

ICRP TG108 part 2 WORKSHOP:

Optimisation of Radiological Protection in Digital Radiology Techniques for Medical Imaging



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Latin Safe mission

**To promote the
radiological protection of
patients in Latin America
following “Bonn Call for
Action”**

Latin Safe President: Martha Edith Oyuela



Web

Latinsafe.org

Mônica Oliveira Bernardo, MD PhD

Patient radiation protection

Optimisation

DRL project implementation

ADULT CT

PEDIATRIC CT



29
Hospitals

New 50
Hospitals

METHODOLOGY

Engagement
Multiprofessional team

DATA COLLECTION
Equipment/patient
dose/**clinical indication/BMI**

ANALYSES
ICRP 135/publication

TRAINING OPTIMISATION
Onsite and online workshop
Task group/Local Societies

ICRP 108

POSSIBLE AND NECESSARY!
NEED EFFORTS TO GOAL !

Table 4.2 Arrangements that should be in place for facilities at different levels.

D: Pre-optimisation level (Basic infrastructure)

- Availability of radiation instruments for measurement of radiation dose and exposure parameters.
- Availability of simple protocols setting out measure equipment performance.
- Purchase of range of instruments sufficient for carrying out QC tests on all imaging modalities.
- X-ray equipment has displays of dose parameters (e.g. KAP for radiography and fluoroscopy and displays of CTDI_{vol} and DLP on CT scanners)

C: Basic (Level D plus)

- Calibration of all KAP meters, and displays of CTDI_{vol} and DLP
- Dose audits performed every 3 years
- Dose audit results fed back to radiographers and radiologists periodically
- In process of developing national DRLs

B: Intermediate (Levels D and C plus)

- Standardisation of protocol names for procedures
- Radiologists have agreed arrangement for development of examination protocols
- Agreed codes for identifying more complex examinations
- National DRLs established for a wide range of procedures
- Annual survey of patient doses on wide range of procedures
- Local DRLs and typical values set by organisation linked to local dose surveys
- Results of patient dose audit included in annual review of examination protocols

A: Advanced (Levels D, C and B plus)

- Continual feedback and comparison of patient dose results with typical values
- Application of dose management system software

Optimisation Challenges

Current scenario:

- Sub-optimal **skill** in dose parameters, AI instruments, dose monitoring control;
- **Heterogeneous technology scanners;**
- Clinical indication and patient size (BMI);
- Need to optimize **adult and pediatric** CT.

Opportunities

Education and training; DRL implementation; revision protocols ; update scanners; improve justification, and optimisation.



The Doctor, 1891
Sir Luke Fildes

THANKS!

GRACIAS !

OBRIGADA !

Acknowledgment:

Kimberly Applegate MD
Flávio Morgado, PhD
Participants of the DRL project

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