

ImPACT CT Patient Dosimetry Calculator:

Notes on use – last revised June 2007

Refers to version 0.99x, issued in January 2006

CONTENTS:

64 slice scanners

a. Siemens and GE

Version 0.99x includes Siemens Sensation 64 and GE VCT

b. Philips Brilliance CT40 and CT64

Calculate as for a Philips MX8000 IDT. Essentially CTDI values in air and in phantom are similar, implying that filtration the same. Only difference is therefore that the beam is wider on the 40 and 64 scanners.

Use 'collimation (mm)' eg 7.5 or 40 mm, and type in value for 'relative CTDI' factor, form table below, in cell (I,12) on ScanCalculation page.

Data from Philips 64

Collimation		Relative CTDI factor	
(n x mm)	(mm)	Small fs	Large fs
12 x 0.625	7.5	-	1.018
16 x 0.625	10	1.002	1.000
12 x 1.25	15	-	0.875
40 x 0.625	25	0.877	0.876
32 x 1.25	40	-	0.749
64 x 0.625	40	0.749	0.748

(fs = focal spot)

c. Toshiba Aquilion 64

Detector array is the same. Assume that filtration is the same, therefore can calculate as for a Toshiba 16.

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2. Cardiac Dose Calculations

a. Toshiba Aquilion

Cardiac examinations on Toshiba scanners are performed with a 25 cm field of view (FOV), and therefore the small bow-tie (beam-shaping) filter, normally used for scanning heads & small bodies, is employed. ImPACT do not currently have the CTDI data required to 'match' these types of scans to the most appropriate NRBP Monte Carol data set.

We hope to rectify this position shortly. In the meantime, if you wish to estimate cardiac doses on these scanners, please select HEAD mode in the 'Scan Region' field of the dosimetry calculator.

Please ensure that you note the calculated $CTDI_{vol}$ and DLP figures and compare these to those recorded for the actual scans.

mal 21/6/07