

Absolute Dose Values in Computed Tomography

SOMATOM Perspective Family

Reference values		Switzerland ¹	Germany ²	European Union ³	USA ⁴
Head Routine	CTDI _{vol} [mGy]	65	65	60	75
Thorax Routine	CTDI _{vol} [mGy]	15	12	30	n.a.
Abdomen Routine	CTDI _{vol} [mGy]	15	20	35	25

Default Siemens Protocol		Standard values*	Standard SAFIRE values**/**/**/**	Put your current values here
Head Routine	CTDI _{vol} [mGy]	59	45.8	
Thorax Routine	CTDI _{vol} [mGy]	8.8	5.4	
Abdomen Routine	CTDI _{vol} [mGy]	14.6	10.4	

Please ask your local Siemens contact person for great clinical cases at the right dose.

1	Bundesamt für Gesundheit (Merkblatt R-06-06, Diagnostische Referenzwerte in der Computertomographie, 01.04.2010)
2	Bundesamt für Strahlenschutz (Bekanntmachung der aktualisierten diagnostischen Referenzwerte für diagnostische und interventionelle Röntgenuntersuchungen. Vom 22. Juni 2010)
3	European Guidelines on Quality Criteria for Computed Tomography (http://www.dr.dk/guidelines/ct/quality/htmlindex.htm)
4	American College of Radiology (CT Accreditation Program Requirements, Clinical Image Quality Guide, 13.04.2012)

* Values are based on the default protocols of the SOMATOM Perspective Family with *syngo* CT VC20 and *syngo* CT VC28 and an average sized patient of 1.75 m and 75 kg

** Iterative Reconstruction is used

*** In clinical practice, the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. The following test method was used to determine a 54 to 60% dose reduction when using the SAFIRE reconstruction software. Noise, CT numbers, homogeneity, low-contrast resolution and high contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with SAFIRE showed the same image quality compared to full dose data based on this test. Data on file.