

Corrections/Updates on:

European protocol for the quality control of the physical and technical aspects of mammography screening chapter, 2b digital mammography

2b.1.2 System requirements

Addition to the text, page 11 (additions in bold):

The acceptable level is the minimum acceptable level; however, it is recommended that systems operate as far as possible at a standard equal to or better than the achievable **image quality** level.

2b.2 Image acquisition

2b.2.2.1.2 Noise evaluation

The noise analysis measurement is a valuable tool, but the use can be restricted to typetests and/or acceptance tests. If image quality problems occur a noise analysis could be performed as an additional evaluation tool. **The measurement is optional.**

2b.2.3 Dosimetry

2b.2.3.1 Dose to typical breasts simulated with PMMA

The limiting values on dosimetry for digital mammography are based on measured dose values in screen-film mammography using the principle that a new technique (digital mammography at that time) should perform equally or better than the existing technology (screen-film). Consequently the limiting values include the response of screen-film and the workings of the AEC of screen-film systems. For 2cm of PMMA (equivalent breasts of 2.1cm), the achievable and acceptable levels mentioned in the previous version of the guidelines were difficult to comply with when using digital mammography systems.

Given the above, and keeping in mind that glandular dose for women with thin breasts is already lower than the dose for women with thicker breasts, the limiting values for the 2.1 cm breast and the 2.0 cm PMMA thickness are raised slightly.

Table S1.4: Dose levels for typical breasts simulated with PMMA

Thickness of PMMA	Equivalent breast thickness	Average glandular dose to equivalent breasts		Average glandular dose to equivalent breasts	
		Current Guidelines		Updated	
		acceptable level	achievable level	acceptable level	achievable level
[cm]	[cm]	[mGy]	[mGy]	[mGy]	[mGy]
2.0	2.1	≤1.0	≤0.6	≤1.2	≤0.8
3.0	3.2	≤1.5	≤1.0	≤1.5	≤1.0
4.0	4.5	≤2.0	≤1.6	≤2.0	≤1.6
4.5	5.3	≤2.5	≤2.0	≤2.5	≤2.0
5.0	6.0	≤3.0	≤2.4	≤3.0	≤2.4
6.0	7.5	≤4.5	≤3.6	≤4.5	≤3.6
7.0	9.0	≤6.5	≤5.1	≤6.5	≤5.1

Appendix 5: Tables for determination of average glandular dose

Addition of the s-factor of the Rh/Ag target/filter combination in Table 5.4a.

Table A5.4a: s-factors for clinically used spectra [Dance et al 2000]

Target material	Filter material	Filter thickness (μm)	s-factors
Mo	Mo	30	1.000
Mo	Rh	25	1.017
Rh	Rh	25	1.061
Rh	Ag	30	1.087¹
W	Rh	50-60	1.042
W	Ag	50-75	1.042

¹ Personal communication with David Dance