22NRM01 TraMeXI

Traceability in Medical X-ray Imaging Dosimetry

Discussion

Workshop on X-ray imaging dosimetry

20-22 November 2024 Helsinki University Hospital

How to use calibration coefficient for XMMs?

- Should the calibration coefficient be applied to the measurement result?
- How do you know the measurement conditions (e.g. HVL)?
- Should you interpolate calibration coefficient?
- What if you use different XMM settings?
- Can you extrapolate?

Calibration or verification? (Or testing?)

What should be the target uncertainty?

quantity	kerma	kVp	time	HVL
uncertainty from calibration labs (range)	<1%-4%	<1%-10%	<1%-10%	1%-10%
uncertainty from calibration labs (50% point)	2%	2%	2%	4%
max. uncertainty (accuracy) deducted from clinical needs	3%	1%	2%	5%
max. uncertainty (accuracy) as specified in literature		3%	2% (mammography) / 5% (general)	5% (mammography)
max. uncertainty (reproducibility) deducted	1%	1%	2%	2%
max. uncertainty (reproducibility) as specified in		3%	2% (mammography) / 5% (general)	
IEC stated requirements	20% (linearity) / 5% (reproducibility) / 35% (dose area product)	8% (general) / 5% mammography	10% + 1ms or 10% + 0,2 mAs	

What is clinically needed?

- Other quantities

What is expected for different purposes?

- Quality assurance
- Research
- Optimization

Feedback on the update of protocols

- What do you need?
- What do you think should be changed?
- Do you have any comments or suggestions?

Thank you for your attention!

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