Australian Government

Australian Radiation Protection and Nuclear Safety Agency

arpansa

WELCOME TO THE

ARPANSA NDRLS Newsletter 2023

MDCT news

This year we've had an **additional 42 facilities register** with the service and we appear to be on a similar track to previous years in terms of the total number of surveys submitted.

As always, thank you to those who participate in the MDCT DRL survey. Community participation is crucial for the success of the National DRL program.

To find out more about DRLs and the National Diagnostic Reference Level Service, visit our website at www.arpansa.gov.au/ndrls.

4186
SURVEY SUBMISSIONS IN 2022

42
NEW FACILITIES SIGNED IN 2023

8/1
2023 SURVEY CLOSES 8 JANUARY 2024

2023/24 shutdown and data collection close off

ARPANSA will be closed from Friday 22 December to Tuesday 2 January (inclusive). During this time the NDRLS hotline and email service will be unattended, and we will not be able to reset your passwords.

There will be a **brief service interruption** on the morning of **Monday 8 January 2024** while we conduct the **2023 close off**. Open surveys with less than 10 patients will be locked and no DRL report will be generated. Surveys with 10 or more patients will be closed and a DRL report will be generated. The service will then re-open to receive data for 2024.

NDRL updates

Updating the national DRLs (NDRLs) for MDCT is a high priority for us in 2024 due to the general trend towards lower doses. The current NDRLs are becoming less representative of common practice, with the main driver being technological changes, including the prevalence of iterative reconstruction and other dose saving measures.

Figure 1 compares the values of the NDRLs against the 75th percentiles of the facility reference levels (FRLs) from surveys submitted in 2022. The gaps between the NDRLs and the 75th percentiles illustrate the rationale for updating the NDRLs to reflect decreasing CT dose levels.

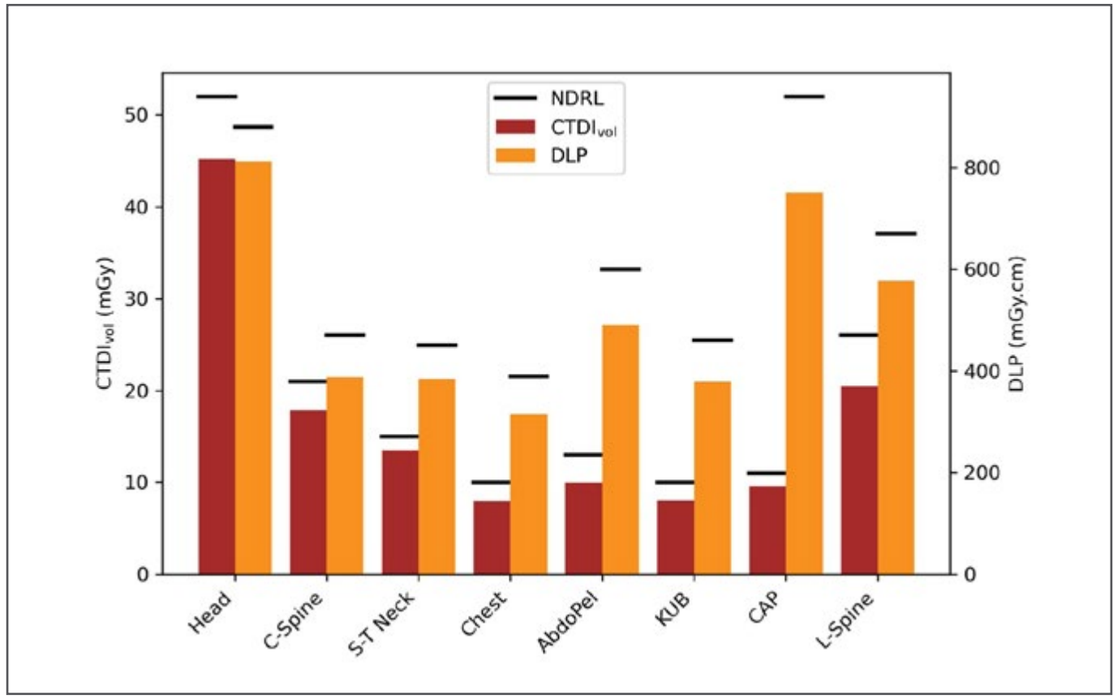


Figure 1: Third quartiles of FRLs for MDCT in 2022 and comparison to the national DRLs.

Nuclear medicine news

The new diagnostic reference levels for nuclear medicine were released in June of this year. As of 2024, the Diagnostic Imaging Accreditation Scheme (DIAS) assessors will require nuclear medicine DRL comparisons to be conducted against these new DRLs.

There are resources available on our website for understanding how the doses your facility delivers compare with the rest of the Australian nuclear medicine community. This includes histograms of the doses reported to us for each protocol assigned a DRL, and statistics relating to the time-activity product of PET FDG scans. There's also a template spreadsheet which can help you conduct your comparisons. Along with the DRLs, the template spreadsheet includes the 25th percentile and the median administered activities from the most recent NDRLS nuclear medicine survey to provide greater context on how your doses compare. Visit www.arpansa.gov.au/nmdrl to view the new DRLs, read more about nuclear medicine DRLs or to download the template.

Please note we're not currently conducting a nuclear medicine survey. The template spreadsheet is for your own records to help demonstrate compliance with the regulations relating to DRL comparisons.

Image-guided and interventional procedures (IGIP) news

In 2022, 154 surveys were completed from 95 rooms at 37 facilities. This was a big increase from the 92 surveys received in 2021. Thank you to all who responded to our call for more data. Third quartiles of the FRL distributions are shown in Table 1. We're planning to launch a review of the IGIP NDRLs in 2024. While we've received a healthy level of submissions for coronary procedures, more data is needed to set NDRLs for other procedures.

Table 1: Third quartiles of FRL distributions for IGIP in 2022

Procedure	Surveys	DAP ($Gy.cm^2$)	$K_{a,r}$ (Gy)
Diagnostic coronary angiogram	49	21.1	0.30
Single lesion PCI	31	44.0	0.74
Line insertion	15	1.5	0.006
Barium swallow	10	16.6	0.081
Water-soluble swallow	7	14.9	0.053
Pelvic embolisation	7	105	0.47
Cerebral angiogram	6	69.1	0.60
EVAR	6	197	0.94

PCI = percutaneous coronary intervention

EVAR = endovascular aneurysm repair

DAP = dose area product

$K_{a,r}$ = cumulative air kerma at the reference point

IGIP close-off for 2023 and mailout of 2024 templates

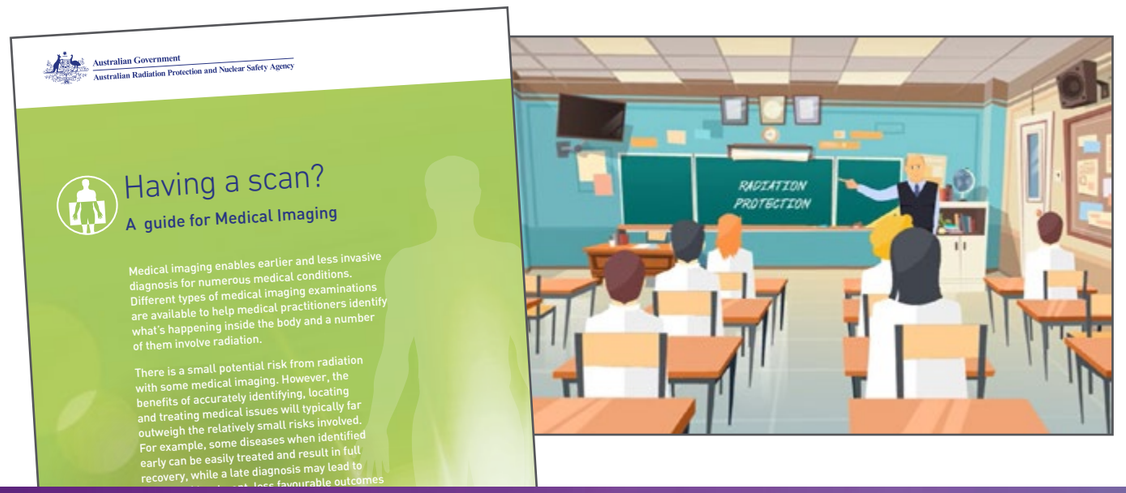
IGIP survey spreadsheets for 2023 will continue to be accepted and processed through to **Friday 2 February 2024**. New IGIP survey spreadsheets for 2024 will be sent to all existing IGIP survey registrants from **Monday 5 February 2024**. Don't forget to use the 'Unit Settings' box on the Data Entry page of the template so you can simply enter the data as reported by your equipment and let our spreadsheet do the conversions.

Radiation Protection of the Patient (RPOP)

We're still reviewing our RPOP online educational material, including the patient handout. If you know of a referrer that could do with a refresher on basic radiation safety issues, please pass the link on, or if you have some views as to how it could be improved, contact Alan Mason at alan.mason@arpansa.gov.au.

Occupational Radiation Exposure (ORE)

Our ORE online modules provide easy customised occupational exposure training material for most medical professionals as well as relevant radiation safety material. The online content is also available in formats that can be downloaded for internal use within facilities. If you have any queries, or suggestions for improvement, please contact Alan Mason at alan.mason@arpansa.gov.au.



From all here at Medical Imaging, we wish you a prosperous end to 2023 and look forward to connecting with you in the new year.