

On-line Presentation Information

- Presentations have been scheduled for **28 January and 29 July 2027**, from **07h00 till 08h00 AM** (including Q&A). Please check our website <https://radiation-consulting.co.za/dose-optimisation-in-computerised-tomography-ct/> for the latest dates.
- No registration is required for these meetings, you can just join. The **MS Teams** meeting ID and Passcode are as follows (it will be the same Meeting ID and Passcode for both meetings):
 - Meeting ID: 415 675 145 857 2
 - Passcode: Wh7pz2vq
- The meeting link is as follows (you just need to click on the link):
 - [Join the meeting now](#)
- Meetings will be opened 10 minutes before 07h00 AM for participants to join.
- An **attendance register** will be automatically created by the MS Teams platform, which will indicate your total attendance time.
- Only one CPD certificate per calendar year will be issued, irrespective of how many meetings you attend during the year.
- A PDF copy of the presentation will be provided with all certificates.
- **CPD certificate fee:**
Non-Life Healthcare employees:
 $R300.00 + R45.00 \text{ (VAT)} = R345.00$
Life Healthcare employees: No cost
- More than **125** presentations on dose optimisation already given throughout South Africa since 2016.
- The presentation will also be made available on the **Moodle** platform for Life Healthcare employees.



Radiation Dosimetry & Protection cc

DOSE OPTIMISATION IN COMPUTERISED TOMOGRAPHY (CT)



28 January 2027
29 July 2027
MS Teams on-line

HPCSA CPD accreditation
To apply for 1 Clinical CPD point

The Presenter

Dr Tobias Kotzé is a consultant medical physicist. He was previously the deputy-Director and head of the Radionuclide section at the Directorate Radiation Control, SAHPRA and a medical physicist at Groote Schuur Hospital. He is currently a SAHPRA Technical Advisory Committee member for Radiation Protection, as well as a member of the IRPA (International Radiation Protection Association) Task Group on Radiation Protection Training.

A presentation designed specifically to give radiologists, radiographers and other relevant medical staff the CT dose optimisation training as required by the Directorate Radiation Control (SAHPRA).

Payments

By electronic transfer to:

Radiation Dosimetry and Protection cc
Bank: First National Bank
Branch Name: Willowbridge
Acc. no: 621 2560 9795
Branch code: 210 655
Reference: CPD & Name and Surname

Contact details

Meeting co-ordinator: Francina Kotzé
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**Compliance with IAEA guidelines for
CT dose optimisation training**

Who should attend?

Radiologists, radiographers and other relevant medical staff involved in CT.

Training on Dose Optimisation in Computerised Tomography

1 History

- Limits of conventional radiography
- Historical development

2 Principles

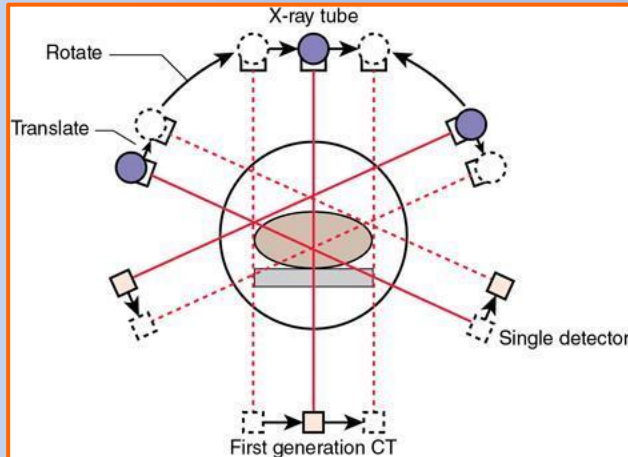
- Image quality versus radiation dose
- Tomographic acquisition
- Tomographic reconstruction

3 CT dose metrics

- CTDI_{vol}
- Dose Length Product (DLP)

4 Patient-centered optimisation

- Patient size adaptation
- Adult versus pediatric protocols
- Pregnancy considerations
- Avoiding unnecessary repeat scans
- Scan length optimisation



5 CT acquisition parameters

- Tube voltage (kVp)
- Tube current (mA)
- Slice thickness
- Pitch
- Collimation
- Detector configuration

6 Image reconstruction techniques

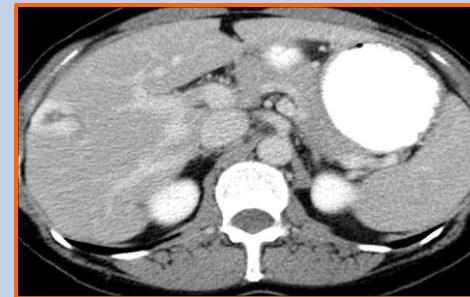
- Filtered back projection
- Iterative reconstruction
- Noise reduction
- The sinogram
- Potential dose savings

7 Examination protocol optimisation

- Head CT
- Chest CT
- Abdomen/Pelvis CT
- Coronary CT
- Trauma CT
- Protocol standardisation

8 Contrast media optimisation

- Timing and bolus tracking
- Reducing repeat scans
- Optimising enhancement
- Dual-energy CT considerations

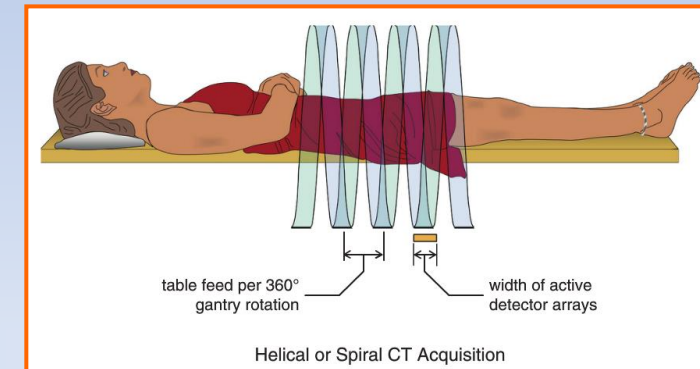


9 Image quality assessment

- Objective image quality
- Subjective image quality
- Noise
- Contrast-to-noise ratio (CNR)
- Spatial resolution

10 Quality assurance

- SAHPRA requirements
- Who may perform QA
- Acceptance QA
- Routine QA
- Diagnostic Reference Levels (DRL's)
- Typical DRLs
- Dose audits
- Staff training



11 Dose monitoring and optimisation

- Dose trends
- Patient doses exceeding 5 Gy
- Multiple CT scans
- Emergencies
- Common causes of unnecessary high CT doses

What you will gain from attending this presentation

This presentation provides training for radiologists, radiographers and other relevant medical staff in dose optimisation in CT. It fulfils the regulatory requirement of the Directorate Radiation Control (SAHPRA).