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"ESTABLISHMENT OF CT DIAGNOSTIC REFERENCE LEVELS IN ALBANIA"

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DRLS (DIAGNOSTIC REFERRAL LEVELS)

- It is important to accept that DRLs are one of the steps of the optimization process.
- They are guidelines for clinical examinations, but do not apply to individual patients.
- DRLs must be determined for typical examinations or for applied procedures in a given area, in the respective state or region.
- National DRLs (NDRL s) should be determined on a broad scale of average dose studies representing a specific type of examination or procedure for a group of patients (e.g., adults or children of different sizes).).

DRLS (DIAGNOSTIC REFERRAL LEVELS)

- DRLs are not optimal doses, but they are nevertheless useful in identifying unknown practices.
- They can also be used to establish up-to-date values for new technologies, which can allow low dose levels to be achieved.
- Many participants can participate in the processes of creating DRLs, including imaging services, health authority, medical staff and maintenance staff.
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CALCULATING DRLS.

- $CTDI_{vol}$ for a single cut:

CTDIw = 1/3 CTDI 100, c + 2/3 CTDI 100

- Dose length product for a full examination:

DLP = nCTDI w * A x*t * n * T

RADIODEFENCE AND DRLS IN ITS FUNCTION.

- *The main goal of radiological protection is to provide a proper standard of protection for the patient against radiation exposure without unfairly limiting useful practices.*
- *(* Publication number 60, paragraph 15)*

THE FUNDAMENTAL COMPONENTS OF THE COMMISSION'S DEFENCE SYSTEM FOR PRACTICES.

- Justifying a practice means that the practice brings more benefits than damage.
- Optimizing patient protection means maximizing the margin of good versus harm.
- The use of dose limits means an adequate standard of protection for even the most exposed individuals.
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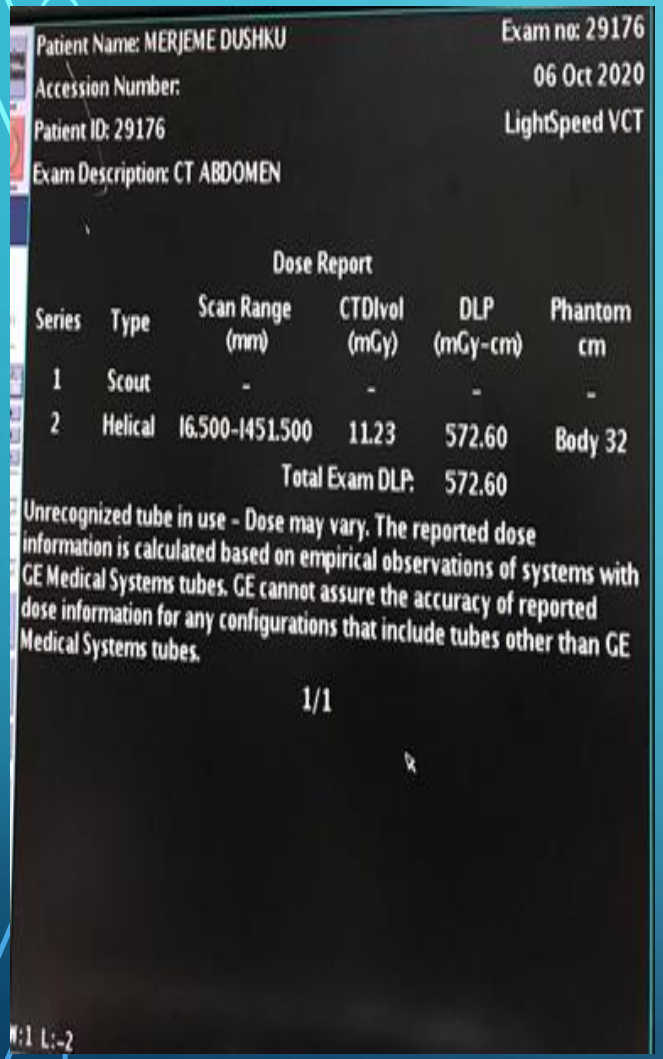

Patient Name: MERJEME DUSHKU
Exam no: 29176
Accession Number:
06 Oct 2020
Patient ID: 29176
LightSpeed VCT
Exam Description: CT ABDOMEN

Dose Report

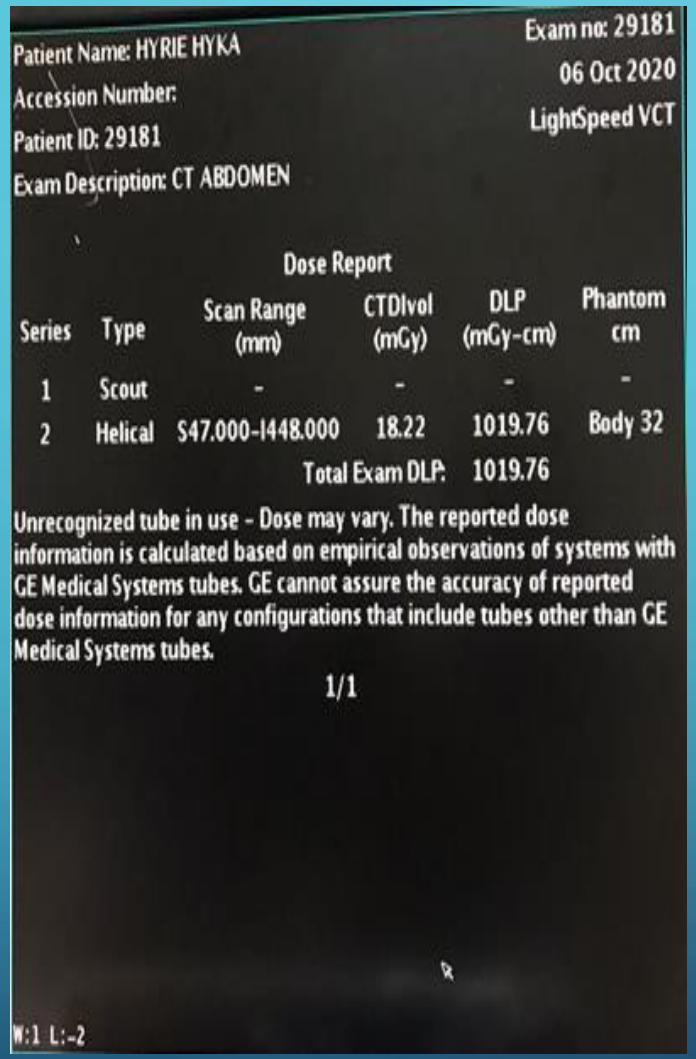
Series	Type	Scan Range (mm)	CTDIvol (mGy)	DLP (mGy-cm)	Phantom cm
1	Scout	-	-	-	-
2	Helical	16.500-1451.500	11.23	572.60	Body 32

Total Exam DLP: 572.60

Unrecognized tube in use - Dose may vary. The reported dose information is calculated based on empirical observations of systems with GE Medical Systems tubes. GE cannot assure the accuracy of reported dose information for any configurations that include tubes other than GE Medical Systems tubes.

1/1

W:1 L:-2


Patient Name: HYRIE HYKA
Exam no: 29181
Accession Number:
06 Oct 2020
Patient ID: 29181
LightSpeed VCT
Exam Description: CT ABDOMEN

Dose Report

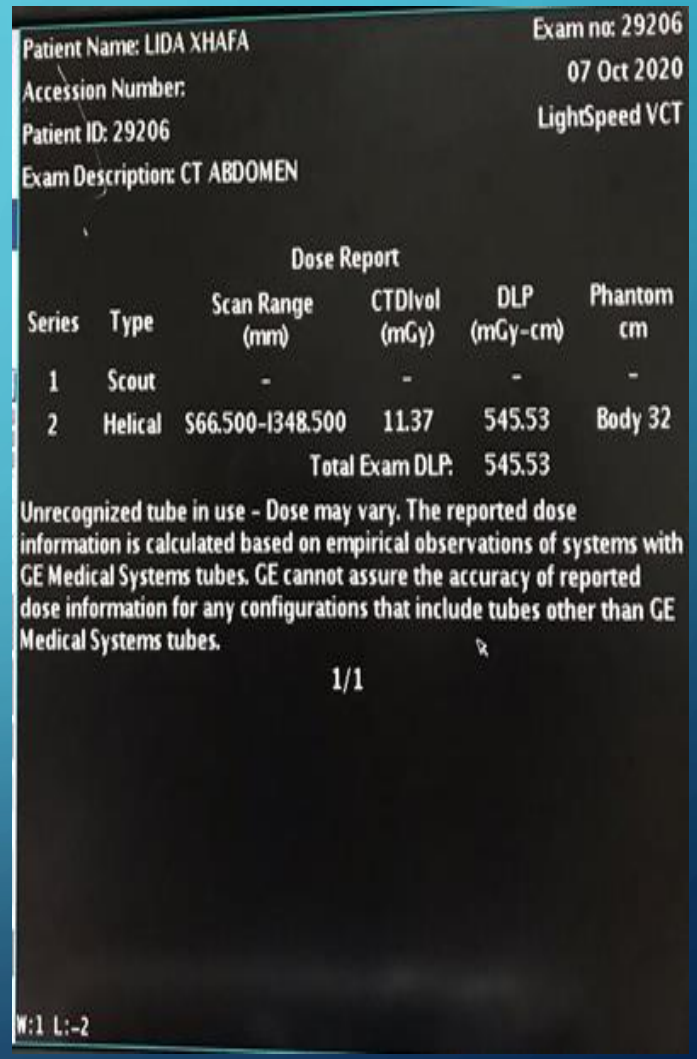
Series	Type	Scan Range (mm)	CTDIvol (mGy)	DLP (mGy-cm)	Phantom cm
1	Scout	-	-	-	-
2	Helical	547.000-1448.000	18.22	1019.76	Body 32

Total Exam DLP: 1019.76

Unrecognized tube in use - Dose may vary. The reported dose information is calculated based on empirical observations of systems with GE Medical Systems tubes. GE cannot assure the accuracy of reported dose information for any configurations that include tubes other than GE Medical Systems tubes.

1/1

W:1 L:-2


Patient Name: LIDA XHAFA
Exam no: 29206
Accession Number:
07 Oct 2020
Patient ID: 29206
LightSpeed VCT
Exam Description: CT ABDOMEN

Dose Report

Series	Type	Scan Range (mm)	CTDIvol (mGy)	DLP (mGy-cm)	Phantom cm
1	Scout	-	-	-	-
2	Helical	566.500-1348.500	11.37	545.53	Body 32

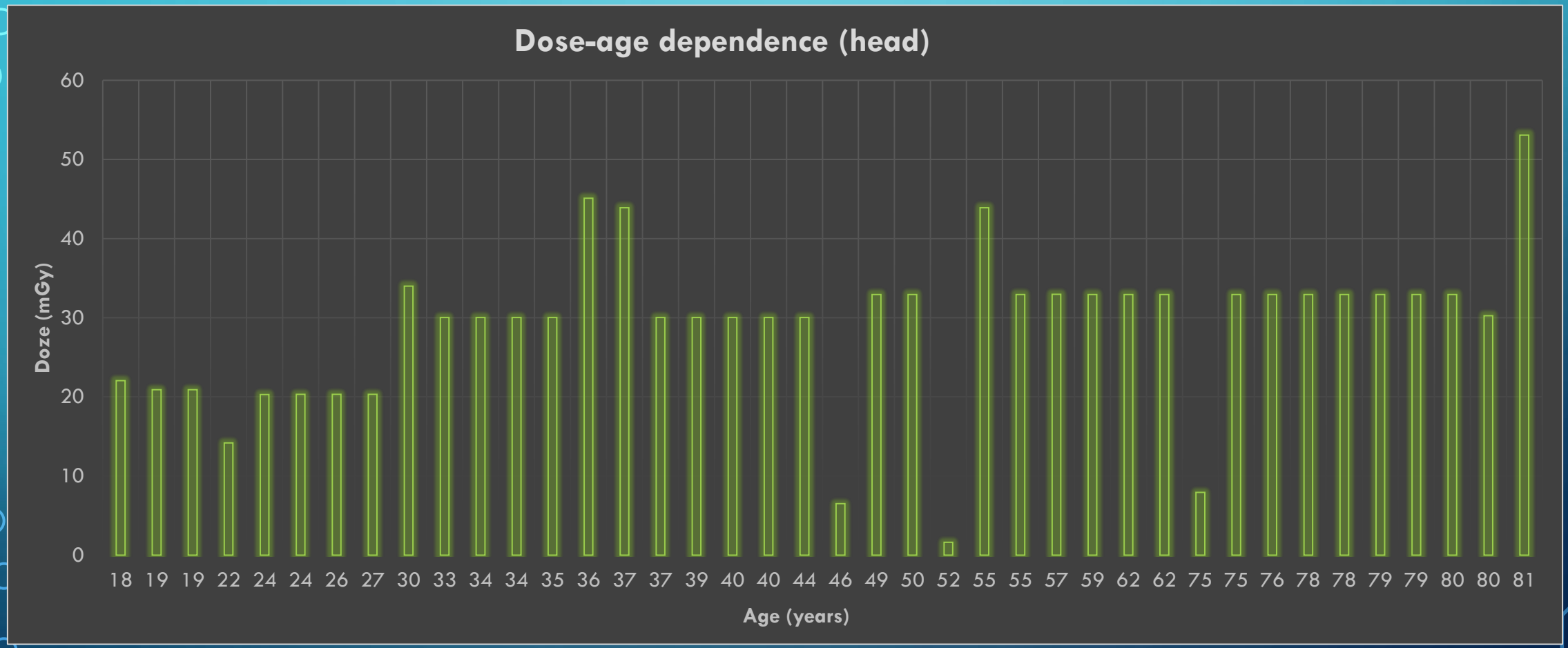
Total Exam DLP: 545.53

Unrecognized tube in use - Dose may vary. The reported dose information is calculated based on empirical observations of systems with GE Medical Systems tubes. GE cannot assure the accuracy of reported dose information for any configurations that include tubes other than GE Medical Systems tubes.

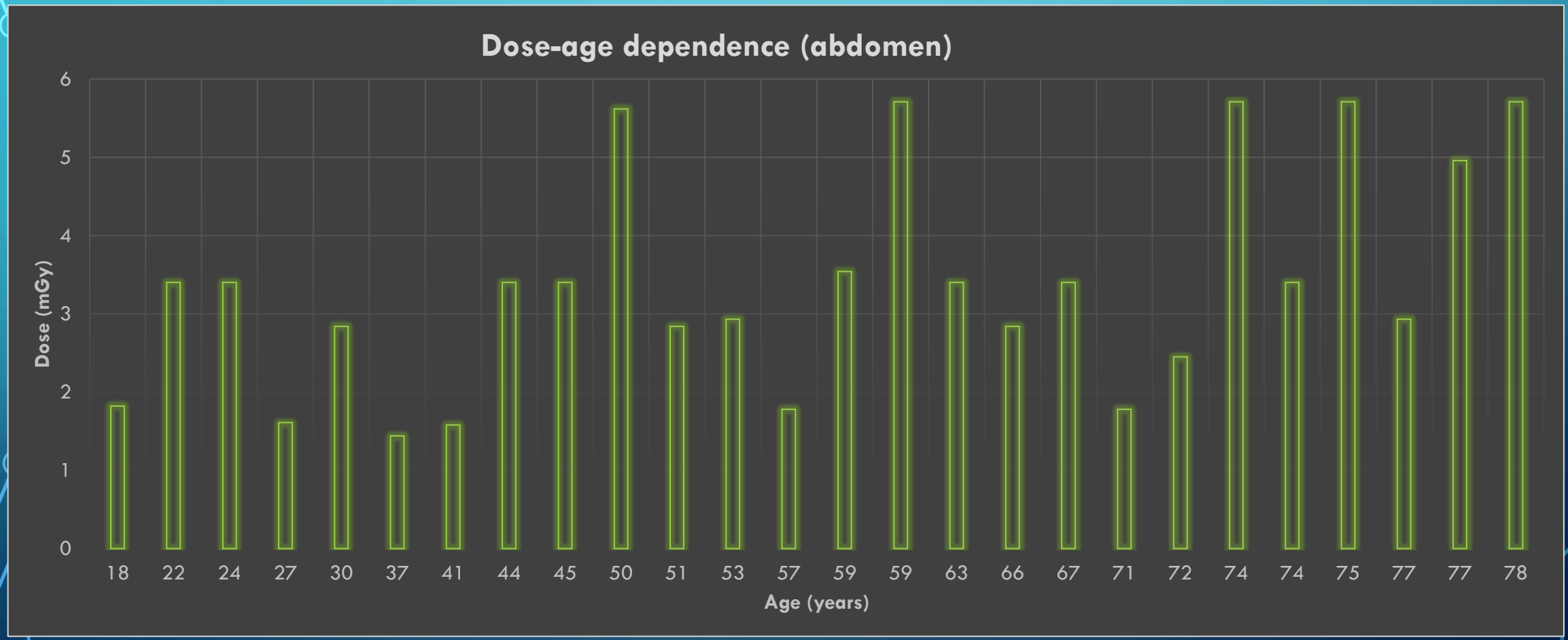
1/1

W:1 L:-2

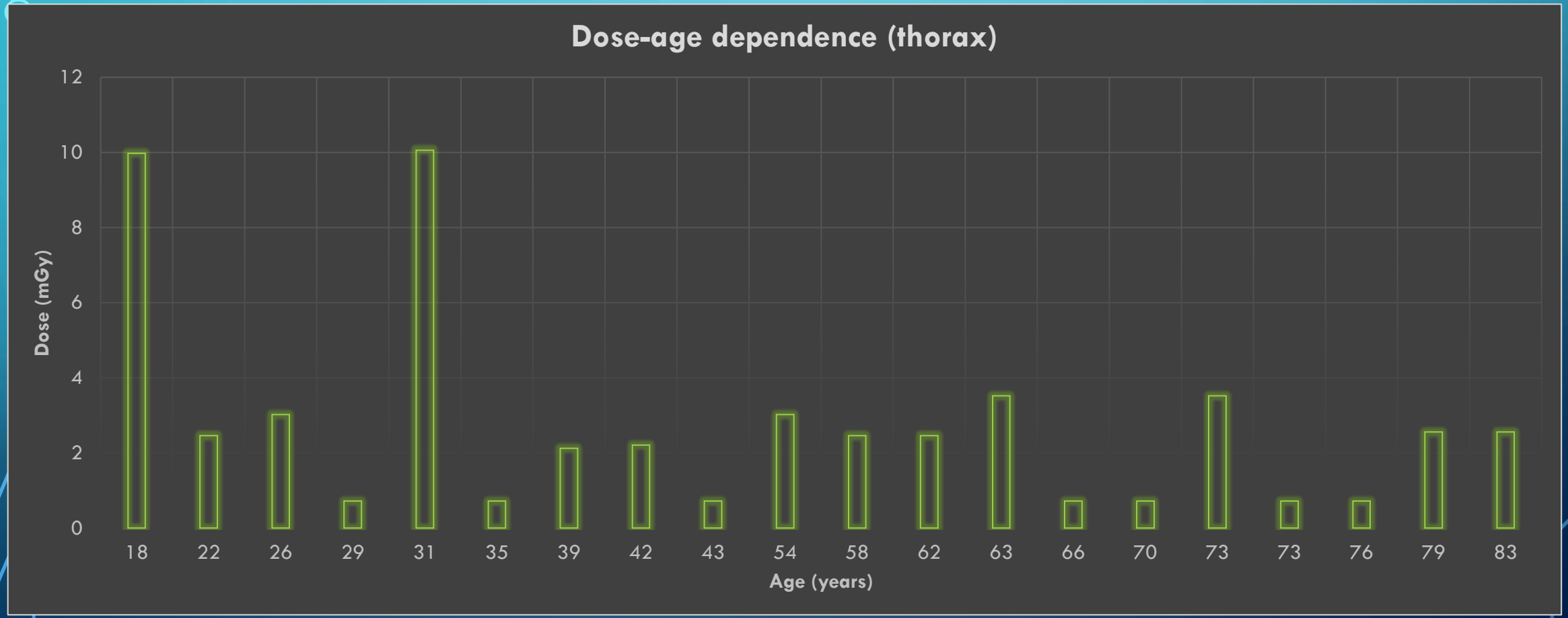
DOSE-OF-AGE ADDICTION FOR THE EXAMINED PART: HEAD.



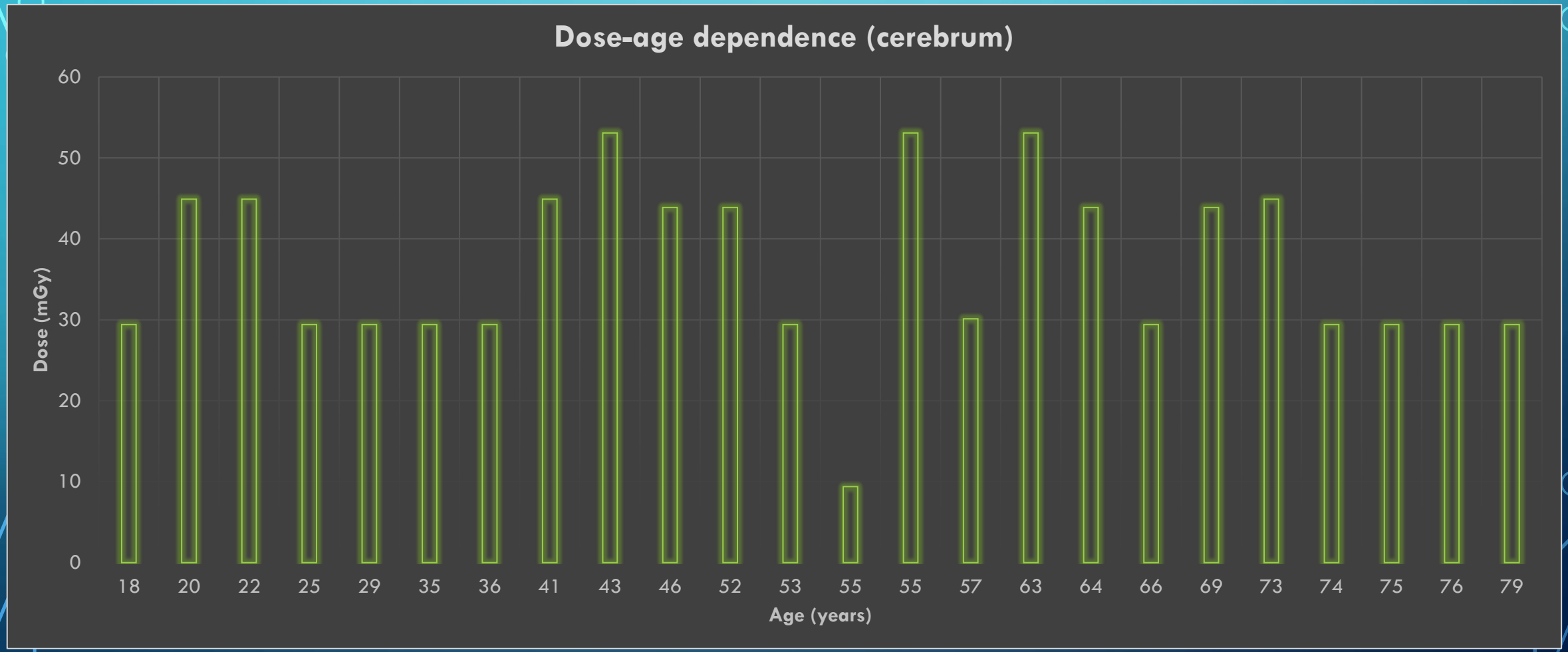
DOSE-AGE ADDICTION FOR THE EXAMINED PART: ABDOMEN.



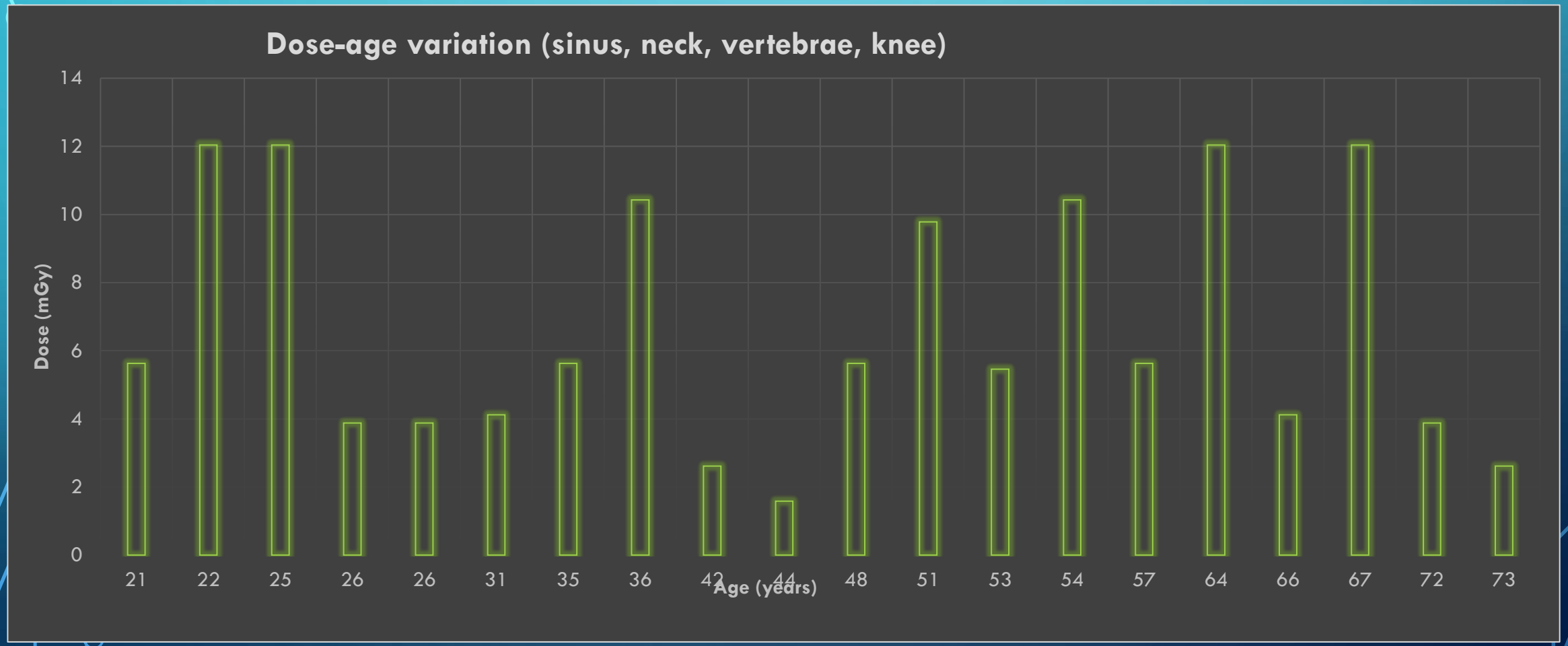
DOSE-OF-AGE ADDICTION FOR THE EXAMINED PART: THORAX.



DOSE-OF-AGE ADDICTION FOR THE PART EXAMINED: CEREBRUM.



DOSE-OF-AGE ADDICTION FOR THE EXAMINED PART: SINUS, NECK, VERTEBRAE.



CONCLUSIONS

This study shows that optimizing protection for CT procedures should be a priority, especially within regional hospitals.

The implementation of corrective actions will take place according to the initial DRLs. This procedure should be a joint effort of all staff, including health authorities, radiation protection regulators, professional societies and universities using interdisciplinary working groups.

RECOMMENDATIONS

1. Staff involved in interventional radiology should be highly motivated, specialized and trained, respecting the principles of radiation protection.
2. The danger for the patient will be greater if the dose is distributed in a larger area, because the riscus is more related to total energy deposited than to the absorbed dose.
3. Diagnostic and therapeutic procedures must be performed at as short a time as possible, to avoid the need for repetition of the procedure.
4. Interventional procedures should be optimized, so that doses taken are lower in line with clinical requirements. This can be achieved by reducing both the time of fluoroscopy and the number of radiographic exposures as well as the possibility that the device provides for lowering the dose.
5. It is recommended that drlvalues be defined for general types of procedures. 6. Patient doses should be routinely monitored to ensure that drlvalues are not exceeded.
7. If the values of DRLs are constantly passed, action must be taken to regulate these values.
8. We must make sure that typical doses according to the procedures are kept within the reference values of the NDRL.

THANK YOU