AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Diagnostic Imaging Accreditation Scheme Standards

ADVISORY

TITLE	**Requirements for comparison with national diagnostic reference levels**
Advisory number	DI21/03
Version number	1.0
TRIM number	D21-44997
Publication date	December 2021
Replaces	Advisory Statement A17/01 version 2.0 published July 2017 Advisory Statement A18/04 version 2.0 published June 2018 Advisory Statement A20/01 version 1.0 published August 2020 Advisory Statement A21/01 version 1.0 published April 2021
Compliance with this advisory	It is mandatory for Diagnostic Imaging Accreditation Scheme accrediting agencies and diagnostic imaging practices.
Information in this advisory applies to	• All DIAS accrediting agencies • Diagnostic imaging practices
Key relationship	2016 Diagnostic Imaging Accreditation Scheme Standard 3.2: Optimised Radiation Technique Charts Standard
Attachment	n/a
Notes	Links with: Australian Radiation Protection and Nuclear Safety Agency
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To be reviewed	December 2023

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DI21/03: Requirements for comparison with national diagnostic reference levels

PURPOSE:

To clarify the requirements for conducting comparisons of radiation dose levels for imaging procedures against the Australian national diagnostic reference levels (DRLs) for:

- Multi detector computed tomography (MDCT) for adult and paediatric patients
- General nuclear medicine and Positron Emission Tomography (PET) for adult patients
- Computed tomography (CT) as part of positron emission tomography (PET) and single photon emission computed tomography (SPECT) for adult patients
- diagnostic coronary angiography.

ISSUE:

Diagnostic Imaging Accreditation Scheme Standard 3.2, Optimised Radiation Technique Charts requires a diagnostic imaging practice, which uses ionising radiation, to establish a program to ensure that median radiation doses administered for diagnostic purposes are:

- annually compared with DRLs for diagnostic imaging procedures for which national DRLs have been established in Australia; and
- where DRLs are consistently exceeded, exposure factors are reviewed to determine whether optimisation is required.

DRLs provide benchmarks against which diagnostic imaging practices can compare their median radiation doses, also called facility reference levels (FRLs), for common imaging procedures.

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) has published national DRLs for computed tomography for adult and paediatric patients, general nuclear medicine, PET, and diagnostic coronary angiography for adult patients.

ARPANSA released the first national DRLs in July 2012 and regularly introduces new and revised national DRLs.

This Advisory applies to diagnostic imaging practices providing:

- MDCT for adult and paediatric patients
- Nuclear medicine for adult patients including:
    - General nuclear medicine

  - PET
  - CT conducted as part of PET and SPECT procedures for the purposes on attenuation correction or localisation

- diagnostic coronary angiography procedures[1]

REQUIREMENTS:

Procedures with national DRLS

Diagnostic imaging practices using ionising radiation are required to:

- Keep abreast of the latest relevant national DRLs (See ARPANSA website)
- Document the relevant national DRL for each procedure in the imaging protocol
- Have a program to collect radiation dose data, calculate facility reference levels (FRL) and compare these to the established national DRLs.
- Undertake an annual audit to review the comparison results and where the FRL exceeds the national DRL, investigate whether the exposure factors can be optimised
- Maintain audit records which show the FRL calculation and comparison, the review process and any investigation, and submit these at each accreditation assessment.
- Provide in the imaging protocols a written justification when the median radiation dose (the FRL) is higher than the national DRL.
- Update practice policies within six months of a new or revised national DRLs being published by ARPANSA.

Nuclear medicine and PET procedures with a fixed activity

Where the administered activity for a nuclear medicine or PET procedure has a fixed radiation dose in a practice protocol, requirements for the procedures with national DRLs (see above) is applied with the exception that the:

- Program to collect radiation dose data is not required
- Annual audit compares the administered activity in the protocol to the national DRL rather than the facility reference level.
- Audit records do not need to reference the FRL calculation

Nuclear medicine and PET procedures using weight corrected doses

Where a nuclear medicine or PET procedure uses weight corrected doses, the requirements for the procedures with national DRLs (see above) are applied.

Computed tomography component of multi-modality imaging

The national DRLS published for CT in conjunction with SPECT or PET applies to procedures conducted for the purposes of attenuation correction or location. The requirements for procedures with national DRLs (see above) are also applied to these procedures.

[1] Angiography procedures listed in Subgroup I3 of the Diagnostic Imaging Services Table require accreditation with the DIAS for Medicare benefits to be payable.

Accrediting Agencies

For the DIAS, accrediting agencies are required to review evidence of data collection, determination of FRLs, audit processes, audits and investigations of improvements to confirm a diagnostic imaging practice is using the latest national DRLs in its:

- imaging protocols
- policies for undertaking a DRL comparison
- data collection tools and records

FOR MORE INFORMATION:

Information on DRLs is available on the ARPANSA website. Enquiries relating to the calculation of DRLs and the operation of the National Diagnostic Reference Level Service should be directed to ARPANSA by calling 1800 033 972 or by emailing ndrld@arpansa.gov.au

For guidance on evidentiary requirements for Standard 3.2, see the DIAS User Guide for Practices Applying for Accreditation.