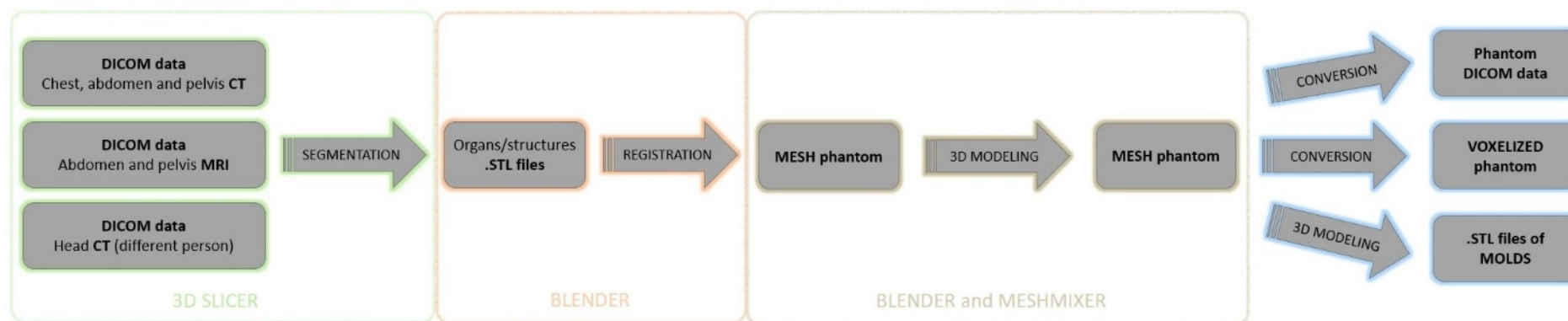


# Development of a computational pregnant female phantom and calculation of fetal dose during a photon breast radiotherapy

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**SUPPLEMENTARY FIGURE 1.** A schematic presentation of the steps in Tena phantom creation.

**SUPPLEMENTARY TABLE 1.** Volumes of Tena organs compared with other available computational phantoms

Tissue/organ	TENA	KATJA	UFHF20WK	ICRP FEMALE
Adrenal glands	5.1	12.3	12.9	12.6
Amniotic fluid	423.4	468.2	1833.7	N/A
Blood vessels/blood	806.4	663.7	526.5	679.2
Bones, cortex (including proximal humerus and femoral heads)	2443.4	885.1	1012.8	757.9
Bone marrow (including proximal humerus and femoral heads)	723.4	1779.7	2071.3	1830.5
Central nervous system (brain and spinal cord)	1156.3	1228.0	1312.6	1256.2
Colon, content	454.2	300.8	40.2	307.694
Colon, wall	287.2	338.4	336.2	346.1
Esophagus, content	4.4	/	/	N/A
Esophagus, wall	12.2	33.2	34.3	34.0
Eyeballs	12.4	13.6	14.7	13.9
Fetus	123.0	328.7	485.8	N/A
Gall bladder, content	15.5	43.4	47.6	44.4
Gall bladder, wall	15.6	9.7	7.7	9.9
Kidneys	312.3	256.0	278.8	261.9
Liver	1780.4	1303.5	1332.4	1333.3
Lungs	3937.1	2155.9	2770.5	2205.3
Myocardium	221.6	232.8	240.9	238.1
Pancreas	85.2	111.7	119.0	114.291
Parotid glands	24.1	66.4	40.7	68.0
Placenta	142.7	555.5	270.4	N/A
Soft tissues (muscles, adipose tissue and skin)	36080.4	24127.6	45298.8	23617.2
Spleen	391.2	122.2	123.1	1250
Stomach, duodenum and small intestine, content	570.3	479.5	1156.2	490.4
Stomach, duodenum and small intestine, wall	425.2	705.5	600.8	576.9
Submandibular glands	5.3	*	7.9	*
Thyroid gland	10.0	16.0	16.4	16.3
Upper airways (nasal cavity, pharynx and larynx) and trachea/air	136.9	69.9	73.3	71.5
Urinary bladder, content	11.1	146.8	43.9	192.3
Urinary bladder, wall	21.5	41.2	44.1	38.5
Uterus (myometrium)	552.5	450.5	621.6	77.7

N/A = not applicable; \* = added to the parotid glands sum

**SUPPLEMENTARY TABLE 2.** Pregnant female phantom named Tena

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Tena phantom Molds:

<https://drive.google.com/file/d/1VctIOfs7QGT0a5Cn0jG952vCUE40dXCH/view?usp=sharing>

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Tena phantom DICOM:

<https://drive.google.com/file/d/1haPgCSVI21a9lkj3puEIWJ31cMp-tJkU/view?usp=sharing>

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Tena phantom voxelized form:

[https://drive.google.com/file/d/1-aThMHaQ7\\_n-2PGaMLb09k6o9IMGT10Q/view?usp=sharing](https://drive.google.com/file/d/1-aThMHaQ7_n-2PGaMLb09k6o9IMGT10Q/view?usp=sharing)

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Tena phantom organ structures:

[https://drive.google.com/file/d/1-aThMHaQ7\\_n-2PGaMLb09k6o9IMGT10Q/view?usp=sharing](https://drive.google.com/file/d/1-aThMHaQ7_n-2PGaMLb09k6o9IMGT10Q/view?usp=sharing)

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