

Planmeca Viso G5 effective doses

Effective doses measured according to ICRP 2007

1 Tooth, 5x5 cm

1.1 Lower incisors

	XS			S			M			L			XL		
Voxel	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv
300	90	45	41	90	50	45	100	40	53	110	36	66	120	32	76
150	90	71	64	90	80	72	100	63	84	110	56	102	120	50	119
75	90	125	113	90	125	113	100	100	133	110	90	164	120	80	191
ULD															
300	90	11	10	90	12,5	11	100	10	13	110	9,0	16	120	8,0	19
150	90	18	16	90	20	18	100	16	21	110	14	26	120	12,5	30
75	90	32	29	90	32	29	100	25	33	110	22	40	120	20	48

1.2 Upper incisors

	XS			S			M			L			XL		
Voxel	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv
300	90	45	17	90	50	18	100	40	22	110	36	27	120	32	31
150	90	71	26	90	80	30	100	63	34	110	56	42	120	50	49
75	90	125	46	90	125	46	100	100	133	110	90	67	120	80	78
ULD															
300	90	11	4	90	12,5	5	100	10	5	110	9,0	7	120	8,0	8
150	90	18	7	90	20	7	100	16	9	110	14	10	120	12,5	12
75	90	32	12	90	32	12	100	25	14	110	22	16	120	20	20

1.3 Lower molars

	XS			S			M			L			XL		
Voxel	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv	kV	mAs	μSv
300	90	45	31	90	50	35	100	40	41	110	36	51	120	32	59
150	90	71	49	90	80	56	100	63	65	110	56	79	120	50	92
75	90	125	87	90	125	87	100	100	103	110	90	127	120	80	147
ULD															
300	90	11	8	90	12,5	9	100	10	10	110	9,0	13	120	8,0	15
150	90	18	13	90	20	14	100	16	16	110	14	20	120	12,5	23
75	90	32	22	90	32	22	100	25	26	110	22	31	120	20	37

2 Teeth, 9x9 cm

Voxel	XS			S			M			L			XL		
	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv
450	90	36	62	90	40	69	100	32	82	110	28	98	120	25	114
300	90	45	78	90	50	87	100	40	102	110	36	126	120	32	146
150	90	71	122	90	80	139	100	63	160	110	56	195	120	50	228
ULD															
450	90	9,0	15	90	10	17	100	8	20	110	7,1	25	120	6,3	28
300	90	11	19	90	12,5	22	100	10	25	110	9	32	120	8	36
150	90	18	31	90	20	35	100	16	41	110	14	49	120	12,5	57

3 Jaw, 14x10 cm

Voxel	XS			S			M			L			XL		
	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv
600	90	28	46	90	32	53	100	25	61	110	22	73	120	20	87
450	90	36	59	90	40	66	100	32	78	110	28	93	120	25	109
300	90	45	74	90	50	83	100	40	98	110	36	120	120	32	139
ULD															
600	90	7,1	12	90	8,0	13	100	6,3	15	110	6,3	21	120	6,3	27
450	90	9,0	15	90	10	17	100	8,0	20	110	7,1	24	120	6,3	27
300	90	11	18	90	12,5	21	100	10	24	110	9,0	30	120	8,0	35

4 Face, 16x16 cm

Voxel	XS			S			M			L			XL		
	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv
600	90	28	38	90	32	44	100	25	51	110	22	61	120	20	72
450	90	36	49	90	40	55	100	32	65	110	28	78	120	25	90
300	90	45	62	90	50	69	100	40	81	110	36	100	120	32	116
ULD															
600	90	7,1	10	90	8,0	11	100	6,3	13	110	6,3	17	120	6,3	23
450	90	9,0	12	90	10	14	100	8,0	16	110	7,1	20	120	6,3	23
300	90	11	15	90	12,5	17	100	10	20	110	9,0	25	120	8,0	29

5 Sinus, 14x14 cm

Voxel	XS			S			M			L			XL		
	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv
600	90	28	25	90	32	29	100	25	33	110	22	40	120	20	47
450	90	36	32	90	40	36	100	32	42	110	28	51	120	25	59
300	90	45	40	90	50	45	100	40	53	110	36	65	120	32	76
ULD															
600	90	7,1	6	90	8,0	7	100	6,3	8	110	6,3	11	120	6,3	15
450	90	9,0	8	90	10	9	100	8,0	11	110	7,1	13	120	6,3	15
300	90	11	10	90	12,5	11	100	10	13	110	9,0	16	120	8,0	19

6 Middle ear, 5x5 cm

	XS			S			M			L			XL		
Voxel	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv
300	90	45	13	90	50	14	100	40	17	110	36	21	120	32	24
150	90	71	20	90	80	23	100	63	27	110	56	33	120	50	38
75	90	125	36	90	125	36	100	100	43	110	90	53	120	80	61
ULD															
300	90	11	3	90	12,5	4	100	10	4	110	9,0	5	120	8,0	6
150	90	18	5	90	20	6	100	16	7	110	14	8	120	12,5	10
75	90	32	9	90	32	9	100	25	11	110	22	13	120	20	15

7 Panoramic exposure

Standard panoramic program

XS*			S			M			L			XL		
kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv	kV	mAs	μ Sv
64	110	14	66	125	17	68	140	21	70	160	25	72	180	30

Note.

The doses were measured with recommended exposure values for medium (M) size patient. The other values are calculated from this value. Planmeca Viso software version 1.1.5.

All dose measurements were made using the protocol described by Koivisto et al (1). The effective doses were obtained from measured organ doses using the revised guidelines given by the International Commission on Radiological Protection (ICRP 103) (2).

1. Koivisto J, Kiljunen T, Tapiovaara M, Wolff J, Kortensniemi M. Assessment of radiation exposure in dental cone-beam computerized tomography with the use of metal-oxide semiconductor field-effect transistor (MOSFET) dosimeters and Monte Carlo simulations. *Oral Surg Oral Med Oral Pathol Oral Radiol.* 2012 Sep; 114(3):393-400.
2. International commission on Radiological Protection (ICRP). Recommendations of the ICRP. ICRP Publication 103. *Ann ICRP* 2008; 37:2-4.
3. Koivisto J., Kiljunen T., Wolff J. and Kortensniemi M. Characterization of MOSFET dosimeter angular dependence in three rotational axes measured free-in-air and in soft-tissue equivalent material, *Journal of Radiation Research*, 2013, 00, 17 doi: 10.1093/jrr/rrt015