Advisory Statement A17/01

Introduction of Adult Diagnostic Reference Levels for Nuclear Medicine

Purpose

To provide information about the introduction of adult diagnostic reference levels (DRLs) for nuclear medicine and clarify the requirements for annually comparing facility reference levels to the newly established DRLs.

Issue

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) recently advised the Diagnostic Imaging Accreditation Scheme (DIAS) Advisory Committee of the introduction of adult DRLs for nuclear medicine, positron emission tomography (PET) and the computed tomography (CT) portion of single-photon emission computed tomography (SPECT)/CT and PET/CT. These DRLs were developed in collaboration with the Australian and New Zealand Society for Nuclear Medicine (ANZSNM), the Australasian Association of Nuclear Medicine Specialists (AANMS) and the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM). The DRLs which are published on the ARPANSA website, take effect on 1 July 2017.

Standard 3.2, Optimised Radiation Technique Charts Standard of the DIAS requires a practice providing services which use ionising radiation to establish a program to ensure that radiation doses administered to patients are

- annually compared with diagnostic reference levels (DRLs) for diagnostic imaging procedures for which DRLs have been established in Australia; and
- if DRLs are consistently exceeded, a review is undertaken to determine whether radiation protection has been optimised.

The introduction of new adult DRLs for nuclear medicine will require practices providing Medicare funded nuclear medicine imaging services, including PET and SPECT services, to undertake an annual comparison of their facility reference levels against the newly established Australian DRLs.

Requirements

While the new DRLs come into effect on 1 July 2017, practices providing nuclear medicine imaging services will not be required to submit audit records relating to the newly established DRLs until **1 July 2018**.

During the 12 months to 1 July 2018, practices are expected to review their dose metrics and facility reference levels and include in their practice policy a procedure for conducting annual audits against the newly established nuclear medicine DRLs. From 1 July 2018, as part of an application for accreditation (including a renewal of accreditation), accreditors will require evidence of up to date practice policies and DRL related audit records for Medicare funded nuclear medicine imaging and any other procedures performed at the practice for which DRLs have been established.

Where a practice provides general nuclear medicine imaging services and PET services (where weight correction is not used) existing imaging protocols will need to be amended to include the new adult DRLs. If the doses specified in the imaging protocol are higher than the established DRL, a justification for the higher dose will need to be provided.

For the CT component of multi-modality imaging, a practice should ensure that, for commonly performed examinations, the Dose Length Product (DLP) delivered to a sample of patients is recorded, and the median DLP compared to the DRL. A suggested sample size is between 10 and 20 patients. Where a practice performs very low volumes of a particular scan there is no requirement to conduct a survey for that procedure. A similar audit should be performed in cases where a practice administers a dose that is dependent on the weight of the patient. Where a weight based DRL is used (e.g.FDG PET scans), the proportion of patients who received a dose below the DRL should be calculated. In cases where there is a single DRL (e.g. Myocardial Perfusion Imaging studies) the median dose delivered at the facility should be compared to the DRL.

There are no DRLs for paediatric nuclear medicine imaging scans. Consequently, there is no requirement to conduct annual DRL audits of paediatric protocols.

Practices should develop their own program for acquiring the data, calculating their own facility reference levels and comparing them to the established DRLs. See the ARPANSA website for resources that may assist.

For more information

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

Practices should also refer to the DIAS User Guide for Practices Applying for Accreditation for clarifying information about the evidentiary requirements for Standard 3.2, and contact their accreditor for further information and advice.

Diagnostic Imaging Accreditation Scheme Advisory Statement A17/01

Title	Introduction of Adult Diagnostic Reference Levels for Nuclear Medicine
Version	Version 1
Date of publication	July 2017
Replaces	Not applicable
Status	Active
Compliance	Mandatory

Approved by	Standard 3.2 Working Group, Diagnostic Imaging Accreditation Scheme Advisory Committee
Review date	July 2019
Information in this statement applies to	DIAS Accreditors Providers of Medicare-funded nuclear medicine imaging services
Relevant standard	Standard 3.2, Optimised Radiation Technique Charts

Prepared by	Secretariat, Diagnostic Imaging Accreditation Scheme (DIAS) Advisory Committee
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Trim reference	D17-2066421

Links to other statements or advisory documents	User Guide for Practices Applying for Accreditation
Notes (if applicable)	N/A