audits are carried out across **the full clinical medical exposure pathway**, incorporating the elements of structure, process and outcome.

more work is required to ensure that clinical audits are carried out in accordance with HIQA's national procedures.

The inspector reviewed information relating to clinical audit via documents supplied and by speaking with staff and management and was assured that the approach to clinical audit was in accordance with national procedures established by HIQA.

..there was scope for improvement in aligning to HIQA's national procedures. For example, the development of an overarching clinical audit strategy, which should identify how clinical audit is prioritised, including based on risk and information from incidents or near misses. In addition, inspectors noted that further work was required in auditing the full medical exposure pathway of the service user

although the undertaking's management team had developed a strategy document as part of their clinical audit programme for the service, it did not fully align with the national procedures... In addition, the inspector noted that although a number of clinical audits on radiation protection processes and outcomes had been completed in the service; such as audits on the assessment of dose, the clinical justification of medical exposures and image quality; audits on the radiation protection structures in place in the service had not been completed...

SUMMARY OF THE RECENT REPORTS...

Broadening multi-disciplinary participation

Expand range of audits and focus on high risk areas or areas requiring specific attention

Cover the full clinical pathway for the service user

Follow through on improvement plans with concrete plans

Audit strategy should align with the national procedures for clinical audit

THIS COULD BE YOU... QUESTIONS



RESOURCES

- <https://www.hiqa.ie/reports-and-publications/guide/national-procedures-clinical-audit-radiological-procedures-involving>
- [National procedures for clinical audit of radiological procedures involving medical exposure to ionising radiation | HIQA](#) - Webinar with links to Audit Checklist/Template/Strategy
- [Clinical Audit: HSE A Practical Guide \(2023\) – Corporate](#)