

Abstract of CS 9300 dosimetry Low-Dose Protocol report Performed in August 2014 by Dr Ludlow*

Introduction:

- This abstract summarizes the result of the CS 9300 Low-dose protocol dosimetry report performed by Dr Ludlow in August 2014
- The protocol, used for this study, is following the 2007 recommendation of ICRP.

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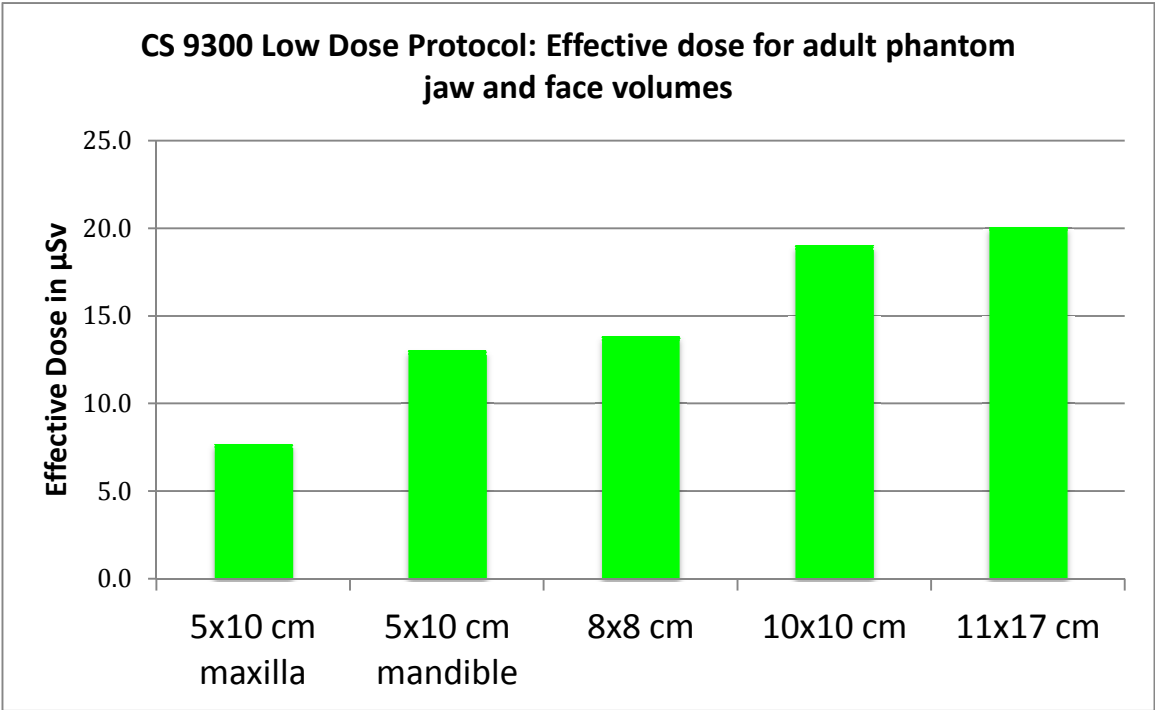


Figure1. Adult phantom effective doses for jaw and face FOVs using CS 9300 Low Dose protocol

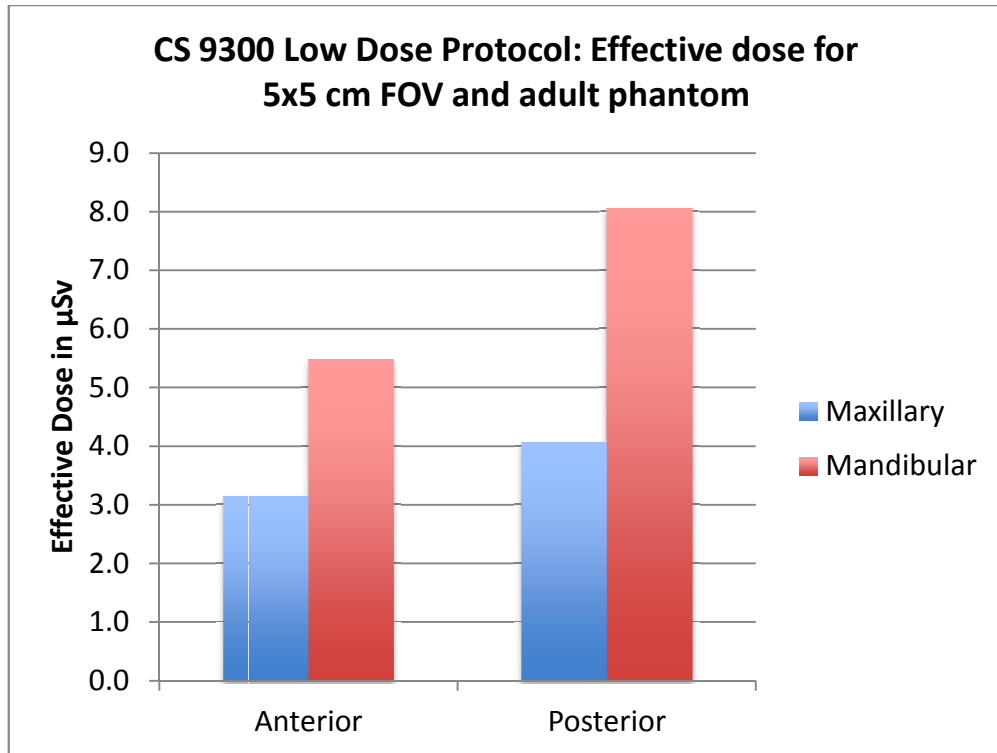


Figure2. Adult phantom effective doses for 5x5 cm FOV CS 9300 Low Dose protocol

FOV (HxW cm)	Location	Phantom	Setting	Effective dose
5x5	Post Max	Adult	Medium	4
5x5	Post Mand	Adult	Medium	8
5x5	Ant Max	Adult	Medium	3
5x5	Ant Mand	Adult	Medium	5
8x8		Adult	Medium	14
5x10	Max	Adult	Medium	8
5x10	Mand	Adult	Medium	13
10x10	Jaw	Adult	Medium	19
11x17	Head	Adult	Medium	20
5x5	Ant Max	Child	Child	4
11x17	Head	Child	Child	19

Table3. CS 9300 Low Dose protocol effective dose by FOV, phantom type

Note:

- For low-dose protocol, the minimum exposure time is 3 seconds and the maximum exposure time is 3.7 seconds
- Panoramic effective dose for adult (medium) is 20 μSv

5x5 cm FOV	Low Dose	Dose Reduction versus Fast Scan Mode
Anterior Maxilla	3.1	91%
Posterior Maxilla	4.1	92%
Anterior Mandible	5.5	89%
Posterior Mandible	8.1	88%
Average		90%

Table4. Effective dose reduction percentage on an adult phantom: Comparison between Fast Scan and Low Dose protocols for CS 9300 5x5 cm FOV

FOV > 5x5 cm	Low Dose	Dose Reduction versus Standard Exposures Mode
5x10 cm maxilla	7.7	89%
5x10 cm mandible	13.0	89%
8x8 cm	13.8	88%
10x10 cm	19.0	75%
11x17 cm	20.1	80%
Average		84%

Table5. Effective dose reduction percentage on an adult phantom: Comparison between Standard and Low Dose protocols for CS 9300 regional FOV