

Supplementary materials

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Abbreviations used:

ASD= Atrial Septal Defect

COA= Coarctation

EPS= Electrophysiology Study

LAR= Lifetime attributable risk [of cancer incidence]

PA= Pulmonary artery

PDA= Patent Ductus Arteriosus

RFA= Radiofrequency ablation

Organ doses in millisieverts [interquartile range]

Male

Procedure	Effective dose	Bone marrow	Breasts	Lungs	Oesophagus	Thyroid	Liver	Stomach
ASD occlusion	1 [0.6, 2.9]	0.6 [0.3, 1.6]	n/a	3.3 [1.9, 9.9]	2.1 [1.2, 6.5]	0.1 [0.1, 0.3]	0.8 [0.5, 2.2]	0.6 [0.3, 1.6]
PDA occlusion	2.2 [1.3, 4.3]	0.7 [0.5, 1.4]	n/a	6 [3.6, 11.9]	4.7 [2.7, 8.3]	0.4 [0.2, 0.6]	2.3 [1.3, 4.7]	1 [0.6, 1.9]
Pulmonary valvuloplasty	3.3 [1.6, 6.5]	1.2 [0.6, 2.5]	n/a	9.6 [4.6, 19.1]	6.5 [3.4, 13.9]	0.6 [0.3, 1.2]	3.2 [1.5, 6.3]	1.6 [0.8, 3.3]
Aortic valvuloplasty	2.8 [1.8, 4.6]	1.2 [0.7, 2]	n/a	8.1 [5.2, 13.5]	5.9 [3.4, 9.4]	0.4 [0.2, 0.7]	2.6 [1.8, 4.7]	1.3 [0.8, 2.2]
Pulmonary artery ballooning/stenting	6.5 [3.6, 10.9]	2.1 [1.2, 3.8]	n/a	17.6 [10.1, 30.3]	11.1 [6.7, 20]	0.7 [0.4, 1.4]	7 [4.1, 12.2]	2.2 [1.4, 4.2]
Coarctation ballooning/stenting	3.4 [1.6, 6.3]	1.5 [0.7, 2.7]	n/a	10.7 [5.1, 19.4]	6.9 [3.4, 12.2]	0.5 [0.2, 0.7]	4 [1.9, 7.2]	1.5 [0.7, 2.5]
EPS ± RFA	1.9 [0.8, 4.6]	1.5 [0.6, 3.6]	n/a	7.8 [3, 16.3]	4.8 [2, 10.4]	0.1 [0.1, 0.4]	1.4 [0.6, 3.6]	0.7 [0.3, 1.5]
Heart biopsy	0.4 [0.3, 1]	0.4 [0.2, 0.7]	n/a	1.4 [0.8, 3.2]	1.1 [0.6, 2.3]	0 [0, 0.1]	0.3 [0.2, 0.6]	0.2 [0.1, 0.4]
Coronary angiography	2.2 [1.4, 3.4]	1.7 [1.2, 2.8]	n/a	7.7 [5, 11.9]	5 [3.5, 8.3]	0.2 [0.2, 0.3]	1.6 [1, 2.4]	1.2 [0.8, 1.9]
Valve replacement	18.2 [10.3, 26.3]	9.5 [6.7, 16]	n/a	57.7 [34.2, 74.6]	32.4 [18.1, 45.5]	1.3 [0.6, 1.8]	16.7 [9.6, 26.6]	6 [3.1, 8]
Pacemaker procedure	0.9 [0.3, 2.5]	0.8 [0.2, 2.1]	n/a	3.4 [1.1, 8.8]	2.2 [0.7, 5.7]	0.1 [0, 0.2]	0.7 [0.3, 2.6]	0.5 [0.1, 1.3]
Atrial septostomy	1.4 [0.7, 3.3]	0.6 [0.3, 1.4]	n/a	4.5 [2.1, 10.2]	3.6 [1.7, 8.1]	0.3 [0.2, 0.7]	1.5 [0.7, 3.3]	0.7 [0.3, 1.6]

Female

Procedure	Effective dose	Bone marrow	Breasts	Lungs	Oesophagus	Thyroid	Liver	Stomach
ASD occlusion	1.1 [0.5, 2]	0.6 [0.3, 1.2]	1.9 [0.9, 3.5]	3.6 [1.7, 6.7]	2.3 [1.1, 4.2]	0.1 [0.1, 0.2]	0.8 [0.4, 1.6]	0.6 [0.3, 1.2]
PDA occlusion	2.3 [1.4, 4.3]	0.8 [0.4, 1.4]	6.8 [3.9, 13.1]	6.4 [3.7, 11.6]	4.8 [2.6, 8.8]	0.4 [0.2, 0.7]	2.4 [1.4, 4.5]	1 [0.6, 1.9]
Pulmonary valvuloplasty	2.3 [1.3, 5]	0.9 [0.5, 1.9]	5.8 [3.4, 12.8]	6.6 [3.9, 14.6]	4.8 [2.8, 10.7]	0.4 [0.2, 0.9]	2.3 [1.3, 4.6]	1.2 [0.7, 2.4]
Aortic valvuloplasty	3.5 [2.2, 4]	1.4 [1, 1.6]	8.9 [6.1, 10.7]	10.2 [6.6, 11.9]	6.7 [4, 8.4]	0.4 [0.3, 0.8]	3.2 [2, 4]	1.5 [0.9, 1.8]
Pulmonary artery ballooning/stenting	5.8 [3.6, 8.3]	1.9 [1.1, 2.6]	18.3 [10.9, 25]	16.1 [9.9, 23.2]	10.1 [6.6, 16.1]	0.6 [0.4, 1.2]	6.4 [3.9, 9.6]	2.1 [1.4, 3.6]
Coarctation ballooning/stenting	4.2 [2.5, 5.8]	1.9 [1, 2.4]	11.2 [6.1, 14.1]	12.6 [7.7, 16.9]	6.9 [5, 12.4]	0.5 [0.3, 0.8]	4.2 [2.8, 6.1]	1.5 [1.1, 2.6]
EPS ± RFA	1.7 [0.6, 5.2]	1.2 [0.4, 3.8]	1.5 [0.5, 10.1]	6.3 [2.3, 19.3]	3.8 [1.4, 11.9]	0.1 [0, 0.4]	1.3 [0.4, 4]	0.6 [0.2, 1.6]
Heart biopsy	0.4 [0.2, 0.8]	0.4 [0.2, 0.7]	0.8 [0.4, 1.4]	1.5 [0.7, 2.5]	1.1 [0.5, 1.9]	0 [0, 0.1]	0.3 [0.1, 0.5]	0.2 [0.1, 0.3]
Coronary angiography	2.2 [1.4, 3.9]	1.9 [1.1, 3.4]	1.3 [0.8, 2.6]	7.8 [4.8, 13.2]	5.2 [3.2, 8.8]	0.2 [0.1, 0.3]	1.5 [0.9, 2.6]	1.2 [0.8, 1.8]
Valve replacement	20.8 [15.1, 39]	12.2 [8.1, 25.5]	58 [42.4, 99.2]	62.5 [46, 127.2]	36.8 [24.5, 67.4]	2 [1.1, 2.4]	19.3 [13.3, 35.1]	8.4 [5.2, 12.6]
Pacemaker procedure	0.7 [0.3, 1.5]	0.5 [0.3, 1.3]	0.9 [0.4, 2.9]	2.5 [1.1, 5.5]	1.5 [0.7, 3.3]	0.1 [0, 0.1]	0.5 [0.2, 1.6]	0.3 [0.2, 0.8]
Atrial septostomy	1.8 [0.8, 3.9]	0.8 [0.3, 1.7]	4.1 [1.6, 8.9]	5.5 [2.4, 12.1]	3.9 [1.9, 8.7]	0.3 [0.2, 0.8]	1.7 [0.7, 3.6]	0.9 [0.4, 2.1]

LAR per 100,000 based on 25th percentiles of organ doses:

Males:

	Lung	Stomach	Liver	Oesophagus	Breast	Leukaemia	Thyroid
ASD occlusion	5.4 [2.5, 11.7]	0.5 [0.2, 0.8]	0.4 [0.3, 1]	1.4 [0, 3.1]	n/a	0.6 [0, 1.4]	0.1 [0, 0.2]
PDA occlusion	12 [5.7, 26.1]	1.1 [0.6, 2]	1.4 [1, 3.1]	3.7 [0.1, 8.3]	n/a	1.5 [0.1, 3.3]	0.1 [0, 0.5]
Pulmonary valvuloplasty	15.9 [7.6, 34.7]	1.5 [0.8, 2.7]	1.7 [1.2, 3.8]	4.9 [0.1, 10.9]	n/a	2 [0.1, 4.5]	0.2 [0.1, 0.9]
Aortic valvuloplasty	18 [8.5, 39.2]	1.5 [0.8, 2.7]	2 [1.5, 4.5]	4.9 [0.1, 10.9]	n/a	2.3 [0.2, 5.2]	0.2 [0, 0.6]
PA ballooning/stenting	30.9 [14.7, 67.4]	2.3 [1.3, 4.2]	4 [3, 9.1]	8.5 [0.2, 19.1]	n/a	2.9 [0.2, 6.7]	0.2 [0.1, 0.9]
COA ballooning/stenting	16.3 [7.7, 35.5]	1.2 [0.7, 2.2]	1.9 [1.4, 4.4]	4.5 [0.1, 10.1]	n/a	1.8 [0.1, 4.2]	0.1 [0, 0.5]
EPS ± RFA	6.1 [2.9, 13.3]	0.3 [0.2, 0.6]	0.4 [0.3, 0.9]	1.7 [0, 3.8]	n/a	0.8 [0.1, 1.9]	0 [0, 0.1]
Heart biopsy	1.8 [0.8, 3.9]	0.1 [0.1, 0.2]	0.1 [0.1, 0.3]	0.5 [0, 1.2]	n/a	0.3 [0, 0.7]	0 [0, 0]
Coronary angiography	11 [5.2, 24.1]	0.9 [0.5, 1.7]	0.7 [0.5, 1.6]	3.2 [0.1, 7.2]	n/a	1.8 [0.1, 4.1]	0.1 [0, 0.2]
Valve replacement	66.9 [31.8, 145.9]	3.2 [1.8, 6]	6 [4.4, 13.6]	14.7 [0.3, 32.9]	n/a	9 [0.7, 20.7]	0.1 [0, 0.5]
Pacemaker procedure	2.3 [1.1, 5.1]	0.1 [0.1, 0.2]	0.2 [0.2, 0.5]	0.6 [0, 1.4]	n/a	0.3 [0, 0.7]	0 [0, 0]
Atrial septostomy	7.6 [3.6, 16.5]	0.6 [0.3, 1.1]	0.8 [0.6, 1.8]	2.5 [0.1, 5.7]	n/a	1.1 [0.1, 2.5]	0.2 [0, 0.6]

LAR per 100,000 based on 75th percentiles of organ doses:

Males:

	Lung	Stomach	Liver	Oesophagus	Breast	Leukaemia	Thyroid
ASD occlusion	28 [13.3, 60.9]	2.4 [1.3, 4.5]	2 [1.5, 4.5]	7.6 [0.2, 17.1]	n/a	3.4 [0.3, 7.7]	0.2 [0, 0.6]
PDA occlusion	39.6 [18.8, 86.2]	3.4 [1.9, 6.2]	5 [3.7, 11.3]	11.4 [0.3, 25.6]	n/a	4.1 [0.3, 9.3]	0.4 [0.1, 1.6]
Pulmonary valvuloplasty	66.1 [31.4, 144.1]	6.1 [3.3, 11.3]	7 [5.2, 15.9]	19.9 [0.5, 44.7]	n/a	8.2 [0.6, 18.7]	0.9 [0.2, 3.5]
Aortic valvuloplasty	46.8 [22.2, 101.9]	4.1 [2.2, 7.5]	5.2 [3.9, 11.8]	13.5 [0.3, 30.3]	n/a	6.5 [0.5, 15]	0.5 [0.1, 2]
PA ballooning/stenting	92.8 [44.1, 202.3]	6.9 [3.8, 12.7]	11.9 [8.8, 27.1]	25.3 [0.6, 56.9]	n/a	9.3 [0.7, 21.2]	0.8 [0.2, 3.2]
COA ballooning/stenting	61.9 [29.4, 134.9]	4.3 [2.3, 7.9]	7.3 [5.4, 16.7]	16.1 [0.4, 36.2]	n/a	7.1 [0.5, 16.3]	0.5 [0.1, 1.7]
EPS ± RFA	33.2 [15.8, 72.4]	1.6 [0.9, 3]	2.3 [1.7, 5.3]	8.8 [0.2, 19.7]	n/a	5 [0.4, 11.5]	0.1 [0, 0.4]
Heart biopsy	7.1 [3.4, 15.4]	0.5 [0.3, 0.9]	0.4 [0.3, 1]	2.1 [0, 4.7]	n/a	1 [0.1, 2.4]	0 [0, 0.1]
Coronary angiography	26.3 [12.5, 57.3]	2.3 [1.2, 4.1]	1.7 [1.3, 3.8]	7.6 [0.2, 17]	n/a	4.2 [0.3, 9.6]	0.1 [0, 0.3]
Valve replacement	146 [69.3, 318.2]	8.4 [4.6, 15.4]	16.5 [12.3, 37.6]	36.8 [0.8, 82.7]	n/a	21.7 [1.7, 49.9]	0.4 [0.1, 1.6]
Pacemaker procedure	18.7 [8.9, 40.7]	1.5 [0.8, 2.7]	1.8 [1.3, 4]	5 [0.1, 11.2]	n/a	3 [0.2, 6.9]	0.1 [0, 0.2]
Atrial septostomy	36.8 [17.5, 80.2]	3.1 [1.7, 5.7]	3.8 [2.8, 8.7]	12.1 [0.3, 27.2]	n/a	5.2 [0.4, 11.8]	0.6 [0.2, 2.2]

LAR per 100,000 based on 25th percentiles of organ doses:

Females:

Procedure	Lung	Stomach	Liver	Oesophagus	Breast	Leukaemia	Thyroid
ASD occlusion	12.2 [8.3, 18]	0.6 [0.4, 0.8]	0.2 [0.1, 0.6]	0.8 [0, 3.2]	8.2 [5.9, 11.5]	0.5 [0, 1.2]	0.2 [0.1, 0.9]
PDA occlusion	31.4 [21.2, 46.2]	1.3 [0.8, 2]	0.9 [0.3, 2.3]	2.4 [0, 9]	43.2 [31, 61.1]	1 [0.1, 2.2]	0.7 [0.2, 2.6]
Pulmonary valvuloplasty	34.5 [23.2, 50.7]	1.6 [1, 2.4]	0.8 [0.3, 2.3]	2.6 [0, 10.1]	39.6 [28.4, 56]	1.4 [0.1, 3.1]	0.8 [0.2, 2.8]
Aortic valvuloplasty	58.3 [39.3, 85.9]	2 [1.3, 3]	1.3 [0.5, 3.5]	3.8 [0, 14.4]	71 [50.9, 100.4]	2.7 [0.2, 6.3]	1.1 [0.3, 4.2]
PA ballooning/stenting	77.4 [52.2, 113.9]	2.8 [1.8, 4.2]	2.2 [0.8, 5.9]	5.5 [0, 21]	109.2 [78.3, 154.5]	2.2 [0.2, 5.1]	1.2 [0.3, 4.3]
COA ballooning/stenting	62.7 [42.3, 92.3]	2.3 [1.5, 3.4]	1.6 [0.6, 4.5]	4.3 [0, 16.6]	64.3 [46.1, 90.9]	2.2 [0.2, 5]	1 [0.3, 3.5]
EPS ± RFA	11.9 [8, 17.6]	0.3 [0.2, 0.4]	0.1 [0.1, 0.4]	0.8 [0, 3]	3 [2.2, 4.3]	0.5 [0, 1.1]	0 [0, 0]
Heart biopsy	3.9 [2.7, 5.8]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.3 [0, 1.1]	2.7 [1.9, 3.8]	0.3 [0, 0.6]	0 [0, 0]
Coronary angiography	27 [18.2, 39.8]	1.2 [0.8, 1.7]	0.4 [0.1, 1]	1.9 [0, 7.4]	5.4 [3.9, 7.6]	1.4 [0.1, 3.3]	0.1 [0, 0.6]
Valve replacement	229.2 [154.5, 337.3]	6.6 [4.3, 9.9]	4.7 [1.8, 12.8]	13.1 [0, 49.9]	244.9 [175.7, 346.4]	9.5 [0.9, 22.3]	1.3 [0.3, 4.7]
Pacemaker procedure	5.9 [4, 8.8]	0.3 [0.2, 0.4]	0.1 [0, 0.2]	0.4 [0, 1.5]	2.6 [1.8, 3.6]	0.4 [0, 0.9]	0 [0, 0]
Atrial septostomy	22.1 [14.9, 32.5]	0.9 [0.6, 1.4]	0.5 [0.2, 1.3]	1.9 [0, 7.1]	19.6 [14, 27.7]	0.9 [0.1, 2.1]	0.8 [0.2, 3]

LAR per 100,000 based on 75th percentiles of organ doses:

Females:

Procedure	Lung	Stomach	Liver	Oesophagus	Breast	Leukaemia	Thyroid
ASD occlusion	48.3 [32.5, 71]	2.2 [1.4, 3.3]	0.8 [0.3, 2.2]	3.2 [0, 12.3]	31.7 [22.8, 44.9]	2.1 [0.2, 4.8]	0.5 [0.1, 1.8]
PDA occlusion	98.4 [66.3, 144.9]	4.1 [2.7, 6.2]	2.8 [1, 7.5]	8 [0, 30.5]	145.1 [104, 205.2]	3.4 [0.3, 7.8]	2.4 [0.6, 9]
Pulmonary valvuloplasty	129.1 [87, 189.9]	5.4 [3.5, 8.1]	2.9 [1.1, 8]	10.1 [0, 38.6]	149 [106.9, 210.7]	5.1 [0.5, 11.9]	3.4 [0.9, 12.5]
Aortic valvuloplasty	105.2 [70.9, 154.8]	4.1 [2.7, 6.1]	2.6 [1, 6.9]	7.9 [0, 30.3]	124.6 [89.3, 176.2]	4.3 [0.4, 10.1]	3 [0.8, 11.2]
PA ballooning/stenting	181.4 [122.2, 267]	7.2 [4.7, 10.8]	5.4 [2, 14.6]	13.4 [0, 51.3]	250.6 [179.7, 354.3]	5.2 [0.5, 12.1]	3.5 [0.9, 13]
COA ballooning/stenting	137.7 [92.8, 202.6]	5.4 [3.5, 8.1]	3.6 [1.3, 9.7]	10.8 [0, 41.2]	148.6 [106.5, 210.1]	5.2 [0.5, 12]	2.5 [0.7, 9.4]
EPS ± RFA	100.2 [67.5, 147.4]	2.1 [1.4, 3.2]	1.5 [0.6, 4]	6.6 [0, 25.2]	61.4 [44, 86.8]	4.6 [0.4, 10.7]	0.5 [0.1, 1.8]
Heart biopsy	14.1 [9.5, 20.7]	0.4 [0.3, 0.6]	0.2 [0.1, 0.5]	1.1 [0, 4.4]	9.4 [6.7, 13.3]	0.9 [0.1, 2.1]	0.1 [0, 0.5]
Coronary angiography	74.4 [50.1, 109.4]	2.6 [1.7, 3.9]	1.1 [0.4, 2.8]	5.3 [0, 20.2]	17.5 [12.5, 24.7]	4.4 [0.4, 10.2]	0.4 [0.1, 1.6]
Valve replacement	633.9 [427.1, 932.8]	16 [10.4, 24]	12.5 [4.7, 33.8]	35.9 [0, 137.1]	573.1 [411, 810.4]	30.5 [2.7, 71.4]	2.7 [0.7, 10.1]
Pacemaker procedure	29.7 [20, 43.8]	1.1 [0.7, 1.7]	0.6 [0.2, 1.7]	1.9 [0, 7.3]	18.5 [13.3, 26.2]	1.6 [0.1, 3.8]	0.1 [0, 0.5]
Atrial septostomy	111.4 [75.1, 164]	5 [3.2, 7.4]	2.4 [0.9, 6.5]	8.6 [0, 32.7]	108.9 [78.1, 154]	5.2 [0.5, 12.2]	3.3 [0.9, 12.1]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
ASD occlusion	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.8 [0.1, 1.7]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.9 [0.1, 2]
		40	0.1 [0.1, 0.3]	0.1 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0]	1 [0.1, 2.2]
		50	0.5 [0.3, 1.2]	0.1 [0.1, 0.3]	0.1 [0.1, 0.2]	0.3 [0, 0.7]	n/a	0 [0, 0.1]	1 [0.1, 2.4]
		60	1.8 [0.8, 3.9]	0.3 [0.2, 0.6]	0.2 [0.1, 0.4]	0.8 [0, 1.9]	n/a	0 [0, 0.1]	1.1 [0.1, 2.6]
		70	4.6 [2.2, 10.1]	0.6 [0.3, 1]	0.4 [0.3, 0.9]	1.7 [0, 3.7]	n/a	0 [0, 0.2]	1.3 [0.1, 3]
		80	9.7 [4.6, 21.2]	1 [0.5, 1.8]	0.8 [0.6, 1.7]	2.8 [0.1, 6.2]	n/a	0.1 [0, 0.2]	1.5 [0.1, 3.5]
		90	17.8 [8.4, 38.7]	1.5 [0.8, 2.8]	1.3 [1, 2.9]	4 [0.1, 8.9]	n/a	0.1 [0, 0.3]	1.8 [0.1, 4.1]
		100	30.2 [14.4, 65.8]	2.2 [1.2, 4.1]	2 [1.6, 4.7]	5.1 [0.1, 11.6]	n/a	0.1 [0, 0.3]	2 [0.2, 4.6]
ASD occlusion	Female	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]	0 [0, 0]	0.5 [0.1, 1.2]
		30	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.4 [0.3, 0.5]	0 [0, 0.1]	0.6 [0.1, 1.4]
		40	0.4 [0.3, 0.6]	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	1.4 [1, 2]	0.1 [0, 0.3]	0.7 [0.1, 1.5]
		50	1.5 [1, 2.3]	0.2 [0.1, 0.2]	0 [0, 0.1]	0.1 [0, 0.5]	3.8 [2.7, 5.3]	0.1 [0, 0.5]	0.7 [0.1, 1.7]
		60	4.9 [3.3, 7.2]	0.3 [0.2, 0.5]	0.1 [0, 0.2]	0.4 [0, 1.5]	7.4 [5.3, 10.4]	0.2 [0, 0.6]	0.8 [0.1, 1.8]
		70	11.7 [7.9, 17.4]	0.6 [0.4, 0.9]	0.2 [0.1, 0.5]	0.8 [0, 3.2]	11.6 [8.3, 16.4]	0.2 [0.1, 0.8]	0.9 [0.1, 2.1]
		80	22.5 [15.1, 33.1]	1 [0.6, 1.5]	0.3 [0.1, 0.9]	1.6 [0, 6]	16.5 [11.8, 23.3]	0.2 [0.1, 0.9]	1 [0.1, 2.4]
		90	36.9 [24.9, 54.2]	1.5 [1, 2.3]	0.6 [0.2, 1.6]	2.5 [0, 9.7]	22.1 [15.8, 31.2]	0.3 [0.1, 1.1]	1.2 [0.1, 2.7]
		100	58.1 [39.2, 85]	2.2 [1.5, 3.3]	0.9 [0.4, 2.5]	3.4 [0, 13]	28.2 [20.3, 39.9]	0.3 [0.1, 1.2]	1.3 [0.1, 3]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
ASD occlusion	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.4 [0, 0.9]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.4 [0, 1]
		40	0.1 [0, 0.2]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0]	0.5 [0, 1.1]
		50	0.3 [0.1, 0.7]	0.1 [0, 0.1]	0 [0, 0.1]	0.2 [0, 0.4]	n/a	0 [0, 0.1]	0.5 [0, 1.2]
		60	1 [0.5, 2.2]	0.2 [0.1, 0.3]	0.1 [0.1, 0.3]	0.5 [0, 1.1]	n/a	0 [0, 0.1]	0.6 [0, 1.3]
		70	2.7 [1.3, 5.8]	0.3 [0.2, 0.5]	0.3 [0.2, 0.6]	1 [0, 2.1]	n/a	0 [0, 0.2]	0.7 [0.1, 1.5]
		80	5.6 [2.7, 12.2]	0.5 [0.3, 0.9]	0.5 [0.4, 1.1]	1.6 [0, 3.5]	n/a	0.1 [0, 0.2]	0.8 [0.1, 1.8]
		90	10.2 [4.9, 22.3]	0.8 [0.4, 1.4]	0.8 [0.6, 1.8]	2.3 [0.1, 5.1]	n/a	0.1 [0, 0.3]	0.9 [0.1, 2.1]
		100	17.4 [8.3, 37.9]	1.1 [0.6, 2]	1.3 [1, 2.9]	2.9 [0.1, 6.6]	n/a	0.1 [0, 0.3]	1 [0.1, 2.3]
ASD occlusion	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.3 [0, 0.6]
		30	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.3]	0 [0, 0.1]	0.3 [0, 0.7]
		40	0.2 [0.1, 0.3]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0.7 [0.5, 0.9]	0.1 [0, 0.3]	0.3 [0, 0.8]
		50	0.7 [0.5, 1.1]	0.1 [0.1, 0.1]	0 [0, 0.1]	0.1 [0, 0.2]	1.8 [1.3, 2.5]	0.1 [0, 0.5]	0.4 [0, 0.8]
		60	2.3 [1.6, 3.4]	0.2 [0.1, 0.2]	0 [0, 0.1]	0.2 [0, 0.7]	3.5 [2.5, 4.9]	0.2 [0, 0.6]	0.4 [0, 0.9]
		70	5.5 [3.7, 8.2]	0.3 [0.2, 0.4]	0.1 [0, 0.2]	0.4 [0, 1.5]	5.5 [3.9, 7.8]	0.2 [0.1, 0.8]	0.4 [0, 1]
		80	10.6 [7.1, 15.6]	0.5 [0.3, 0.7]	0.2 [0.1, 0.5]	0.8 [0, 2.9]	7.8 [5.6, 11.1]	0.2 [0.1, 0.9]	0.5 [0, 1.2]
		90	17.4 [11.7, 25.6]	0.8 [0.5, 1.1]	0.3 [0.1, 0.8]	1.2 [0, 4.6]	10.4 [7.5, 14.8]	0.3 [0.1, 1.1]	0.6 [0.1, 1.4]
		100	27.4 [18.5, 40.1]	1.1 [0.7, 1.7]	0.5 [0.2, 1.3]	1.6 [0, 6.2]	13.4 [9.6, 18.9]	0.3 [0.1, 1.2]	0.7 [0.1, 1.5]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
ASD occlusion	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	2 [0.1, 4.6]
		30	0.1 [0, 0.2]	0.1 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.1]	n/a	0 [0, 0.1]	2.3 [0.2, 5.3]
		40	0.4 [0.2, 0.9]	0.2 [0.1, 0.3]	0.1 [0.1, 0.2]	0.3 [0, 0.6]	n/a	0 [0, 0.1]	2.5 [0.2, 5.8]
		50	1.6 [0.8, 3.5]	0.4 [0.2, 0.7]	0.2 [0.2, 0.5]	0.9 [0, 2.1]	n/a	0.1 [0, 0.2]	2.8 [0.2, 6.3]
		60	5.3 [2.5, 11.6]	0.8 [0.4, 1.5]	0.5 [0.4, 1.2]	2.5 [0.1, 5.7]	n/a	0.1 [0, 0.3]	3 [0.2, 7]
		70	13.9 [6.6, 30.2]	1.5 [0.8, 2.8]	1.1 [0.8, 2.6]	5.2 [0.1, 11.6]	n/a	0.1 [0, 0.5]	3.5 [0.3, 8]
		80	29.2 [13.9, 63.7]	2.6 [1.4, 4.8]	2.1 [1.6, 4.8]	8.5 [0.2, 19.1]	n/a	0.2 [0, 0.6]	4.1 [0.3, 9.4]
		90	53.4 [25.3, 116.2]	4.1 [2.2, 7.5]	3.5 [2.7, 8.1]	12.3 [0.3, 27.5]	n/a	0.2 [0.1, 0.8]	4.8 [0.4, 11]
		100	90.7 [43.2, 197.5]	6 [3.2, 10.9]	5.5 [4.3, 12.8]	15.9 [0.4, 35.8]	n/a	0.3 [0.1, 1]	5.3 [0.4, 12.4]
ASD occlusion	Female	20	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.2]	0 [0, 0.1]	1.1 [0.1, 2.5]
		30	0.2 [0.1, 0.3]	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0.7 [0.5, 1]	0.1 [0, 0.3]	1.2 [0.1, 2.8]
		40	0.7 [0.5, 1.1]	0.1 [0.1, 0.2]	0 [0, 0.1]	0 [0, 0.2]	2.6 [1.8, 3.6]	0.2 [0, 0.6]	1.3 [0.1, 3.1]
		50	2.8 [1.9, 4.2]	0.3 [0.2, 0.5]	0.1 [0, 0.2]	0.2 [0, 0.8]	6.9 [5, 9.8]	0.3 [0.1, 0.9]	1.4 [0.1, 3.3]
		60	9.1 [6.1, 13.4]	0.6 [0.4, 0.9]	0.2 [0.1, 0.5]	0.7 [0, 2.7]	13.6 [9.7, 19.2]	0.3 [0.1, 1.2]	1.6 [0.1, 3.7]
		70	21.9 [14.7, 32.4]	1.1 [0.7, 1.7]	0.4 [0.1, 1]	1.5 [0, 5.9]	21.4 [15.3, 30.2]	0.4 [0.1, 1.5]	1.8 [0.2, 4.1]
		80	41.8 [28.1, 61.7]	2 [1.3, 2.9]	0.7 [0.3, 1.9]	2.9 [0, 11]	30.4 [21.8, 43]	0.5 [0.1, 1.8]	2 [0.2, 4.7]
		90	68.7 [46.3, 100.9]	3.1 [2, 4.6]	1.2 [0.4, 3.2]	4.6 [0, 17.6]	40.6 [29.1, 57.4]	0.6 [0.2, 2.1]	2.3 [0.2, 5.5]
		100	108.1 [72.9, 158.1]	4.5 [2.9, 6.7]	1.9 [0.7, 5]	6.2 [0, 23.7]	52 [37.3, 73.6]	0.6 [0.2, 2.4]	2.6 [0.2, 6.1]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
PDA occlusion	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.6 [0.1, 3.6]
		30	0.1 [0, 0.2]	0 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.1]	n/a	0 [0, 0.1]	1.7 [0.1, 3.9]
		40	0.3 [0.1, 0.7]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.2 [0, 0.5]	n/a	0.1 [0, 0.3]	1.8 [0.1, 4.1]
		50	1.2 [0.5, 2.5]	0.3 [0.2, 0.5]	0.3 [0.2, 0.6]	0.8 [0, 1.8]	n/a	0.1 [0, 0.4]	1.9 [0.1, 4.3]
		60	3.8 [1.8, 8.3]	0.6 [0.3, 1.1]	0.7 [0.5, 1.5]	2.2 [0.1, 4.9]	n/a	0.2 [0, 0.6]	2 [0.2, 4.6]
		70	9.9 [4.7, 21.6]	1.1 [0.6, 2.1]	1.4 [1, 3.2]	4.4 [0.1, 9.9]	n/a	0.2 [0.1, 0.9]	2.2 [0.2, 5]
		80	20.9 [9.9, 45.5]	1.9 [1.1, 3.6]	2.6 [1.9, 5.9]	7.3 [0.2, 16.3]	n/a	0.3 [0.1, 1.2]	2.4 [0.2, 5.5]
		90	38.1 [18.1, 83]	3 [1.6, 5.6]	4.4 [3.3, 10]	10.4 [0.2, 23.5]	n/a	0.4 [0.1, 1.5]	2.7 [0.2, 6.1]
		100	64.8 [30.8, 141]	4.4 [2.4, 8]	6.8 [5.3, 15.8]	13.6 [0.4, 30.5]	n/a	0.5 [0.1, 1.8]	2.9 [0.2, 6.7]
PDA occlusion	Female	20	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.3 [0.2, 0.4]	0.1 [0, 0.2]	1.3 [0.1, 3]
		30	0.2 [0.2, 0.4]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	1.7 [1.2, 2.4]	0.2 [0.1, 0.8]	1.4 [0.1, 3.2]
		40	0.8 [0.5, 1.2]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.1 [0, 0.3]	6.1 [4.4, 8.6]	0.5 [0.1, 1.7]	1.5 [0.1, 3.4]
		50	3.2 [2.2, 4.7]	0.3 [0.2, 0.5]	0.1 [0.1, 0.4]	0.3 [0, 1.1]	16.5 [11.8, 23.3]	0.7 [0.2, 2.6]	1.5 [0.1, 3.5]
		60	10.2 [6.9, 15.1]	0.6 [0.4, 0.9]	0.3 [0.1, 0.9]	0.9 [0, 3.6]	32.2 [23.1, 45.5]	0.9 [0.2, 3.5]	1.6 [0.2, 3.7]
		70	24.6 [16.6, 36.4]	1.1 [0.7, 1.7]	0.7 [0.2, 1.8]	2.1 [0, 7.9]	50.8 [36.4, 71.8]	1.2 [0.3, 4.3]	1.7 [0.2, 4]
		80	47 [31.7, 69.4]	1.9 [1.3, 2.9]	1.2 [0.5, 3.4]	3.9 [0, 14.8]	72.2 [51.8, 102.1]	1.4 [0.4, 5.1]	1.9 [0.2, 4.4]
		90	77.3 [52.1, 113.6]	3 [2, 4.5]	2.1 [0.8, 5.7]	6.2 [0, 23.7]	96.4 [69.1, 136.3]	1.6 [0.4, 5.9]	2.1 [0.2, 4.8]
		100	121.6 [82, 178]	4.4 [2.9, 6.6]	3.3 [1.3, 8.9]	8.4 [0, 32]	123.5 [88.6, 174.6]	1.8 [0.5, 6.7]	2.2 [0.2, 5.2]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
PDA occlusion	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.1 [0.1, 2.6]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0.1]	1.2 [0.1, 2.8]
		40	0.2 [0.1, 0.4]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.1 [0, 0.3]	n/a	0 [0, 0.1]	1.3 [0.1, 2.9]
		50	0.7 [0.3, 1.5]	0.2 [0.1, 0.3]	0.2 [0.1, 0.3]	0.4 [0, 1]	n/a	0.1 [0, 0.2]	1.3 [0.1, 3.1]
		60	2.3 [1.1, 5]	0.4 [0.2, 0.7]	0.4 [0.3, 0.8]	1.2 [0, 2.8]	n/a	0.1 [0, 0.3]	1.4 [0.1, 3.3]
		70	5.9 [2.8, 13]	0.7 [0.4, 1.2]	0.8 [0.6, 1.8]	2.5 [0.1, 5.7]	n/a	0.1 [0, 0.4]	1.5 [0.1, 3.5]
		80	12.5 [5.9, 27.3]	1.2 [0.6, 2.1]	1.5 [1.1, 3.3]	4.2 [0.1, 9.4]	n/a	0.2 [0, 0.6]	1.7 [0.1, 3.9]
		90	22.9 [10.9, 49.8]	1.8 [1, 3.3]	2.5 [1.9, 5.6]	6 [0.1, 13.5]	n/a	0.2 [0.1, 0.8]	1.9 [0.2, 4.4]
		100	38.9 [18.5, 84.6]	2.6 [1.4, 4.8]	3.9 [3, 8.9]	7.8 [0.2, 17.5]	n/a	0.2 [0.1, 0.9]	2.1 [0.2, 4.8]
PDA occlusion	Female	20	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.2]	0 [0, 0.1]	0.7 [0.1, 1.5]
		30	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	1 [0.7, 1.4]	0.1 [0, 0.4]	0.7 [0.1, 1.6]
		40	0.5 [0.3, 0.7]	0.1 [0.1, 0.1]	0 [0, 0.1]	0 [0, 0.1]	3.5 [2.5, 4.9]	0.2 [0.1, 0.9]	0.7 [0.1, 1.7]
		50	1.9 [1.2, 2.7]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	0.2 [0, 0.6]	9.4 [6.8, 13.4]	0.4 [0.1, 1.3]	0.8 [0.1, 1.8]
		60	5.9 [4, 8.7]	0.4 [0.2, 0.6]	0.2 [0.1, 0.5]	0.5 [0, 1.9]	18.5 [13.2, 26.1]	0.5 [0.1, 1.7]	0.8 [0.1, 1.9]
		70	14.2 [9.6, 21.1]	0.7 [0.4, 1]	0.4 [0.1, 1]	1.1 [0, 4.3]	29.1 [20.9, 41.2]	0.6 [0.2, 2.1]	0.9 [0.1, 2]
		80	27.2 [18.3, 40.1]	1.2 [0.8, 1.7]	0.7 [0.3, 2]	2.1 [0, 8]	41.4 [29.7, 58.5]	0.7 [0.2, 2.6]	0.9 [0.1, 2.2]
		90	44.7 [30.1, 65.7]	1.8 [1.2, 2.7]	1.2 [0.5, 3.3]	3.4 [0, 12.9]	55.3 [39.7, 78.2]	0.8 [0.2, 3]	1 [0.1, 2.4]
		100	70.3 [47.4, 102.9]	2.6 [1.7, 3.9]	1.9 [0.7, 5.2]	4.5 [0, 17.3]	70.8 [50.8, 100.1]	0.9 [0.2, 3.3]	1.1 [0.1, 2.6]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
PDA occlusion	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	n/a	0 [0, 0]	3.2 [0.2, 7.3]
		30	0.1 [0.1, 0.3]	0.1 [0, 0.1]	0.1 [0, 0.2]	0.1 [0, 0.2]	n/a	0 [0, 0.2]	3.4 [0.3, 7.8]
		40	0.6 [0.3, 1.3]	0.2 [0.1, 0.4]	0.2 [0.1, 0.4]	0.4 [0, 0.9]	n/a	0.1 [0, 0.4]	3.6 [0.3, 8.2]
		50	2.3 [1.1, 5]	0.6 [0.3, 1]	0.6 [0.4, 1.2]	1.4 [0, 3.1]	n/a	0.2 [0, 0.6]	3.8 [0.3, 8.6]
		60	7.6 [3.6, 16.5]	1.1 [0.6, 2.1]	1.4 [1, 3.1]	3.8 [0.1, 8.6]	n/a	0.2 [0.1, 0.9]	4 [0.3, 9.1]
		70	19.6 [9.3, 42.8]	2.1 [1.2, 3.9]	2.9 [2.1, 6.4]	7.8 [0.2, 17.4]	n/a	0.3 [0.1, 1.3]	4.3 [0.3, 9.9]
		80	41.4 [19.6, 90.2]	3.7 [2, 6.8]	5.3 [3.9, 12.1]	12.8 [0.3, 28.8]	n/a	0.5 [0.1, 1.8]	4.8 [0.4, 11]
		90	75.6 [35.9, 164.6]	5.7 [3.1, 10.6]	8.9 [6.7, 20.4]	18.4 [0.4, 41.4]	n/a	0.6 [0.2, 2.3]	5.3 [0.4, 12.3]
		100	128.4 [61.1, 279.7]	8.3 [4.5, 15.3]	14 [10.9, 32.3]	23.9 [0.6, 53.9]	n/a	0.7 [0.2, 2.8]	5.8 [0.5, 13.3]
PDA occlusion	Female	20	0.2 [0.1, 0.2]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.5 [0.4, 0.8]	0.1 [0, 0.4]	2.3 [0.2, 5.3]
		30	0.4 [0.3, 0.7]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0 [0, 0.1]	3.3 [2.3, 4.6]	0.4 [0.1, 1.4]	2.5 [0.2, 5.7]
		40	1.5 [1, 2.2]	0.3 [0.2, 0.4]	0.1 [0, 0.3]	0.1 [0, 0.5]	11.7 [8.4, 16.6]	0.8 [0.2, 3]	2.6 [0.2, 5.9]
		50	5.8 [3.9, 8.6]	0.6 [0.4, 0.9]	0.3 [0.1, 0.8]	0.5 [0, 2.1]	31.7 [22.7, 44.9]	1.2 [0.3, 4.6]	2.7 [0.3, 6.2]
		60	18.5 [12.5, 27.4]	1.2 [0.8, 1.8]	0.6 [0.2, 1.6]	1.7 [0, 6.6]	62 [44.5, 87.7]	1.6 [0.4, 6.1]	2.8 [0.3, 6.5]
		70	44.6 [30, 66]	2.1 [1.4, 3.2]	1.2 [0.4, 3.4]	3.8 [0, 14.5]	97.8 [70.1, 138.3]	2 [0.5, 7.5]	3 [0.3, 7]
		80	85.2 [57.4, 125.8]	3.7 [2.4, 5.5]	2.3 [0.9, 6.3]	7.1 [0, 27.2]	139 [99.7, 196.6]	2.4 [0.6, 9]	3.3 [0.3, 7.7]
		90	140.1 [94.4, 205.9]	5.7 [3.7, 8.6]	4 [1.5, 10.7]	11.4 [0, 43.5]	185.7 [133.2, 262.6]	2.8 [0.7, 10.3]	3.6 [0.3, 8.4]
		100	220.4 [148.7, 322.6]	8.3 [5.4, 12.4]	6.3 [2.4, 16.6]	15.3 [0, 58.6]	237.9 [170.6, 336.4]	3.1 [0.8, 11.7]	3.9 [0.4, 9.1]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pulmonary valvuloplasty	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	n/a	0 [0, 0.1]	3.2 [0.2, 7.4]
		30	0.1 [0.1, 0.3]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.1 [0, 0.2]	n/a	0.1 [0, 0.2]	3.4 [0.3, 7.8]
		40	0.5 [0.2, 1.1]	0.2 [0.1, 0.4]	0.1 [0.1, 0.3]	0.3 [0, 0.7]	n/a	0.1 [0, 0.4]	3.6 [0.3, 8.2]
		50	1.9 [0.9, 4.2]	0.5 [0.3, 0.9]	0.4 [0.3, 0.9]	1.1 [0, 2.6]	n/a	0.2 [0, 0.7]	3.7 [0.3, 8.5]
		60	6.4 [3, 13.9]	1 [0.5, 1.8]	1 [0.7, 2.2]	3.1 [0.1, 7]	n/a	0.3 [0.1, 1]	3.9 [0.3, 8.9]
		70	16.5 [7.8, 36]	1.9 [1, 3.4]	2 [1.5, 4.6]	6.3 [0.1, 14.2]	n/a	0.4 [0.1, 1.4]	4.2 [0.3, 9.6]
		80	34.8 [16.5, 75.8]	3.2 [1.8, 5.9]	3.8 [2.8, 8.6]	10.5 [0.2, 23.5]	n/a	0.5 [0.1, 1.9]	4.6 [0.4, 10.5]
		90	63.5 [30.2, 138.4]	5 [2.7, 9.3]	6.3 [4.8, 14.4]	15 [0.4, 33.8]	n/a	0.7 [0.2, 2.5]	5 [0.4, 11.5]
		100	108 [51.4, 235.1]	7.3 [4, 13.4]	9.9 [7.7, 22.9]	19.5 [0.5, 44]	n/a	0.8 [0.2, 3]	5.4 [0.4, 12.4]
Pulmonary valvuloplasty	Female	20	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.3 [0.2, 0.4]	0.1 [0, 0.2]	1.8 [0.2, 4.1]
		30	0.3 [0.2, 0.4]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	1.5 [1.1, 2.2]	0.2 [0.1, 0.9]	1.9 [0.2, 4.3]
		40	0.9 [0.6, 1.3]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	0.1 [0, 0.3]	5.5 [3.9, 7.7]	0.5 [0.1, 1.9]	2 [0.2, 4.5]
		50	3.4 [2.3, 5.1]	0.4 [0.3, 0.6]	0.1 [0.1, 0.4]	0.3 [0, 1.2]	14.8 [10.6, 20.9]	0.8 [0.2, 2.8]	2 [0.2, 4.7]
		60	11 [7.4, 16.3]	0.8 [0.5, 1.2]	0.3 [0.1, 0.9]	1 [0, 3.7]	28.9 [20.7, 40.8]	1 [0.3, 3.8]	2.1 [0.2, 4.9]
		70	26.4 [17.8, 39.1]	1.4 [0.9, 2.1]	0.7 [0.2, 1.8]	2.2 [0, 8.2]	45.5 [32.6, 64.4]	1.3 [0.3, 4.7]	2.2 [0.2, 5.2]
		80	50.5 [34, 74.6]	2.4 [1.6, 3.6]	1.2 [0.5, 3.4]	4 [0, 15.4]	64.7 [46.4, 91.5]	1.5 [0.4, 5.6]	2.4 [0.2, 5.6]
		90	83 [56, 122]	3.8 [2.5, 5.6]	2.1 [0.8, 5.7]	6.5 [0, 24.7]	86.4 [62, 122.2]	1.7 [0.5, 6.4]	2.6 [0.2, 6.1]
		100	130.7 [88.1, 191.2]	5.5 [3.6, 8.2]	3.3 [1.3, 8.9]	8.7 [0, 33.3]	110.7 [79.4, 156.6]	2 [0.5, 7.3]	2.8 [0.3, 6.5]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pulmonary valvuloplasty	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.6 [0.1, 3.7]
		30	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	n/a	0 [0, 0.1]	1.7 [0.1, 3.9]
		40	0.2 [0.1, 0.5]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.2 [0, 0.4]	n/a	0.1 [0, 0.2]	1.8 [0.1, 4.1]
		50	0.9 [0.4, 2]	0.2 [0.1, 0.4]	0.2 [0.1, 0.4]	0.6 [0, 1.3]	n/a	0.1 [0, 0.3]	1.8 [0.1, 4.2]
		60	3 [1.4, 6.6]	0.5 [0.3, 0.9]	0.5 [0.3, 1]	1.6 [0, 3.7]	n/a	0.1 [0, 0.5]	1.9 [0.1, 4.5]
		70	7.9 [3.7, 17.2]	0.9 [0.5, 1.7]	1 [0.7, 2.1]	3.3 [0.1, 7.4]	n/a	0.2 [0, 0.7]	2.1 [0.2, 4.8]
		80	16.7 [7.9, 36.3]	1.6 [0.9, 3]	1.8 [1.3, 4]	5.5 [0.1, 12.3]	n/a	0.3 [0.1, 1]	2.3 [0.2, 5.2]
		90	30.4 [14.5, 66.3]	2.5 [1.4, 4.6]	3 [2.2, 6.8]	7.9 [0.2, 17.7]	n/a	0.3 [0.1, 1.2]	2.5 [0.2, 5.8]
100	51.7 [24.6, 112.6]	3.7 [2, 6.7]	4.6 [3.6, 10.7]	10.2 [0.3, 23]	n/a	0.4 [0.1, 1.5]	2.7 [0.2, 6.2]		
Pulmonary valvuloplasty	Female	20	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.2]	0 [0, 0.1]	1 [0.1, 2.3]
		30	0.2 [0.1, 0.2]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	0.9 [0.6, 1.3]	0.1 [0, 0.4]	1 [0.1, 2.4]
		40	0.5 [0.3, 0.8]	0.1 [0.1, 0.2]	0 [0, 0.1]	0 [0, 0.2]	3.2 [2.3, 4.5]	0.3 [0.1, 0.9]	1.1 [0.1, 2.5]
		50	2 [1.4, 3]	0.2 [0.2, 0.3]	0.1 [0, 0.2]	0.2 [0, 0.7]	8.7 [6.2, 12.2]	0.4 [0.1, 1.4]	1.1 [0.1, 2.6]
		60	6.5 [4.4, 9.6]	0.5 [0.3, 0.7]	0.2 [0.1, 0.5]	0.6 [0, 2.2]	16.9 [12.1, 23.9]	0.5 [0.1, 1.9]	1.2 [0.1, 2.7]
		70	15.6 [10.5, 23.1]	0.8 [0.5, 1.2]	0.4 [0.1, 1]	1.3 [0, 4.8]	26.7 [19.1, 37.7]	0.6 [0.2, 2.3]	1.2 [0.1, 2.9]
		80	29.9 [20.1, 44.1]	1.4 [0.9, 2.1]	0.7 [0.3, 1.9]	2.4 [0, 9]	37.9 [27.2, 53.6]	0.8 [0.2, 2.8]	1.3 [0.1, 3.1]
		90	49.1 [33.1, 72.1]	2.2 [1.4, 3.3]	1.2 [0.4, 3.2]	3.8 [0, 14.4]	50.7 [36.3, 71.7]	0.9 [0.2, 3.2]	1.4 [0.1, 3.4]
100	77.2 [52.1, 113]	3.2 [2.1, 4.8]	1.9 [0.7, 5]	5.1 [0, 19.4]	64.9 [46.5, 91.8]	1 [0.3, 3.6]	1.5 [0.1, 3.6]		

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pulmonary valvuloplasty	Male	20	0.1 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.1]	0 [0, 0.1]	n/a	0 [0, 0.1]	6.7 [0.5, 15.3]
		30	0.2 [0.1, 0.5]	0.1 [0.1, 0.3]	0.1 [0.1, 0.2]	0.2 [0, 0.4]	n/a	0.1 [0, 0.4]	7.1 [0.5, 16.3]
		40	1 [0.5, 2.2]	0.4 [0.2, 0.8]	0.3 [0.2, 0.6]	0.7 [0, 1.6]	n/a	0.2 [0.1, 0.8]	7.4 [0.6, 17]
		50	3.8 [1.8, 8.4]	1 [0.6, 1.9]	0.8 [0.6, 1.8]	2.4 [0.1, 5.5]	n/a	0.4 [0.1, 1.3]	7.7 [0.6, 17.7]
		60	12.7 [6, 27.6]	2.1 [1.1, 3.8]	1.9 [1.4, 4.3]	6.7 [0.2, 15]	n/a	0.5 [0.1, 2]	8.1 [0.6, 18.6]
		70	32.8 [15.6, 71.6]	3.9 [2.1, 7.1]	4 [2.9, 9]	13.5 [0.3, 30.4]	n/a	0.7 [0.2, 2.8]	8.7 [0.7, 20]
		80	69.2 [32.8, 150.8]	6.7 [3.6, 12.2]	7.4 [5.5, 16.9]	22.4 [0.5, 50.2]	n/a	1 [0.3, 3.8]	9.5 [0.7, 21.9]
		90	126.4 [60, 275.3]	10.4 [5.7, 19.1]	12.4 [9.4, 28.4]	32.2 [0.8, 72.3]	n/a	1.3 [0.3, 4.9]	10.4 [0.8, 24]
		100	214.8 [102.2, 467.7]	15.1 [8.2, 27.6]	19.5 [15.2, 45.1]	41.8 [1.1, 94.1]	n/a	1.6 [0.4, 6]	11.2 [0.9, 25.9]
Pulmonary valvuloplasty	Female	20	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.6 [0.4, 0.8]	0.1 [0, 0.5]	3.8 [0.3, 8.7]
		30	0.6 [0.4, 0.9]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0 [0, 0.1]	3.4 [2.4, 4.8]	0.5 [0.1, 2]	4 [0.4, 9.2]
		40	1.9 [1.3, 2.9]	0.4 [0.2, 0.5]	0.1 [0, 0.4]	0.2 [0, 0.6]	12.1 [8.7, 17.1]	1.1 [0.3, 4.2]	4.1 [0.4, 9.5]
		50	7.6 [5.1, 11.3]	0.8 [0.5, 1.2]	0.3 [0.1, 0.8]	0.7 [0, 2.7]	32.6 [23.4, 46.1]	1.7 [0.5, 6.4]	4.3 [0.4, 9.9]
		60	24.3 [16.3, 36]	1.5 [1, 2.3]	0.6 [0.2, 1.8]	2.2 [0, 8.3]	63.7 [45.7, 90.1]	2.3 [0.6, 8.5]	4.5 [0.4, 10.3]
		70	58.5 [39.4, 86.5]	2.8 [1.8, 4.2]	1.3 [0.5, 3.6]	4.8 [0, 18.4]	100.5 [72, 142.1]	2.8 [0.8, 10.5]	4.7 [0.4, 11]
		80	111.8 [75.3, 165]	4.8 [3.1, 7.2]	2.5 [0.9, 6.8]	9 [0, 34.4]	142.8 [102.4, 202]	3.4 [0.9, 12.6]	5.1 [0.5, 11.8]
		90	183.7 [123.8, 270]	7.5 [4.9, 11.3]	4.2 [1.6, 11.4]	14.4 [0, 55.2]	190.8 [136.8, 269.8]	3.9 [1, 14.5]	5.5 [0.5, 12.8]
		100	289.1 [195, 423]	10.9 [7.1, 16.4]	6.7 [2.5, 17.7]	19.4 [0, 74.2]	244.3 [175.2, 345.5]	4.4 [1.2, 16.3]	5.9 [0.5, 13.6]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Aortic valvuloplasty	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	3.2 [0.2, 7.4]
		30	0.1 [0, 0.2]	0.1 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0.1]	3.4 [0.3, 7.8]
		40	0.4 [0.2, 0.9]	0.2 [0.1, 0.3]	0.1 [0.1, 0.3]	0.3 [0, 0.7]	n/a	0.1 [0, 0.3]	3.6 [0.3, 8.2]
		50	1.6 [0.8, 3.5]	0.4 [0.2, 0.7]	0.3 [0.2, 0.7]	1 [0, 2.3]	n/a	0.1 [0, 0.4]	3.7 [0.3, 8.5]
		60	5.4 [2.5, 11.7]	0.8 [0.4, 1.5]	0.8 [0.6, 1.8]	2.8 [0.1, 6.4]	n/a	0.2 [0, 0.7]	3.9 [0.3, 8.9]
		70	13.9 [6.6, 30.4]	1.5 [0.8, 2.8]	1.7 [1.2, 3.7]	5.8 [0.1, 12.9]	n/a	0.2 [0.1, 0.9]	4.2 [0.3, 9.6]
		80	29.3 [13.9, 64]	2.6 [1.4, 4.8]	3.1 [2.3, 7]	9.5 [0.2, 21.3]	n/a	0.3 [0.1, 1.3]	4.6 [0.4, 10.5]
		90	53.6 [25.5, 116.7]	4.1 [2.2, 7.5]	5.1 [3.9, 11.7]	13.7 [0.3, 30.7]	n/a	0.4 [0.1, 1.6]	5 [0.4, 11.5]
		100	91.1 [43.3, 198.3]	5.9 [3.2, 10.9]	8.1 [6.3, 18.6]	17.7 [0.5, 39.9]	n/a	0.5 [0.1, 2]	5.4 [0.4, 12.4]
Aortic valvuloplasty	Female	20	0.2 [0.1, 0.2]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.4 [0.3, 0.6]	0.1 [0, 0.2]	2.8 [0.3, 6.4]
		30	0.4 [0.3, 0.6]	0.1 [0.1, 0.1]	0 [0, 0.1]	0 [0, 0.1]	2.3 [1.7, 3.3]	0.2 [0.1, 0.9]	2.9 [0.3, 6.8]
		40	1.4 [0.9, 2]	0.2 [0.1, 0.3]	0.1 [0, 0.3]	0.1 [0, 0.4]	8.4 [6, 11.9]	0.5 [0.1, 1.9]	3 [0.3, 7]
		50	5.3 [3.6, 7.9]	0.5 [0.3, 0.7]	0.2 [0.1, 0.6]	0.4 [0, 1.7]	22.7 [16.2, 32]	0.8 [0.2, 2.8]	3.1 [0.3, 7.3]
		60	17 [11.4, 25.1]	1 [0.6, 1.4]	0.4 [0.2, 1.2]	1.4 [0, 5.2]	44.3 [31.8, 62.6]	1 [0.3, 3.8]	3.3 [0.3, 7.6]
		70	40.9 [27.5, 60.5]	1.8 [1.1, 2.6]	0.9 [0.3, 2.5]	3 [0, 11.5]	69.9 [50.1, 98.8]	1.3 [0.3, 4.7]	3.5 [0.3, 8.1]
		80	78.1 [52.6, 115.3]	3 [2, 4.5]	1.7 [0.6, 4.7]	5.6 [0, 21.5]	99.3 [71.2, 140.4]	1.5 [0.4, 5.6]	3.8 [0.3, 8.7]
		90	128.3 [86.5, 188.6]	4.7 [3.1, 7.1]	2.9 [1.1, 7.9]	9 [0, 34.5]	132.6 [95.1, 187.6]	1.7 [0.5, 6.4]	4.1 [0.4, 9.4]
		100	201.9 [136.2, 295.5]	6.8 [4.5, 10.2]	4.6 [1.7, 12.3]	12.2 [0, 46.5]	169.9 [121.8, 240.3]	2 [0.5, 7.3]	4.3 [0.4, 10.1]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Aortic valvuloplasty	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.9 [0.1, 4.3]
		30	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	n/a	0 [0, 0.1]	2 [0.2, 4.6]
		40	0.3 [0.1, 0.6]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.2 [0, 0.4]	n/a	0 [0, 0.1]	2.1 [0.2, 4.8]
		50	1 [0.5, 2.3]	0.2 [0.1, 0.4]	0.2 [0.2, 0.5]	0.6 [0, 1.3]	n/a	0.1 [0, 0.2]	2.2 [0.2, 4.9]
		60	3.4 [1.6, 7.5]	0.5 [0.3, 0.9]	0.5 [0.4, 1.2]	1.6 [0, 3.7]	n/a	0.1 [0, 0.3]	2.3 [0.2, 5.2]
		70	8.9 [4.2, 19.5]	0.9 [0.5, 1.7]	1.1 [0.8, 2.6]	3.3 [0.1, 7.4]	n/a	0.1 [0, 0.5]	2.4 [0.2, 5.6]
		80	18.8 [8.9, 41.1]	1.6 [0.9, 3]	2.1 [1.6, 4.8]	5.5 [0.1, 12.3]	n/a	0.2 [0, 0.6]	2.7 [0.2, 6.1]
		90	34.4 [16.3, 74.9]	2.5 [1.4, 4.6]	3.6 [2.7, 8.1]	7.9 [0.2, 17.7]	n/a	0.2 [0.1, 0.8]	2.9 [0.2, 6.7]
		100	58.5 [27.8, 127.3]	3.7 [2, 6.7]	5.6 [4.3, 12.9]	10.2 [0.3, 23]	n/a	0.3 [0.1, 1]	3.1 [0.3, 7.2]
Aortic valvuloplasty	Female	20	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.3 [0.2, 0.4]	0 [0, 0.2]	2 [0.2, 4.6]
		30	0.3 [0.2, 0.4]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	1.6 [1.2, 2.3]	0.2 [0, 0.7]	2.1 [0.2, 4.8]
		40	0.9 [0.6, 1.3]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.1 [0, 0.2]	5.8 [4.1, 8.1]	0.4 [0.1, 1.4]	2.2 [0.2, 5]
		50	3.4 [2.3, 5.1]	0.3 [0.2, 0.4]	0.1 [0, 0.4]	0.3 [0, 1]	15.5 [11.1, 22]	0.6 [0.2, 2.1]	2.2 [0.2, 5.2]
		60	11 [7.4, 16.3]	0.6 [0.4, 0.9]	0.3 [0.1, 0.8]	0.8 [0, 3.1]	30.4 [21.8, 42.9]	0.8 [0.2, 2.8]	2.3 [0.2, 5.4]
		70	26.4 [17.8, 39.1]	1.1 [0.7, 1.6]	0.6 [0.2, 1.6]	1.8 [0, 6.9]	47.9 [34.3, 67.7]	0.9 [0.3, 3.5]	2.5 [0.2, 5.8]
		80	50.5 [34, 74.6]	1.8 [1.2, 2.7]	1.1 [0.4, 2.9]	3.4 [0, 12.9]	68.1 [48.8, 96.2]	1.1 [0.3, 4.2]	2.7 [0.2, 6.2]
		90	83 [56, 122]	2.8 [1.8, 4.2]	1.8 [0.7, 5]	5.4 [0, 20.6]	90.9 [65.2, 128.6]	1.3 [0.3, 4.8]	2.9 [0.3, 6.7]
		100	130.7 [88.1, 191.2]	4.1 [2.7, 6.1]	2.9 [1.1, 7.7]	7.3 [0, 27.7]	116.4 [83.5, 164.7]	1.5 [0.4, 5.4]	3.1 [0.3, 7.2]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Aortic valvuloplasty	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	n/a	0 [0, 0.1]	5.4 [0.4, 12.3]
		30	0.2 [0.1, 0.4]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.1 [0, 0.3]	n/a	0.1 [0, 0.2]	5.7 [0.4, 13.1]
		40	0.7 [0.3, 1.5]	0.3 [0.2, 0.5]	0.2 [0.1, 0.5]	0.5 [0, 1.1]	n/a	0.1 [0, 0.5]	5.9 [0.4, 13.6]
		50	2.7 [1.3, 5.9]	0.7 [0.4, 1.2]	0.6 [0.4, 1.3]	1.6 [0.1, 3.7]	n/a	0.2 [0.1, 0.8]	6.2 [0.5, 14.1]
		60	8.9 [4.2, 19.5]	1.4 [0.8, 2.5]	1.4 [1, 3.2]	4.5 [0.1, 10.2]	n/a	0.3 [0.1, 1.2]	6.5 [0.5, 14.9]
		70	23.2 [11, 50.6]	2.6 [1.4, 4.7]	3 [2.2, 6.7]	9.2 [0.2, 20.6]	n/a	0.4 [0.1, 1.6]	7 [0.5, 16]
		80	48.9 [23.2, 106.6]	4.4 [2.4, 8.2]	5.6 [4.1, 12.6]	15.1 [0.3, 33.9]	n/a	0.6 [0.2, 2.2]	7.6 [0.6, 17.5]
		90	89.3 [42.4, 194.6]	6.9 [3.8, 12.7]	9.3 [7, 21.2]	21.8 [0.5, 48.9]	n/a	0.8 [0.2, 2.9]	8.3 [0.7, 19.2]
		100	151.8 [72.2, 330.6]	10 [5.5, 18.4]	14.6 [11.3, 33.7]	28.2 [0.8, 63.6]	n/a	0.9 [0.2, 3.5]	9 [0.7, 20.7]
Aortic valvuloplasty	Female	20	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.5 [0.3, 0.7]	0.1 [0, 0.5]	3.2 [0.3, 7.3]
		30	0.5 [0.3, 0.7]	0.1 [0.1, 0.1]	0.1 [0, 0.2]	0 [0, 0.1]	2.8 [2, 4]	0.5 [0.1, 1.8]	3.3 [0.3, 7.7]
		40	1.6 [1.1, 2.3]	0.3 [0.2, 0.4]	0.1 [0, 0.3]	0.1 [0, 0.5]	10.1 [7.2, 14.3]	1 [0.3, 3.8]	3.5 [0.3, 8]
		50	6.2 [4.2, 9.2]	0.6 [0.4, 0.9]	0.3 [0.1, 0.7]	0.5 [0, 2.1]	27.2 [19.5, 38.5]	1.5 [0.4, 5.7]	3.6 [0.3, 8.3]
		60	19.8 [13.3, 29.3]	1.2 [0.8, 1.7]	0.6 [0.2, 1.5]	1.7 [0, 6.5]	53.3 [38.2, 75.3]	2 [0.5, 7.5]	3.8 [0.3, 8.7]
		70	47.7 [32.1, 70.5]	2.1 [1.4, 3.1]	1.1 [0.4, 3.1]	3.8 [0, 14.4]	84 [60.2, 118.8]	2.5 [0.7, 9.3]	4 [0.4, 9.2]
		80	91.1 [61.4, 134.5]	3.6 [2.3, 5.4]	2.2 [0.8, 5.9]	7.1 [0, 27]	119.4 [85.6, 168.8]	3 [0.8, 11.2]	4.3 [0.4, 10]
		90	149.7 [100.9, 220.1]	5.7 [3.7, 8.5]	3.7 [1.4, 9.9]	11.3 [0, 43.3]	159.5 [114.4, 225.5]	3.5 [0.9, 12.9]	4.6 [0.4, 10.8]
		100	235.6 [158.9, 344.8]	8.2 [5.4, 12.3]	5.8 [2.2, 15.4]	15.2 [0, 58.3]	204.3 [146.5, 288.9]	3.9 [1, 14.5]	4.9 [0.4, 11.5]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pulmonary artery balloon/stenting	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	n/a	0 [0, 0]	3.5 [0.3, 8]
		30	0.2 [0.1, 0.4]	0.1 [0, 0.2]	0.1 [0.1, 0.2]	0.1 [0, 0.3]	n/a	0 [0, 0.2]	3.9 [0.3, 8.9]
		40	0.8 [0.4, 1.8]	0.3 [0.1, 0.5]	0.3 [0.2, 0.6]	0.5 [0, 1.1]	n/a	0.1 [0, 0.4]	4.2 [0.3, 9.6]
		50	3.1 [1.5, 6.8]	0.6 [0.3, 1.1]	0.8 [0.5, 1.7]	1.7 [0.1, 3.9]	n/a	0.2 [0, 0.6]	4.5 [0.3, 10.2]
		60	10.3 [4.9, 22.5]	1.2 [0.7, 2.2]	1.9 [1.3, 4.2]	4.7 [0.1, 10.6]	n/a	0.2 [0.1, 0.9]	4.8 [0.4, 11]
		70	26.8 [12.7, 58.3]	2.3 [1.2, 4.2]	3.9 [2.8, 8.8]	9.6 [0.2, 21.5]	n/a	0.3 [0.1, 1.3]	5.4 [0.4, 12.3]
		80	56.4 [26.7, 122.9]	3.9 [2.1, 7.2]	7.3 [5.4, 16.5]	15.8 [0.3, 35.4]	n/a	0.5 [0.1, 1.7]	6.1 [0.5, 14]
		90	103 [48.9, 224.3]	6.1 [3.3, 11.3]	12.2 [9.2, 27.9]	22.7 [0.5, 51.1]	n/a	0.6 [0.2, 2.2]	6.9 [0.6, 16]
		100	175 [83.3, 381.1]	8.9 [4.8, 16.3]	19.2 [14.9, 44.3]	29.5 [0.8, 66.4]	n/a	0.7 [0.2, 2.7]	7.7 [0.6, 17.7]
Pulmonary artery balloon/stenting	Female	20	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.7 [0.5, 1]	0.1 [0, 0.3]	2.3 [0.2, 5.3]
		30	0.6 [0.4, 0.8]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0 [0, 0.1]	4.1 [3, 5.8]	0.3 [0.1, 1]	2.5 [0.2, 5.8]
		40	1.9 [1.3, 2.8]	0.3 [0.2, 0.4]	0.1 [0.1, 0.4]	0.1 [0, 0.5]	14.8 [10.6, 21]	0.6 [0.2, 2.2]	2.7 [0.3, 6.2]
		50	7.4 [5, 11]	0.6 [0.4, 0.9]	0.3 [0.1, 1]	0.6 [0, 2.2]	40.1 [28.7, 56.7]	0.9 [0.2, 3.3]	2.8 [0.3, 6.5]
		60	23.7 [15.9, 35.1]	1.2 [0.8, 1.8]	0.8 [0.3, 2.1]	1.8 [0, 7]	78.4 [56.2, 110.9]	1.2 [0.3, 4.4]	3.1 [0.3, 7]
		70	57 [38.4, 84.4]	2.2 [1.4, 3.2]	1.6 [0.6, 4.4]	4 [0, 15.3]	123.6 [88.6, 174.8]	1.5 [0.4, 5.5]	3.4 [0.3, 7.7]
		80	109 [73.4, 160.9]	3.7 [2.4, 5.6]	3 [1.1, 8.3]	7.5 [0, 28.7]	175.7 [126, 248.5]	1.8 [0.5, 6.5]	3.7 [0.3, 8.7]
		90	179.1 [120.7, 263.3]	5.8 [3.8, 8.7]	5.2 [1.9, 14]	12.1 [0, 46]	234.7 [168.4, 332]	2 [0.5, 7.5]	4.2 [0.4, 9.8]
		100	281.9 [190.1, 412.5]	8.5 [5.5, 12.7]	8.2 [3.1, 21.8]	16.2 [0, 61.9]	300.7 [215.6, 425.2]	2.3 [0.6, 8.5]	4.6 [0.4, 10.7]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pulmonary artery balloon/stenting	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	2 [0.1, 4.6]
		30	0.1 [0.1, 0.2]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0.1]	2.2 [0.2, 5.1]
		40	0.5 [0.2, 1]	0.2 [0.1, 0.3]	0.2 [0.1, 0.3]	0.3 [0, 0.7]	n/a	0.1 [0, 0.2]	2.4 [0.2, 5.5]
		50	1.8 [0.8, 3.9]	0.4 [0.2, 0.7]	0.4 [0.3, 1]	1 [0, 2.3]	n/a	0.1 [0, 0.3]	2.5 [0.2, 5.8]
		60	5.9 [2.8, 12.9]	0.8 [0.4, 1.4]	1.1 [0.8, 2.5]	2.8 [0.1, 6.4]	n/a	0.1 [0, 0.5]	2.8 [0.2, 6.3]
		70	15.4 [7.3, 33.5]	1.4 [0.8, 2.7]	2.3 [1.7, 5.2]	5.8 [0.1, 13]	n/a	0.2 [0.1, 0.7]	3.1 [0.2, 7]
		80	32.4 [15.3, 70.5]	2.5 [1.4, 4.6]	4.3 [3.1, 9.7]	9.5 [0.2, 21.4]	n/a	0.3 [0.1, 1]	3.5 [0.3, 8]
		90	59.1 [28.1, 128.7]	3.9 [2.1, 7.2]	7.1 [5.4, 16.3]	13.7 [0.3, 30.8]	n/a	0.3 [0.1, 1.3]	4 [0.3, 9.1]
	100	100.4 [47.8, 218.7]	5.7 [3.1, 10.4]	11.2 [8.7, 26]	17.8 [0.5, 40.1]	n/a	0.4 [0.1, 1.6]	4.4 [0.4, 10.1]	
Pulmonary artery balloon/stenting	Female	20	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.4 [0.3, 0.6]	0 [0, 0.2]	1.3 [0.1, 3]
		30	0.3 [0.2, 0.5]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	2.5 [1.8, 3.5]	0.2 [0, 0.7]	1.5 [0.1, 3.4]
		40	1.2 [0.8, 1.7]	0.2 [0.1, 0.3]	0.1 [0, 0.3]	0.1 [0, 0.3]	8.8 [6.3, 12.5]	0.4 [0.1, 1.5]	1.6 [0.1, 3.6]
		50	4.6 [3.1, 6.8]	0.4 [0.3, 0.6]	0.2 [0.1, 0.6]	0.4 [0, 1.4]	23.9 [17.1, 33.8]	0.6 [0.2, 2.2]	1.6 [0.2, 3.8]
		60	14.6 [9.8, 21.6]	0.8 [0.5, 1.2]	0.5 [0.2, 1.3]	1.2 [0, 4.5]	46.7 [33.5, 66]	0.8 [0.2, 2.9]	1.8 [0.2, 4.1]
		70	35.1 [23.6, 51.9]	1.4 [0.9, 2.2]	1 [0.4, 2.7]	2.6 [0, 10]	73.6 [52.8, 104.1]	1 [0.3, 3.6]	1.9 [0.2, 4.5]
		80	67 [45.1, 98.9]	2.5 [1.6, 3.7]	1.8 [0.7, 5]	4.9 [0, 18.8]	104.7 [75.1, 148]	1.2 [0.3, 4.4]	2.2 [0.2, 5]
		90	110.1 [74.2, 161.9]	3.9 [2.5, 5.8]	3.2 [1.2, 8.5]	7.9 [0, 30.1]	139.8 [100.3, 197.7]	1.3 [0.4, 5]	2.4 [0.2, 5.6]
	100	173.3 [116.9, 253.6]	5.6 [3.7, 8.4]	5 [1.9, 13.3]	10.6 [0, 40.5]	179.1 [128.4, 253.3]	1.5 [0.4, 5.7]	2.7 [0.2, 6.2]	

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pulmonary artery balloon/stenting	Male	20	0.1 [0, 0.2]	0 [0, 0.1]	0.1 [0, 0.1]	0 [0, 0.1]	n/a	0 [0, 0.1]	6.4 [0.5, 14.6]
		30	0.3 [0.2, 0.7]	0.2 [0.1, 0.3]	0.2 [0.1, 0.4]	0.2 [0, 0.5]	n/a	0.1 [0, 0.3]	7.1 [0.5, 16.2]
		40	1.4 [0.7, 3]	0.5 [0.3, 0.9]	0.5 [0.3, 1]	0.9 [0, 2]	n/a	0.2 [0.1, 0.8]	7.6 [0.6, 17.3]
		50	5.4 [2.5, 11.7]	1.1 [0.6, 2.1]	1.3 [0.9, 2.9]	3.1 [0.1, 6.9]	n/a	0.3 [0.1, 1.2]	8.1 [0.6, 18.4]
		60	17.7 [8.4, 38.7]	2.3 [1.3, 4.3]	3.3 [2.3, 7.3]	8.5 [0.2, 19.1]	n/a	0.5 [0.1, 1.8]	8.7 [0.7, 20]
		70	46.1 [21.8, 100.4]	4.3 [2.4, 8]	6.8 [4.9, 15.4]	17.2 [0.4, 38.7]	n/a	0.7 [0.2, 2.5]	9.7 [0.7, 22.3]
		80	97.1 [46, 211.6]	7.5 [4.1, 13.8]	12.7 [9.3, 28.8]	28.4 [0.6, 63.8]	n/a	0.9 [0.2, 3.5]	11 [0.9, 25.4]
		90	177.3 [84.2, 386.2]	11.7 [6.4, 21.5]	21.3 [16.1, 48.6]	40.9 [1, 92]	n/a	1.2 [0.3, 4.5]	12.6 [1, 29]
		100	301.3 [143.4, 656.1]	17 [9.2, 31.1]	33.4 [26, 77.2]	53.1 [1.4, 119.7]	n/a	1.4 [0.4, 5.5]	13.9 [1.1, 32.1]
Pulmonary artery balloon/stenting	Female	20	0.3 [0.2, 0.5]	0 [0, 0.1]	0 [0, 0.2]	0 [0, 0]	0.9 [0.7, 1.3]	0.1 [0, 0.5]	3.1 [0.3, 7.2]
		30	0.8 [0.5, 1.2]	0.2 [0.1, 0.3]	0.1 [0, 0.3]	0 [0, 0.1]	5.6 [4, 8]	0.6 [0.1, 2.1]	3.5 [0.3, 8]
		40	2.7 [1.8, 4]	0.5 [0.3, 0.7]	0.2 [0.1, 0.6]	0.2 [0, 0.8]	20.3 [14.5, 28.7]	1.2 [0.3, 4.4]	3.7 [0.3, 8.5]
		50	10.7 [7.2, 15.9]	1.1 [0.7, 1.6]	0.5 [0.2, 1.4]	0.9 [0, 3.5]	54.8 [39.3, 77.4]	1.8 [0.5, 6.7]	3.9 [0.4, 9]
		60	34.1 [23, 50.5]	2.1 [1.3, 3.1]	1.2 [0.4, 3.2]	2.9 [0, 11.1]	107.1 [76.8, 151.4]	2.4 [0.6, 8.8]	4.2 [0.4, 9.6]
		70	82.2 [55.3, 121.6]	3.7 [2.4, 5.6]	2.4 [0.9, 6.5]	6.4 [0, 24.4]	168.9 [121.1, 238.8]	2.9 [0.8, 10.9]	4.6 [0.4, 10.6]
		80	157.1 [105.8, 231.8]	6.4 [4.2, 9.5]	4.6 [1.7, 12.4]	12 [0, 45.8]	240.1 [172.2, 339.5]	3.5 [0.9, 13.1]	5.1 [0.5, 11.9]
		90	258.1 [174, 379.4]	10 [6.5, 15]	7.8 [2.9, 21]	19.2 [0, 73.4]	320.7 [230, 453.5]	4 [1.1, 15]	5.7 [0.5, 13.4]
		100	406.2 [274, 594.4]	14.5 [9.5, 21.7]	12.3 [4.6, 32.7]	25.8 [0, 98.7]	410.7 [294.6, 580.9]	4.6 [1.2, 17]	6.3 [0.6, 14.6]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Coarctation balloon/stenting	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	2.9 [0.2, 6.6]
		30	0.1 [0.1, 0.3]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0.1]	3.2 [0.2, 7.3]
		40	0.5 [0.2, 1.1]	0.2 [0.1, 0.3]	0.2 [0.1, 0.4]	0.3 [0, 0.7]	n/a	0.1 [0, 0.3]	3.4 [0.3, 7.7]
		50	2 [0.9, 4.3]	0.4 [0.2, 0.8]	0.5 [0.3, 1]	1.1 [0, 2.5]	n/a	0.1 [0, 0.5]	3.5 [0.3, 8.1]
		60	6.5 [3.1, 14.2]	0.9 [0.5, 1.6]	1.1 [0.8, 2.5]	3.1 [0.1, 6.9]	n/a	0.2 [0, 0.7]	3.8 [0.3, 8.7]
		70	16.9 [8, 36.9]	1.6 [0.9, 3]	2.3 [1.7, 5.3]	6.2 [0.1, 13.9]	n/a	0.3 [0.1, 1]	4.2 [0.3, 9.6]
		80	35.7 [16.9, 77.8]	2.8 [1.5, 5.1]	4.3 [3.2, 9.8]	10.2 [0.2, 23]	n/a	0.4 [0.1, 1.4]	4.7 [0.4, 10.8]
		90	65.2 [31, 142.1]	4.4 [2.4, 8]	7.3 [5.5, 16.6]	14.7 [0.3, 33.1]	n/a	0.5 [0.1, 1.7]	5.3 [0.4, 12.2]
		100	110.9 [52.7, 241.4]	6.3 [3.4, 11.6]	11.4 [8.9, 26.4]	19.1 [0.5, 43]	n/a	0.6 [0.1, 2.1]	5.8 [0.5, 13.3]
Coarctation balloon/stenting	Female	20	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.4 [0.3, 0.6]	0.1 [0, 0.2]	2.6 [0.2, 6.1]
		30	0.5 [0.3, 0.7]	0.1 [0, 0.1]	0.1 [0, 0.2]	0 [0, 0.1]	2.7 [1.9, 3.8]	0.3 [0.1, 0.9]	2.9 [0.3, 6.6]
		40	1.5 [1, 2.3]	0.2 [0.1, 0.3]	0.1 [0, 0.3]	0.1 [0, 0.4]	9.6 [6.8, 13.5]	0.5 [0.1, 2]	3 [0.3, 7]
		50	6.1 [4.1, 9]	0.5 [0.3, 0.7]	0.2 [0.1, 0.7]	0.4 [0, 1.6]	25.8 [18.5, 36.5]	0.8 [0.2, 3]	3.2 [0.3, 7.3]
		60	19.3 [13, 28.6]	0.9 [0.6, 1.3]	0.5 [0.2, 1.5]	1.3 [0, 5]	50.4 [36.2, 71.3]	1.1 [0.3, 4]	3.4 [0.3, 7.8]
		70	46.5 [31.3, 68.8]	1.6 [1.1, 2.4]	1.1 [0.4, 3]	2.9 [0, 10.9]	79.5 [57, 112.5]	1.3 [0.4, 4.9]	3.7 [0.3, 8.5]
		80	88.9 [59.9, 131.2]	2.8 [1.8, 4.1]	2.1 [0.8, 5.7]	5.4 [0, 20.4]	113.1 [81.1, 159.9]	1.6 [0.4, 5.9]	4.1 [0.4, 9.4]
		90	146 [98.4, 214.7]	4.3 [2.8, 6.5]	3.5 [1.3, 9.6]	8.6 [0, 32.8]	151 [108.3, 213.6]	1.8 [0.5, 6.8]	4.5 [0.4, 10.4]
		100	229.8 [155, 336.3]	6.3 [4.1, 9.4]	5.6 [2.1, 14.9]	11.5 [0, 44.1]	193.5 [138.7, 273.6]	2.1 [0.6, 7.7]	4.9 [0.4, 11.3]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Coarctation balloon/stenting	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.4 [0.1, 3.1]
		30	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	n/a	0 [0, 0.1]	1.5 [0.1, 3.4]
		40	0.2 [0.1, 0.5]	0.1 [0, 0.2]	0.1 [0.1, 0.2]	0.2 [0, 0.4]	n/a	0 [0, 0.1]	1.6 [0.1, 3.6]
		50	0.9 [0.4, 2.1]	0.2 [0.1, 0.4]	0.2 [0.2, 0.5]	0.5 [0, 1.2]	n/a	0 [0, 0.2]	1.7 [0.1, 3.8]
		60	3.1 [1.5, 6.8]	0.4 [0.2, 0.7]	0.5 [0.4, 1.2]	1.5 [0, 3.4]	n/a	0.1 [0, 0.3]	1.8 [0.1, 4.1]
		70	8.1 [3.8, 17.6]	0.8 [0.4, 1.4]	1.1 [0.8, 2.5]	3.1 [0.1, 6.9]	n/a	0.1 [0, 0.4]	1.9 [0.1, 4.5]
		80	17 [8.1, 37.1]	1.3 [0.7, 2.4]	2.1 [1.5, 4.7]	5 [0.1, 11.3]	n/a	0.1 [0, 0.5]	2.2 [0.2, 5]
		90	31.1 [14.8, 67.7]	2 [1.1, 3.7]	3.5 [2.6, 7.9]	7.3 [0.2, 16.3]	n/a	0.2 [0, 0.7]	2.5 [0.2, 5.7]
		100	52.8 [25.1, 115]	2.9 [1.6, 5.4]	5.4 [4.2, 12.5]	9.4 [0.3, 21.2]	n/a	0.2 [0.1, 0.8]	2.7 [0.2, 6.2]
Coarctation balloon/stenting	Female	20	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.2 [0.2, 0.3]	0 [0, 0.1]	1.4 [0.1, 3.2]
		30	0.3 [0.2, 0.4]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	1.4 [1, 2]	0.2 [0, 0.6]	1.5 [0.1, 3.5]
		40	0.9 [0.6, 1.4]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.1 [0, 0.3]	5.2 [3.7, 7.4]	0.3 [0.1, 1.2]	1.6 [0.2, 3.7]
		50	3.7 [2.5, 5.5]	0.3 [0.2, 0.5]	0.2 [0.1, 0.4]	0.3 [0, 1.1]	14 [10.1, 19.9]	0.5 [0.1, 1.8]	1.7 [0.2, 3.8]
		60	11.8 [7.9, 17.5]	0.7 [0.4, 1]	0.4 [0.1, 1]	0.9 [0, 3.6]	27.5 [19.7, 38.9]	0.6 [0.2, 2.4]	1.8 [0.2, 4.1]
		70	28.4 [19.1, 42]	1.2 [0.8, 1.8]	0.7 [0.3, 2]	2.1 [0, 7.9]	43.3 [31.1, 61.3]	0.8 [0.2, 3]	1.9 [0.2, 4.5]
		80	54.3 [36.6, 80.2]	2 [1.3, 3]	1.4 [0.5, 3.8]	3.9 [0, 14.8]	61.6 [44.2, 87.1]	1 [0.3, 3.5]	2.1 [0.2, 4.9]
		90	89.2 [60.2, 131.2]	3.2 [2.1, 4.8]	2.4 [0.9, 6.4]	6.2 [0, 23.7]	82.3 [59, 116.3]	1.1 [0.3, 4.1]	2.4 [0.2, 5.5]
		100	140.5 [94.7, 205.5]	4.6 [3, 6.9]	3.7 [1.4, 9.9]	8.4 [0, 31.9]	105.4 [75.6, 149]	1.2 [0.3, 4.6]	2.6 [0.2, 6]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Coarctation balloon/stenting	Male	20	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	n/a	0 [0, 0.1]	5.2 [0.4, 11.9]
		30	0.2 [0.1, 0.5]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.1 [0, 0.3]	n/a	0 [0, 0.2]	5.7 [0.4, 13.1]
		40	0.9 [0.4, 2]	0.3 [0.2, 0.5]	0.3 [0.2, 0.6]	0.5 [0, 1.3]	n/a	0.1 [0, 0.4]	6.1 [0.5, 13.8]
		50	3.6 [1.7, 7.8]	0.7 [0.4, 1.3]	0.8 [0.6, 1.8]	1.9 [0.1, 4.4]	n/a	0.2 [0, 0.7]	6.4 [0.5, 14.6]
		60	11.8 [5.6, 25.8]	1.4 [0.8, 2.6]	2 [1.4, 4.5]	5.4 [0.1, 12.2]	n/a	0.3 [0.1, 1]	6.8 [0.5, 15.7]
		70	30.7 [14.6, 67]	2.7 [1.5, 4.9]	4.2 [3, 9.5]	11 [0.2, 24.6]	n/a	0.4 [0.1, 1.4]	7.5 [0.6, 17.3]
		80	64.8 [30.7, 141.1]	4.6 [2.5, 8.5]	7.8 [5.7, 17.7]	18.1 [0.4, 40.6]	n/a	0.5 [0.1, 1.9]	8.4 [0.7, 19.4]
		90	118.2 [56.2, 257.6]	7.3 [4, 13.3]	13.1 [9.9, 29.9]	26 [0.6, 58.5]	n/a	0.6 [0.2, 2.4]	9.5 [0.8, 21.9]
		100	201 [95.6, 437.6]	10.5 [5.7, 19.3]	20.5 [16, 47.5]	33.8 [0.9, 76.1]	n/a	0.8 [0.2, 3]	10.4 [0.8, 24]
Coarctation balloon/stenting	Female	20	0.2 [0.2, 0.3]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.6 [0.4, 0.8]	0.1 [0, 0.4]	3.3 [0.3, 7.6]
		30	0.6 [0.4, 0.9]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0 [0, 0.1]	3.4 [2.4, 4.7]	0.4 [0.1, 1.5]	3.6 [0.3, 8.3]
		40	2.1 [1.4, 3.1]	0.4 [0.2, 0.5]	0.2 [0.1, 0.4]	0.2 [0, 0.7]	12 [8.6, 17]	0.9 [0.2, 3.2]	3.8 [0.4, 8.8]
		50	8.1 [5.5, 12]	0.8 [0.5, 1.2]	0.3 [0.1, 1]	0.7 [0, 2.8]	32.5 [23.3, 45.9]	1.3 [0.3, 4.8]	4 [0.4, 9.2]
		60	25.9 [17.4, 38.4]	1.5 [1, 2.3]	0.8 [0.3, 2.1]	2.3 [0, 8.9]	63.5 [45.5, 89.8]	1.7 [0.5, 6.4]	4.3 [0.4, 9.8]
		70	62.4 [42, 92.3]	2.8 [1.8, 4.2]	1.6 [0.6, 4.3]	5.1 [0, 19.6]	100.1 [71.8, 141.6]	2.1 [0.6, 7.9]	4.6 [0.4, 10.7]
		80	119.2 [80.3, 175.9]	4.8 [3.1, 7.2]	3 [1.1, 8.2]	9.6 [0, 36.7]	142.3 [102.1, 201.3]	2.5 [0.7, 9.5]	5.1 [0.5, 11.9]
		90	195.9 [132, 287.9]	7.5 [4.9, 11.3]	5.2 [1.9, 13.9]	15.4 [0, 58.9]	190.1 [136.4, 268.9]	2.9 [0.8, 10.9]	5.7 [0.5, 13.2]
		100	308.3 [207.9, 451.1]	10.9 [7.1, 16.3]	8.1 [3.1, 21.6]	20.7 [0, 79.2]	243.5 [174.7, 344.4]	3.3 [0.9, 12.3]	6.1 [0.6, 14.3]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Electrophysiology study ± radiofrequency ablation	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.5 [0, 1.1]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0]	0.8 [0.1, 1.9]
		40	0.2 [0.1, 0.5]	0.1 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.3]	n/a	0 [0, 0]	1.1 [0.1, 2.4]
		50	0.9 [0.4, 2]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.5 [0, 1.1]	n/a	0 [0, 0]	1.3 [0.1, 2.9]
		60	3 [1.4, 6.6]	0.3 [0.1, 0.5]	0.2 [0.2, 0.5]	1.4 [0, 3]	n/a	0 [0, 0.1]	1.6 [0.1, 3.7]
		70	7.9 [3.7, 17.1]	0.5 [0.3, 0.9]	0.5 [0.4, 1.2]	2.7 [0.1, 6.2]	n/a	0 [0, 0.1]	2.1 [0.2, 4.8]
		80	16.6 [7.9, 36.1]	0.8 [0.4, 1.5]	1 [0.7, 2.2]	4.5 [0.1, 10.2]	n/a	0 [0, 0.1]	2.7 [0.2, 6.3]
		90	30.3 [14.4, 65.9]	1.3 [0.7, 2.4]	1.6 [1.2, 3.7]	6.5 [0.2, 14.6]	n/a	0 [0, 0.1]	3.5 [0.3, 8.2]
		100	51.5 [24.5, 112.1]	1.9 [1, 3.4]	2.5 [2, 5.9]	8.5 [0.2, 19.1]	n/a	0 [0, 0.2]	4.2 [0.4, 9.8]
Electrophysiology study ± radiofrequency ablation	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.3 [0, 0.6]
		30	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.3]	0 [0, 0.1]	0.5 [0, 1]
		40	0.4 [0.3, 0.7]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0.7 [0.5, 1]	0 [0, 0.2]	0.6 [0.1, 1.3]
		50	1.9 [1.3, 2.8]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.1 [0, 0.6]	2 [1.4, 2.8]	0.1 [0, 0.2]	0.7 [0.1, 1.6]
		60	6.1 [4.1, 9]	0.2 [0.1, 0.3]	0.1 [0, 0.3]	0.5 [0, 1.7]	3.9 [2.8, 5.5]	0.1 [0, 0.3]	0.8 [0.1, 1.9]
		70	14.8 [9.9, 21.8]	0.4 [0.3, 0.6]	0.2 [0.1, 0.6]	1 [0, 3.8]	6.1 [4.4, 8.7]	0.1 [0, 0.4]	1.1 [0.1, 2.5]
		80	28.3 [19, 41.7]	0.7 [0.5, 1]	0.4 [0.1, 1.1]	1.9 [0, 7.2]	8.7 [6.3, 12.3]	0.1 [0, 0.5]	1.4 [0.1, 3.2]
		90	46.5 [31.3, 68.3]	1.1 [0.7, 1.7]	0.7 [0.3, 1.9]	3 [0, 11.5]	11.6 [8.4, 16.5]	0.1 [0, 0.5]	1.8 [0.2, 4.1]
		100	73.2 [49.3, 107]	1.6 [1, 2.4]	1.1 [0.4, 2.9]	4 [0, 15.5]	14.9 [10.7, 21.1]	0.2 [0, 0.6]	2.1 [0.2, 4.9]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Electrophysiology study ± radiofrequency ablation	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.2 [0, 0.4]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.3 [0, 0.8]
		40	0.1 [0, 0.2]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]	n/a	0 [0, 0]	0.4 [0, 1]
		50	0.3 [0.2, 0.8]	0.1 [0, 0.1]	0 [0, 0.1]	0.2 [0, 0.5]	n/a	0 [0, 0]	0.5 [0, 1.2]
		60	1.2 [0.6, 2.5]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.6 [0, 1.3]	n/a	0 [0, 0.1]	0.6 [0, 1.5]
		70	3 [1.4, 6.6]	0.2 [0.1, 0.4]	0.2 [0.2, 0.5]	1.1 [0, 2.6]	n/a	0 [0, 0.1]	0.8 [0.1, 1.9]
		80	6.4 [3, 13.9]	0.4 [0.2, 0.6]	0.4 [0.3, 0.9]	1.9 [0, 4.2]	n/a	0 [0, 0.1]	1.1 [0.1, 2.5]
		90	11.6 [5.5, 25.4]	0.6 [0.3, 1]	0.7 [0.5, 1.6]	2.7 [0.1, 6.1]	n/a	0 [0, 0.1]	1.4 [0.1, 3.3]
		100	19.8 [9.4, 43.1]	0.8 [0.4, 1.5]	1.1 [0.8, 2.5]	3.5 [0.1, 7.9]	n/a	0 [0, 0.2]	1.7 [0.1, 3.9]
Electrophysiology study ± radiofrequency ablation	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.2]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]	0 [0, 0]	0.2 [0, 0.3]
		40	0.2 [0.1, 0.2]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.2, 0.3]	0 [0, 0]	0.2 [0, 0.4]
		50	0.7 [0.5, 1]	0 [0, 0.1]	0 [0, 0]	0.1 [0, 0.2]	0.7 [0.5, 0.9]	0 [0, 0]	0.2 [0, 0.5]
		60	2.2 [1.5, 3.3]	0.1 [0, 0.1]	0 [0, 0.1]	0.2 [0, 0.6]	1.3 [0.9, 1.8]	0 [0, 0]	0.3 [0, 0.6]
		70	5.4 [3.6, 8]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.4 [0, 1.4]	2 [1.5, 2.9]	0 [0, 0]	0.4 [0, 0.8]
		80	10.3 [6.9, 15.2]	0.2 [0.2, 0.3]	0.1 [0, 0.3]	0.7 [0, 2.6]	2.9 [2.1, 4.1]	0 [0, 0]	0.5 [0, 1.1]
		90	17 [11.4, 24.9]	0.4 [0.2, 0.6]	0.2 [0.1, 0.6]	1.1 [0, 4.2]	3.9 [2.8, 5.5]	0 [0, 0]	0.6 [0.1, 1.4]
		100	26.7 [18, 39.1]	0.5 [0.3, 0.8]	0.3 [0.1, 0.9]	1.5 [0, 5.7]	5 [3.6, 7]	0 [0, 0]	0.7 [0.1, 1.6]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Electrophysiology study ± radiofrequency ablation	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.1 [0.1, 2.6]
		30	0.1 [0, 0.2]	0 [0, 0.1]	0 [0, 0]	0.1 [0, 0.1]	n/a	0 [0, 0]	2 [0.1, 4.6]
		40	0.5 [0.2, 1]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.3 [0, 0.7]	n/a	0 [0, 0.1]	2.5 [0.2, 5.8]
		50	1.9 [0.9, 4.1]	0.3 [0.1, 0.5]	0.2 [0.2, 0.6]	1.1 [0, 2.4]	n/a	0 [0, 0.1]	3.1 [0.2, 7.1]
		60	6.3 [3, 13.8]	0.5 [0.3, 1]	0.6 [0.4, 1.4]	2.9 [0.1, 6.6]	n/a	0.1 [0, 0.2]	3.8 [0.3, 8.8]
		70	16.4 [7.8, 35.8]	1 [0.6, 1.9]	1.3 [1, 3]	5.9 [0.1, 13.3]	n/a	0.1 [0, 0.3]	5 [0.4, 11.5]
		80	34.6 [16.4, 75.5]	1.8 [1, 3.2]	2.5 [1.8, 5.6]	9.8 [0.2, 22]	n/a	0.1 [0, 0.4]	6.6 [0.5, 15.3]
		90	63.3 [30.1, 137.8]	2.8 [1.5, 5.1]	4.2 [3.1, 9.5]	14.1 [0.3, 31.7]	n/a	0.1 [0, 0.6]	8.5 [0.7, 19.7]
100	107.5 [51.2, 234.2]	4 [2.2, 7.4]	6.5 [5.1, 15.1]	18.3 [0.5, 41.3]	n/a	0.2 [0, 0.7]	10.1 [0.9, 23.6]		
Electrophysiology study ± radiofrequency ablation	Female	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.1]	0 [0, 0]	0.8 [0.1, 1.9]
		30	0.3 [0.2, 0.5]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	1.2 [0.9, 1.8]	0.1 [0, 0.3]	1.4 [0.1, 3.3]
		40	1.4 [0.9, 2]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.1 [0, 0.4]	4.8 [3.5, 6.8]	0.2 [0, 0.6]	1.8 [0.2, 4.1]
		50	5.8 [3.9, 8.6]	0.3 [0.2, 0.5]	0.1 [0, 0.4]	0.4 [0, 1.7]	13.3 [9.5, 18.8]	0.3 [0.1, 0.9]	2.2 [0.2, 5]
		60	18.7 [12.6, 27.7]	0.6 [0.4, 0.9]	0.3 [0.1, 0.8]	1.4 [0, 5.4]	26.1 [18.7, 36.9]	0.3 [0.1, 1.3]	2.7 [0.3, 6.2]
		70	45.2 [30.4, 66.9]	1.1 [0.7, 1.6]	0.7 [0.2, 1.8]	3.1 [0, 12]	41.2 [29.6, 58.3]	0.4 [0.1, 1.6]	3.4 [0.3, 7.9]
		80	86.6 [58.3, 127.8]	1.9 [1.2, 2.8]	1.2 [0.5, 3.4]	5.9 [0, 22.4]	58.7 [42.1, 83]	0.5 [0.1, 1.9]	4.4 [0.4, 10.3]
		90	142.4 [96, 209.2]	2.9 [1.9, 4.4]	2.1 [0.8, 5.8]	9.4 [0, 36]	78.4 [56.3, 110.9]	0.6 [0.2, 2.2]	5.6 [0.5, 13.1]
100	224.1 [151.2, 327.9]	4.3 [2.8, 6.4]	3.4 [1.3, 9]	12.7 [0, 48.4]	100.5 [72.1, 142.1]	0.7 [0.2, 2.4]	6.6 [0.6, 15.6]		

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Heart biopsy	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.2 [0, 0.4]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.3 [0, 0.7]
		40	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0]	0.3 [0, 0.8]
		50	0.2 [0.1, 0.4]	0 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.3]	n/a	0 [0, 0]	0.4 [0, 0.9]
		60	0.6 [0.3, 1.3]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.3 [0, 0.8]	n/a	0 [0, 0]	0.5 [0, 1.1]
		70	1.5 [0.7, 3.3]	0.1 [0.1, 0.3]	0.1 [0.1, 0.3]	0.7 [0, 1.5]	n/a	0 [0, 0]	0.6 [0, 1.4]
		80	3.2 [1.5, 7]	0.3 [0.1, 0.5]	0.2 [0.2, 0.5]	1.1 [0, 2.5]	n/a	0 [0, 0]	0.8 [0.1, 1.8]
		90	5.9 [2.8, 12.9]	0.4 [0.2, 0.7]	0.4 [0.3, 0.9]	1.6 [0, 3.6]	n/a	0 [0, 0]	1 [0.1, 2.3]
		100	10 [4.8, 21.8]	0.6 [0.3, 1.1]	0.6 [0.5, 1.4]	2.1 [0.1, 4.7]	n/a	0 [0, 0]	1.2 [0.1, 2.7]
Heart biopsy	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.3]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.2]	0 [0, 0]	0.2 [0, 0.4]
		40	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.4 [0.3, 0.6]	0 [0, 0]	0.2 [0, 0.5]
		50	0.5 [0.3, 0.7]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.2]	1.2 [0.8, 1.7]	0 [0, 0]	0.3 [0, 0.6]
		60	1.6 [1.1, 2.3]	0.1 [0.1, 0.1]	0 [0, 0.1]	0.1 [0, 0.5]	2.3 [1.6, 3.2]	0 [0, 0]	0.3 [0, 0.7]
		70	3.8 [2.6, 5.7]	0.1 [0.1, 0.2]	0.1 [0, 0.1]	0.3 [0, 1.2]	3.6 [2.6, 5.1]	0 [0, 0]	0.4 [0, 0.9]
		80	7.3 [4.9, 10.8]	0.3 [0.2, 0.4]	0.1 [0, 0.3]	0.6 [0, 2.3]	5.1 [3.7, 7.3]	0 [0, 0]	0.5 [0, 1.2]
		90	12 [8.1, 17.7]	0.4 [0.3, 0.6]	0.2 [0.1, 0.5]	0.9 [0, 3.6]	6.9 [4.9, 9.7]	0 [0, 0]	0.6 [0.1, 1.4]
		100	18.9 [12.8, 27.7]	0.6 [0.4, 0.9]	0.3 [0.1, 0.7]	1.3 [0, 4.9]	8.8 [6.3, 12.4]	0 [0, 0]	0.7 [0.1, 1.7]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Heart biopsy	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.1 [0, 0.2]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.1 [0, 0.3]
		40	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.2 [0, 0.4]
		50	0.1 [0, 0.2]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]	n/a	0 [0, 0]	0.2 [0, 0.5]
		60	0.3 [0.2, 0.7]	0 [0, 0.1]	0 [0, 0.1]	0.2 [0, 0.4]	n/a	0 [0, 0]	0.2 [0, 0.6]
		70	0.9 [0.4, 1.9]	0.1 [0, 0.1]	0.1 [0.1, 0.2]	0.4 [0, 0.8]	n/a	0 [0, 0]	0.3 [0, 0.7]
		80	1.8 [0.9, 4]	0.1 [0.1, 0.2]	0.1 [0.1, 0.3]	0.6 [0, 1.4]	n/a	0 [0, 0]	0.4 [0, 0.9]
		90	3.4 [1.6, 7.3]	0.2 [0.1, 0.4]	0.3 [0.2, 0.6]	0.9 [0, 2]	n/a	0 [0, 0]	0.5 [0, 1.1]
100	5.7 [2.7, 12.5]	0.3 [0.2, 0.5]	0.4 [0.3, 0.9]	1.1 [0, 2.6]	n/a	0 [0, 0]	0.6 [0, 1.3]		
Heart biopsy	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]	0 [0, 0]	0.1 [0, 0.2]
		40	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.2, 0.3]	0 [0, 0]	0.1 [0, 0.3]
		50	0.2 [0.2, 0.3]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	0.6 [0.4, 0.8]	0 [0, 0]	0.1 [0, 0.3]
		60	0.7 [0.5, 1.1]	0 [0, 0.1]	0 [0, 0]	0.1 [0, 0.2]	1.1 [0.8, 1.6]	0 [0, 0]	0.2 [0, 0.4]
		70	1.8 [1.2, 2.6]	0.1 [0, 0.1]	0 [0, 0]	0.1 [0, 0.5]	1.8 [1.3, 2.6]	0 [0, 0]	0.2 [0, 0.5]
		80	3.4 [2.3, 5]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.3 [0, 1]	2.6 [1.8, 3.6]	0 [0, 0]	0.2 [0, 0.6]
		90	5.6 [3.8, 8.2]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	0.4 [0, 1.6]	3.4 [2.5, 4.9]	0 [0, 0]	0.3 [0, 0.7]
100	8.8 [6, 12.9]	0.3 [0.2, 0.4]	0.1 [0, 0.2]	0.6 [0, 2.2]	4.4 [3.2, 6.2]	0 [0, 0]	0.4 [0, 0.8]		

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Heart biopsy	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.3 [0, 0.8]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.5 [0, 1.1]
		40	0.1 [0, 0.2]	0 [0, 0.1]	0 [0, 0]	0.1 [0, 0.2]	n/a	0 [0, 0]	0.6 [0, 1.4]
		50	0.4 [0.2, 0.9]	0.1 [0, 0.1]	0 [0, 0.1]	0.3 [0, 0.6]	n/a	0 [0, 0]	0.7 [0.1, 1.6]
		60	1.3 [0.6, 2.9]	0.2 [0.1, 0.3]	0.1 [0.1, 0.3]	0.7 [0, 1.6]	n/a	0 [0, 0.1]	0.9 [0.1, 2]
		70	3.5 [1.7, 7.6]	0.3 [0.2, 0.5]	0.2 [0.2, 0.5]	1.4 [0, 3.2]	n/a	0 [0, 0.1]	1.1 [0.1, 2.5]
		80	7.4 [3.5, 16.1]	0.5 [0.3, 0.9]	0.4 [0.3, 1]	2.4 [0.1, 5.3]	n/a	0 [0, 0.1]	1.4 [0.1, 3.2]
		90	13.5 [6.4, 29.4]	0.8 [0.4, 1.5]	0.8 [0.6, 1.7]	3.4 [0.1, 7.6]	n/a	0 [0, 0.2]	1.7 [0.1, 4]
		100	22.9 [10.9, 49.9]	1.2 [0.6, 2.1]	1.2 [0.9, 2.7]	4.4 [0.1, 9.9]	n/a	0.1 [0, 0.2]	2 [0.2, 4.7]
Heart biopsy	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0, 0.5]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.3]	0 [0, 0.1]	0.3 [0, 0.8]
		40	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	0.7 [0.5, 1.1]	0 [0, 0.2]	0.4 [0, 0.9]
		50	0.8 [0.6, 1.2]	0.1 [0, 0.1]	0 [0, 0]	0.1 [0, 0.3]	2 [1.5, 2.9]	0.1 [0, 0.3]	0.5 [0, 1.1]
		60	2.6 [1.8, 3.9]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.2 [0, 0.9]	4 [2.9, 5.7]	0.1 [0, 0.4]	0.6 [0.1, 1.3]
		70	6.4 [4.3, 9.4]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	0.5 [0, 2.1]	6.3 [4.5, 8.9]	0.1 [0, 0.5]	0.7 [0.1, 1.6]
		80	12.2 [8.2, 18]	0.4 [0.2, 0.6]	0.2 [0.1, 0.5]	1 [0, 3.9]	9 [6.5, 12.7]	0.1 [0, 0.6]	0.9 [0.1, 2]
		90	20 [13.5, 29.4]	0.6 [0.4, 0.9]	0.3 [0.1, 0.8]	1.6 [0, 6.2]	12 [8.6, 17]	0.2 [0, 0.6]	1.1 [0.1, 2.5]
		100	31.5 [21.3, 46.1]	0.9 [0.6, 1.3]	0.5 [0.2, 1.2]	2.2 [0, 8.4]	15.4 [11, 21.8]	0.2 [0.1, 0.7]	1.3 [0.1, 2.9]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Coronary angiography	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.8 [0.1, 1.9]
		30	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0]	1.2 [0.1, 2.8]
		40	0.2 [0.1, 0.5]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.2 [0, 0.4]	n/a	0 [0, 0.1]	1.5 [0.1, 3.4]
		50	1 [0.5, 2.1]	0.2 [0.1, 0.4]	0.1 [0.1, 0.3]	0.6 [0, 1.2]	n/a	0 [0, 0.1]	1.7 [0.1, 3.9]
		60	3.2 [1.5, 7.1]	0.5 [0.3, 0.9]	0.3 [0.2, 0.7]	1.5 [0, 3.4]	n/a	0 [0, 0.1]	2.1 [0.2, 4.7]
		70	8.4 [4, 18.4]	0.9 [0.5, 1.6]	0.6 [0.5, 1.4]	3.1 [0.1, 7]	n/a	0 [0, 0.2]	2.6 [0.2, 6]
		80	17.8 [8.4, 38.7]	1.5 [0.8, 2.8]	1.2 [0.9, 2.7]	5.1 [0.1, 11.5]	n/a	0.1 [0, 0.3]	3.3 [0.3, 7.7]
		90	32.4 [15.4, 70.7]	2.4 [1.3, 4.4]	2 [1.5, 4.6]	7.4 [0.2, 16.6]	n/a	0.1 [0, 0.3]	4.2 [0.3, 9.7]
		100	55.1 [26.2, 120.1]	3.5 [1.9, 6.4]	3.2 [2.5, 7.3]	9.6 [0.3, 21.5]	n/a	0.1 [0, 0.4]	4.9 [0.4, 11.4]
Coronary angiography	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.6 [0.1, 1.4]
		30	0.2 [0.1, 0.2]	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.3]	0 [0, 0.2]	0.9 [0.1, 2.1]
		40	0.6 [0.4, 0.9]	0.1 [0.1, 0.2]	0 [0, 0.1]	0 [0, 0.2]	0.7 [0.5, 1]	0.1 [0, 0.4]	1.1 [0.1, 2.5]
		50	2.6 [1.7, 3.8]	0.2 [0.2, 0.4]	0.1 [0, 0.1]	0.2 [0, 0.8]	1.9 [1.4, 2.7]	0.2 [0, 0.6]	1.3 [0.1, 2.9]
		60	8.2 [5.5, 12.2]	0.5 [0.3, 0.7]	0.1 [0, 0.3]	0.7 [0, 2.6]	3.7 [2.7, 5.3]	0.2 [0.1, 0.7]	1.5 [0.1, 3.5]
		70	19.9 [13.4, 29.4]	0.9 [0.6, 1.3]	0.3 [0.1, 0.7]	1.5 [0, 5.7]	5.9 [4.2, 8.3]	0.2 [0.1, 0.9]	1.9 [0.2, 4.3]
		80	38 [25.6, 56.1]	1.5 [1, 2.3]	0.5 [0.2, 1.4]	2.8 [0, 10.6]	8.4 [6, 11.8]	0.3 [0.1, 1.1]	2.3 [0.2, 5.5]
		90	62.5 [42.1, 91.8]	2.4 [1.6, 3.6]	0.9 [0.3, 2.3]	4.5 [0, 17.1]	11.2 [8, 15.8]	0.3 [0.1, 1.3]	2.9 [0.3, 6.8]
		100	98.3 [66.3, 143.9]	3.5 [2.3, 5.2]	1.4 [0.5, 3.7]	6 [0, 23]	14.3 [10.3, 20.2]	0.4 [0.1, 1.4]	3.4 [0.3, 8]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Coronary angiography	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.6 [0, 1.3]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0]	0.9 [0.1, 2]
		40	0.2 [0.1, 0.4]	0.1 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0.1]	1 [0.1, 2.4]
		50	0.6 [0.3, 1.4]	0.2 [0.1, 0.3]	0.1 [0.1, 0.2]	0.4 [0, 0.9]	n/a	0 [0, 0.1]	1.2 [0.1, 2.8]
		60	2.1 [1, 4.6]	0.3 [0.2, 0.6]	0.2 [0.1, 0.4]	1.1 [0, 2.4]	n/a	0 [0, 0.1]	1.5 [0.1, 3.3]
		70	5.5 [2.6, 11.9]	0.6 [0.3, 1.1]	0.4 [0.3, 0.9]	2.2 [0, 4.9]	n/a	0 [0, 0.2]	1.8 [0.1, 4.2]
		80	11.5 [5.5, 25.1]	1 [0.6, 1.9]	0.7 [0.6, 1.7]	3.6 [0.1, 8]	n/a	0.1 [0, 0.3]	2.3 [0.2, 5.4]
		90	21.1 [10, 45.9]	1.6 [0.9, 2.9]	1.3 [0.9, 2.9]	5.2 [0.1, 11.6]	n/a	0.1 [0, 0.3]	2.9 [0.2, 6.8]
		100	35.8 [17, 78]	2.3 [1.3, 4.3]	2 [1.5, 4.6]	6.7 [0.2, 15.1]	n/a	0.1 [0, 0.4]	3.5 [0.3, 8.1]
Coronary angiography	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.4 [0, 0.8]
		30	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.5 [0.1, 1.2]
		40	0.4 [0.3, 0.6]	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0.4 [0.3, 0.6]	0 [0, 0.2]	0.6 [0.1, 1.4]
		50	1.6 [1.1, 2.3]	0.2 [0.1, 0.2]	0 [0, 0.1]	0.1 [0, 0.5]	1.2 [0.8, 1.7]	0.1 [0, 0.3]	0.7 [0.1, 1.7]
		60	5.1 [3.4, 7.5]	0.3 [0.2, 0.5]	0.1 [0, 0.2]	0.4 [0, 1.6]	2.3 [1.6, 3.2]	0.1 [0, 0.4]	0.9 [0.1, 2]
		70	12.2 [8.2, 18.1]	0.6 [0.4, 0.9]	0.2 [0.1, 0.4]	0.9 [0, 3.5]	3.6 [2.6, 5.1]	0.1 [0, 0.5]	1.1 [0.1, 2.5]
		80	23.4 [15.7, 34.5]	1 [0.7, 1.5]	0.3 [0.1, 0.8]	1.7 [0, 6.6]	5.1 [3.7, 7.3]	0.1 [0, 0.6]	1.4 [0.1, 3.2]
		90	38.4 [25.9, 56.5]	1.6 [1, 2.4]	0.5 [0.2, 1.4]	2.8 [0, 10.5]	6.9 [4.9, 9.7]	0.2 [0, 0.6]	1.7 [0.2, 3.9]
		100	60.5 [40.8, 88.5]	2.3 [1.5, 3.5]	0.8 [0.3, 2.2]	3.7 [0, 14.1]	8.8 [6.3, 12.4]	0.2 [0.1, 0.7]	2 [0.2, 4.6]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Coronary angiography	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.4 [0.1, 3.1]
		30	0.1 [0, 0.2]	0 [0, 0.1]	0 [0, 0]	0.1 [0, 0.1]	n/a	0 [0, 0]	2 [0.1, 4.6]
		40	0.4 [0.2, 0.8]	0.2 [0.1, 0.3]	0.1 [0, 0.1]	0.3 [0, 0.6]	n/a	0 [0, 0.1]	2.4 [0.2, 5.5]
		50	1.5 [0.7, 3.3]	0.4 [0.2, 0.7]	0.2 [0.1, 0.4]	0.9 [0, 2.1]	n/a	0 [0, 0.1]	2.8 [0.2, 6.5]
		60	5 [2.4, 10.9]	0.8 [0.4, 1.4]	0.5 [0.3, 1]	2.5 [0.1, 5.7]	n/a	0.1 [0, 0.2]	3.4 [0.3, 7.8]
		70	13 [6.2, 28.4]	1.4 [0.8, 2.6]	1 [0.7, 2.2]	5.1 [0.1, 11.6]	n/a	0.1 [0, 0.3]	4.3 [0.3, 9.8]
		80	27.5 [13, 59.8]	2.4 [1.3, 4.5]	1.8 [1.3, 4.1]	8.5 [0.2, 19.1]	n/a	0.1 [0, 0.4]	5.5 [0.4, 12.6]
		90	50.1 [23.8, 109.2]	3.8 [2.1, 7]	3 [2.3, 6.9]	12.2 [0.3, 27.5]	n/a	0.1 [0, 0.5]	6.9 [0.6, 15.9]
		100	85.2 [40.6, 185.6]	5.5 [3, 10.1]	4.7 [3.7, 10.9]	15.9 [0.4, 35.8]	n/a	0.2 [0, 0.6]	8.1 [0.7, 18.9]
Coronary angiography	Female	20	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	0 [0, 0.1]	1.1 [0.1, 2.5]
		30	0.3 [0.2, 0.4]	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0.4 [0.3, 0.5]	0.1 [0, 0.3]	1.6 [0.2, 3.7]
		40	1 [0.7, 1.5]	0.2 [0.1, 0.2]	0 [0, 0.1]	0.1 [0, 0.3]	1.4 [1, 2]	0.1 [0, 0.6]	2 [0.2, 4.5]
		50	4.3 [2.9, 6.4]	0.4 [0.2, 0.6]	0.1 [0, 0.3]	0.4 [0, 1.4]	3.8 [2.7, 5.4]	0.2 [0.1, 0.8]	2.3 [0.2, 5.2]
		60	13.9 [9.4, 20.6]	0.7 [0.5, 1.1]	0.2 [0.1, 0.6]	1.1 [0, 4.4]	7.4 [5.3, 10.5]	0.3 [0.1, 1.1]	2.7 [0.3, 6.3]
		70	33.6 [22.6, 49.7]	1.3 [0.9, 2]	0.5 [0.2, 1.3]	2.5 [0, 9.6]	11.7 [8.4, 16.6]	0.4 [0.1, 1.4]	3.4 [0.3, 7.8]
		80	64.3 [43.3, 94.9]	2.3 [1.5, 3.4]	0.9 [0.3, 2.4]	4.7 [0, 18]	16.7 [12, 23.6]	0.4 [0.1, 1.7]	4.2 [0.4, 9.8]
		90	105.7 [71.3, 155.4]	3.6 [2.3, 5.4]	1.5 [0.6, 4.1]	7.6 [0, 28.9]	22.3 [16, 31.6]	0.5 [0.1, 1.9]	5.2 [0.5, 12.2]
		100	166.4 [112.3, 243.5]	5.2 [3.4, 7.8]	2.4 [0.9, 6.4]	10.2 [0, 38.9]	28.6 [20.5, 40.5]	0.6 [0.2, 2.2]	6.1 [0.5, 14.3]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Valve replacement	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	2.3 [0.2, 5.3]
		30	0.3 [0.2, 0.7]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.2 [0, 0.4]	n/a	0 [0, 0.1]	4.6 [0.3, 10.6]
		40	1.6 [0.8, 3.5]	0.4 [0.2, 0.8]	0.4 [0.3, 0.8]	0.9 [0, 2]	n/a	0.1 [0, 0.3]	6.1 [0.4, 13.9]
		50	6.4 [3.1, 14]	1 [0.6, 1.8]	1.1 [0.8, 2.5]	3.1 [0.1, 7.1]	n/a	0.1 [0, 0.4]	7.5 [0.6, 17.2]
		60	21.4 [10.2, 46.7]	2.1 [1.1, 3.8]	2.8 [2, 6.3]	8.8 [0.2, 19.7]	n/a	0.2 [0, 0.6]	9.6 [0.7, 21.9]
		70	55.8 [26.4, 121.6]	3.9 [2.1, 7.2]	5.9 [4.3, 13.3]	17.8 [0.4, 39.9]	n/a	0.2 [0.1, 0.9]	12.6 [1, 29.1]
		80	117.7 [55.8, 256.5]	6.8 [3.7, 12.5]	11 [8.1, 25]	29.3 [0.6, 65.8]	n/a	0.3 [0.1, 1.3]	16.9 [1.4, 39.3]
		90	214.9 [102.1, 468.2]	10.6 [5.8, 19.5]	18.5 [14, 42.3]	42.2 [1, 94.9]	n/a	0.4 [0.1, 1.6]	22 [1.8, 51.3]
		100	365.4 [173.9, 795.6]	15.4 [8.4, 28.3]	29.1 [22.6, 67.2]	54.8 [1.5, 123.5]	n/a	0.5 [0.1, 2]	26.6 [2.2, 62]
Valve replacement	Female	20	0.1 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.3 [0.2, 0.4]	0.1 [0, 0.2]	2 [0.2, 4.7]
		30	0.9 [0.6, 1.4]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	0 [0, 0.2]	6.6 [4.7, 9.3]	0.3 [0.1, 1.2]	4.1 [0.4, 9.4]
		40	4.2 [2.8, 6.2]	0.6 [0.4, 1]	0.2 [0.1, 0.6]	0.3 [0, 1.2]	26.1 [18.8, 37]	0.7 [0.2, 2.8]	5.3 [0.5, 12.1]
		50	17.9 [12.1, 26.5]	1.5 [1, 2.3]	0.6 [0.2, 1.7]	1.3 [0, 5.1]	72.3 [51.9, 102.3]	1.2 [0.3, 4.3]	6.5 [0.6, 14.9]
		60	58.1 [39.1, 86]	3 [2, 4.5]	1.4 [0.5, 3.9]	4.2 [0, 16.1]	142.4 [102.1, 201.3]	1.5 [0.4, 5.7]	8.2 [0.8, 18.8]
		70	140.5 [94.6, 208]	5.5 [3.6, 8.2]	3 [1.1, 8.2]	9.3 [0, 35.5]	225 [161.4, 318.2]	1.9 [0.5, 7.1]	10.6 [1, 24.5]
		80	269 [181.2, 397.1]	9.4 [6.1, 14.1]	5.8 [2.1, 15.7]	17.4 [0, 66.6]	320.3 [229.7, 453]	2.3 [0.6, 8.6]	13.8 [1.2, 32.3]
		90	442.4 [298.2, 650.3]	14.8 [9.6, 22.2]	9.9 [3.7, 26.7]	28 [0, 106.8]	428.3 [307.1, 605.6]	2.7 [0.7, 9.9]	17.7 [1.6, 41.6]
		100	696.5 [469.9, 1019.2]	21.5 [14, 32.2]	15.7 [5.9, 41.6]	37.6 [0, 143.7]	548.8 [393.6, 776.1]	3 [0.8, 11.2]	21.1 [1.9, 49.9]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Valve replacement	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.6 [0.1, 3.7]
		30	0.2 [0.1, 0.4]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0.1]	3.3 [0.2, 7.4]
		40	1 [0.5, 2.1]	0.2 [0.1, 0.4]	0.2 [0.1, 0.5]	0.5 [0, 1.1]	n/a	0 [0, 0.1]	4.3 [0.3, 9.8]
		50	3.8 [1.8, 8.3]	0.5 [0.3, 1]	0.6 [0.5, 1.4]	1.8 [0.1, 4]	n/a	0.1 [0, 0.2]	5.3 [0.4, 12.1]
		60	12.7 [6, 27.7]	1.1 [0.6, 2]	1.6 [1.2, 3.6]	4.9 [0.1, 11]	n/a	0.1 [0, 0.3]	6.7 [0.5, 15.4]
		70	33.1 [15.7, 72.1]	2 [1.1, 3.7]	3.4 [2.5, 7.7]	9.9 [0.2, 22.3]	n/a	0.1 [0, 0.4]	8.9 [0.7, 20.5]
		80	69.7 [33.1, 152]	3.5 [1.9, 6.4]	6.3 [4.7, 14.4]	16.4 [0.4, 36.8]	n/a	0.2 [0, 0.6]	11.9 [1, 27.6]
		90	127.4 [60.5, 277.5]	5.5 [3, 10.1]	10.6 [8, 24.3]	23.6 [0.6, 53]	n/a	0.2 [0.1, 0.8]	15.5 [1.3, 36.1]
		100	216.6 [103.1, 471.6]	8 [4.3, 14.6]	16.7 [13, 38.7]	30.6 [0.8, 69]	n/a	0.2 [0.1, 0.9]	18.7 [1.6, 43.7]
Valve replacement	Female	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.3]	0 [0, 0.1]	1.3 [0.1, 3.1]
		30	0.7 [0.5, 1]	0.1 [0.1, 0.2]	0.1 [0, 0.1]	0 [0, 0.1]	4.8 [3.4, 6.8]	0.2 [0, 0.7]	2.7 [0.3, 6.2]
		40	3.1 [2.1, 4.6]	0.4 [0.3, 0.6]	0.2 [0.1, 0.4]	0.2 [0, 0.8]	19.1 [13.7, 27]	0.4 [0.1, 1.5]	3.5 [0.3, 8]
		50	13.2 [8.9, 19.5]	0.9 [0.6, 1.4]	0.4 [0.1, 1.1]	0.9 [0, 3.4]	52.9 [37.9, 74.7]	0.6 [0.2, 2.4]	4.3 [0.4, 9.9]
		60	42.7 [28.8, 63.3]	1.9 [1.2, 2.8]	1 [0.4, 2.7]	2.8 [0, 10.7]	104.1 [74.6, 147.2]	0.8 [0.2, 3.1]	5.4 [0.5, 12.5]
		70	103.4 [69.6, 153.1]	3.4 [2.2, 5.1]	2.1 [0.8, 5.7]	6.2 [0, 23.7]	164.5 [118, 232.6]	1.1 [0.3, 3.9]	7 [0.6, 16.2]
		80	198 [133.4, 292.3]	5.8 [3.8, 8.7]	4 [1.5, 10.8]	11.6 [0, 44.3]	234.2 [167.9, 331.2]	1.3 [0.3, 4.7]	9.1 [0.8, 21.4]
		90	325.6 [219.5, 478.6]	9.2 [6, 13.7]	6.8 [2.5, 18.4]	18.6 [0, 71.1]	313.1 [224.5, 442.7]	1.5 [0.4, 5.4]	11.7 [1, 27.5]
		100	512.7 [345.8, 750.2]	13.3 [8.7, 19.9]	10.8 [4.1, 28.7]	25 [0, 95.7]	401.2 [287.7, 567.4]	1.7 [0.4, 6.2]	14 [1.2, 33]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Valve replacement	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	3.9 [0.3, 9]
		30	0.4 [0.2, 0.9]	0.2 [0.1, 0.3]	0.2 [0.1, 0.3]	0.3 [0, 0.6]	n/a	0 [0, 0.2]	7.8 [0.6, 17.9]
		40	2.1 [1, 4.5]	0.5 [0.3, 1]	0.6 [0.4, 1.3]	1.2 [0.1, 2.8]	n/a	0.1 [0, 0.4]	10.3 [0.8, 23.5]
		50	8.3 [3.9, 18.1]	1.3 [0.7, 2.5]	1.7 [1.3, 3.9]	4.4 [0.1, 10]	n/a	0.2 [0, 0.6]	12.8 [1, 29.2]
		60	27.7 [13.1, 60.4]	2.8 [1.5, 5.1]	4.4 [3.2, 10]	12.3 [0.3, 27.7]	n/a	0.2 [0.1, 0.9]	16.2 [1.2, 37.1]
		70	72.1 [34.2, 157.3]	5.2 [2.9, 9.6]	9.4 [6.8, 21.2]	24.9 [0.5, 56]	n/a	0.3 [0.1, 1.3]	21.4 [1.7, 49.4]
		80	152.1 [72.2, 331.6]	9.1 [4.9, 16.6]	17.6 [12.9, 39.8]	41.2 [0.9, 92.5]	n/a	0.5 [0.1, 1.8]	28.7 [2.3, 66.5]
		90	277.9 [132, 605.4]	14.2 [7.7, 26]	29.5 [22.3, 67.4]	59.3 [1.4, 133.3]	n/a	0.6 [0.2, 2.3]	37.3 [3.1, 86.9]
		100	472.4 [224.8, 1028.7]	20.5 [11.2, 37.7]	46.3 [36, 107.1]	77 [2.1, 173.4]	n/a	0.7 [0.2, 2.8]	45.1 [3.8, 105.1]
Valve replacement	Female	20	0.1 [0.1, 0.2]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.4 [0.3, 0.6]	0.1 [0, 0.2]	4.3 [0.4, 9.9]
		30	1.9 [1.3, 2.8]	0.3 [0.2, 0.5]	0.1 [0, 0.4]	0.1 [0, 0.3]	11.2 [8.1, 15.9]	0.4 [0.1, 1.5]	8.7 [0.8, 19.8]
		40	8.6 [5.8, 12.7]	1 [0.6, 1.4]	0.4 [0.1, 1.2]	0.5 [0, 2.1]	44.7 [32.1, 63.2]	0.9 [0.2, 3.3]	11.2 [1.1, 25.7]
		50	36.4 [24.5, 53.9]	2.3 [1.5, 3.4]	1.1 [0.4, 3]	2.4 [0, 9.4]	123.7 [88.7, 174.9]	1.4 [0.4, 5.1]	13.8 [1.3, 31.6]
		60	118.2 [79.6, 175.1]	4.5 [2.9, 6.7]	2.6 [0.9, 7.1]	7.7 [0, 29.5]	243.5 [174.6, 344.3]	1.8 [0.5, 6.9]	17.3 [1.6, 39.8]
		70	286 [192.5, 423.2]	8.2 [5.4, 12.3]	5.5 [2, 14.9]	17 [0, 65.1]	384.9 [276, 544.3]	2.3 [0.6, 8.6]	22.3 [2, 51.8]
		80	547.6 [368.8, 808.2]	14.1 [9.2, 21.1]	10.5 [3.9, 28.5]	32 [0, 122]	547.9 [392.9, 774.8]	2.8 [0.7, 10.3]	29.2 [2.6, 68.3]
		90	900.4 [606.9, 1323.5]	22.2 [14.5, 33.2]	18 [6.7, 48.5]	51.3 [0, 195.7]	732.5 [525.3, 1035.8]	3.2 [0.9, 11.9]	37.4 [3.3, 87.9]
		100	1417.6 [956.3, 2074.4]	32.3 [21, 48.3]	28.5 [10.8, 75.7]	68.9 [0, 263.3]	938.7 [673.2, 1327.4]	3.6 [1, 13.4]	44.7 [3.9, 105.5]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pacemaker procedure	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.3 [0, 0.7]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.5 [0, 1.2]
		40	0.1 [0, 0.2]	0 [0, 0.1]	0 [0, 0]	0.1 [0, 0.1]	n/a	0 [0, 0]	0.6 [0, 1.4]
		50	0.4 [0.2, 0.9]	0.1 [0.1, 0.2]	0.1 [0, 0.1]	0.2 [0, 0.5]	n/a	0 [0, 0]	0.7 [0.1, 1.7]
		60	1.4 [0.7, 3]	0.2 [0.1, 0.3]	0.1 [0.1, 0.3]	0.6 [0, 1.5]	n/a	0 [0, 0.1]	0.9 [0.1, 2.1]
		70	3.6 [1.7, 7.8]	0.4 [0.2, 0.7]	0.3 [0.2, 0.6]	1.3 [0, 2.9]	n/a	0 [0, 0.1]	1.2 [0.1, 2.7]
		80	7.5 [3.6, 16.4]	0.6 [0.3, 1.1]	0.5 [0.4, 1.1]	2.2 [0, 4.9]	n/a	0 [0, 0.1]	1.5 [0.1, 3.5]
		90	13.7 [6.5, 30]	1 [0.5, 1.8]	0.8 [0.6, 1.9]	3.1 [0.1, 7]	n/a	0 [0, 0.2]	1.9 [0.2, 4.4]
		100	23.4 [11.1, 50.9]	1.4 [0.8, 2.6]	1.3 [1, 3.1]	4 [0.1, 9.1]	n/a	0 [0, 0.2]	2.3 [0.2, 5.3]
Pacemaker procedure	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.3]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.2 [0, 0.5]
		40	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	0.5 [0.3, 0.6]	0 [0, 0.2]	0.3 [0, 0.6]
		50	0.8 [0.5, 1.2]	0.1 [0, 0.1]	0 [0, 0]	0.1 [0, 0.2]	1.2 [0.9, 1.8]	0.1 [0, 0.3]	0.3 [0, 0.7]
		60	2.5 [1.7, 3.7]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.2 [0, 0.7]	2.4 [1.8, 3.5]	0.1 [0, 0.3]	0.4 [0, 0.9]
		70	6.1 [4.1, 9]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	0.4 [0, 1.6]	3.9 [2.8, 5.5]	0.1 [0, 0.4]	0.5 [0, 1.1]
		80	11.7 [7.9, 17.2]	0.4 [0.2, 0.5]	0.2 [0.1, 0.4]	0.8 [0, 2.9]	5.5 [3.9, 7.8]	0.1 [0, 0.5]	0.6 [0.1, 1.4]
		90	19.2 [13, 28.2]	0.6 [0.4, 0.9]	0.3 [0.1, 0.8]	1.2 [0, 4.7]	7.4 [5.3, 10.4]	0.2 [0, 0.6]	0.7 [0.1, 1.7]
		100	30.2 [20.4, 44.3]	0.8 [0.5, 1.2]	0.4 [0.2, 1.2]	1.7 [0, 6.4]	9.4 [6.8, 13.3]	0.2 [0, 0.7]	0.9 [0.1, 2.1]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pacemaker procedure	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.1 [0, 0.2]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.1 [0, 0.3]
		40	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.2 [0, 0.4]
		50	0.1 [0.1, 0.3]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.2]	n/a	0 [0, 0]	0.2 [0, 0.4]
		60	0.4 [0.2, 1]	0 [0, 0.1]	0.1 [0, 0.1]	0.2 [0, 0.5]	n/a	0 [0, 0]	0.2 [0, 0.5]
		70	1.2 [0.5, 2.5]	0.1 [0, 0.1]	0.1 [0.1, 0.3]	0.4 [0, 0.9]	n/a	0 [0, 0]	0.3 [0, 0.7]
		80	2.4 [1.2, 5.3]	0.1 [0.1, 0.2]	0.2 [0.2, 0.5]	0.7 [0, 1.5]	n/a	0 [0, 0]	0.4 [0, 0.9]
		90	4.4 [2.1, 9.7]	0.2 [0.1, 0.4]	0.4 [0.3, 0.8]	1 [0, 2.2]	n/a	0 [0, 0]	0.5 [0, 1.1]
		100	7.6 [3.6, 16.5]	0.3 [0.2, 0.5]	0.6 [0.4, 1.3]	1.3 [0, 2.9]	n/a	0 [0, 0]	0.6 [0, 1.3]
Pacemaker procedure	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.2]
		30	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0, 0.1]	0 [0, 0]	0.1 [0, 0.3]
		40	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.2 [0.1, 0.3]	0 [0, 0]	0.2 [0, 0.4]
		50	0.3 [0.2, 0.5]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0.6 [0.4, 0.8]	0 [0, 0]	0.2 [0, 0.4]
		60	1.1 [0.7, 1.6]	0.1 [0.1, 0.1]	0 [0, 0]	0.1 [0, 0.3]	1.1 [0.8, 1.5]	0 [0, 0]	0.2 [0, 0.5]
		70	2.7 [1.8, 4]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.2 [0, 0.7]	1.7 [1.2, 2.4]	0 [0, 0]	0.3 [0, 0.7]
		80	5.1 [3.5, 7.6]	0.2 [0.2, 0.4]	0.1 [0, 0.2]	0.4 [0, 1.4]	2.4 [1.8, 3.5]	0 [0, 0]	0.4 [0, 0.8]
		90	8.5 [5.7, 12.4]	0.4 [0.2, 0.6]	0.1 [0, 0.3]	0.6 [0, 2.2]	3.3 [2.3, 4.6]	0 [0, 0]	0.4 [0, 1]
		100	13.3 [9, 19.5]	0.6 [0.4, 0.8]	0.2 [0.1, 0.5]	0.8 [0, 3]	4.2 [3, 5.9]	0 [0, 0]	0.5 [0, 1.2]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Pacemaker procedure	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	0.8 [0.1, 1.9]
		30	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	n/a	0 [0, 0]	1.3 [0.1, 3]
		40	0.3 [0.1, 0.6]	0.1 [0.1, 0.2]	0.1 [0, 0.1]	0.2 [0, 0.4]	n/a	0 [0, 0]	1.6 [0.1, 3.8]
		50	1.1 [0.5, 2.3]	0.2 [0.1, 0.4]	0.2 [0.1, 0.4]	0.6 [0, 1.4]	n/a	0 [0, 0.1]	2 [0.1, 4.5]
		60	3.6 [1.7, 7.7]	0.5 [0.3, 0.9]	0.5 [0.3, 1.1]	1.7 [0, 3.8]	n/a	0 [0, 0.1]	2.4 [0.2, 5.5]
		70	9.2 [4.4, 20.1]	0.9 [0.5, 1.7]	1 [0.7, 2.3]	3.4 [0.1, 7.6]	n/a	0 [0, 0.2]	3 [0.2, 7]
		80	19.5 [9.2, 42.5]	1.6 [0.9, 2.9]	1.9 [1.4, 4.2]	5.6 [0.1, 12.6]	n/a	0.1 [0, 0.2]	4 [0.3, 9.2]
		90	35.6 [16.9, 77.5]	2.5 [1.4, 4.6]	3.1 [2.4, 7.2]	8.1 [0.2, 18.1]	n/a	0.1 [0, 0.3]	5 [0.4, 11.7]
		100	60.5 [28.8, 131.7]	3.6 [2, 6.7]	4.9 [3.8, 11.4]	10.5 [0.3, 23.6]	n/a	0.1 [0, 0.4]	6 [0.5, 13.9]
Pacemaker procedure	Female	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.3 [0, 0.8]
		30	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.4 [0.3, 0.5]	0 [0, 0.1]	0.6 [0.1, 1.3]
		40	0.4 [0.3, 0.6]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	1.5 [1.1, 2.1]	0 [0, 0.2]	0.7 [0.1, 1.5]
		50	1.7 [1.2, 2.5]	0.2 [0.1, 0.2]	0.1 [0, 0.2]	0.1 [0, 0.5]	4 [2.9, 5.7]	0.1 [0, 0.3]	0.8 [0.1, 1.8]
		60	5.6 [3.7, 8.2]	0.3 [0.2, 0.5]	0.1 [0, 0.4]	0.4 [0, 1.6]	7.9 [5.7, 11.2]	0.1 [0, 0.3]	1 [0.1, 2.2]
		70	13.4 [9, 19.9]	0.6 [0.4, 0.8]	0.3 [0.1, 0.7]	0.9 [0, 3.5]	12.5 [8.9, 17.6]	0.1 [0, 0.4]	1.2 [0.1, 2.8]
		80	25.7 [17.3, 37.9]	1 [0.6, 1.5]	0.5 [0.2, 1.4]	1.7 [0, 6.5]	17.7 [12.7, 25.1]	0.1 [0, 0.5]	1.5 [0.1, 3.6]
		90	42.3 [28.5, 62.1]	1.5 [1, 2.3]	0.9 [0.3, 2.4]	2.7 [0, 10.4]	23.7 [17, 33.5]	0.2 [0, 0.6]	1.9 [0.2, 4.6]
		100	66.5 [44.9, 97.4]	2.2 [1.5, 3.3]	1.4 [0.5, 3.8]	3.7 [0, 14]	30.3 [21.8, 42.9]	0.2 [0, 0.7]	2.3 [0.2, 5.4]

Risks as a function of attained age, per 100,000 [interquartile range], based on median organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Atrial septostomy	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1.9 [0.1, 4.4]
		30	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	n/a	0 [0, 0.1]	2 [0.2, 4.6]
		40	0.2 [0.1, 0.5]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.2 [0, 0.4]	n/a	0.1 [0, 0.2]	2.1 [0.2, 4.8]
		50	0.9 [0.4, 2.1]	0.2 [0.1, 0.4]	0.2 [0.1, 0.4]	0.7 [0, 1.5]	n/a	0.1 [0, 0.4]	2.1 [0.2, 4.9]
		60	3.1 [1.5, 6.8]	0.5 [0.2, 0.8]	0.5 [0.3, 1.1]	1.8 [0, 4.1]	n/a	0.1 [0, 0.5]	2.2 [0.2, 5.1]
		70	8.1 [3.8, 17.6]	0.9 [0.5, 1.6]	1 [0.7, 2.2]	3.7 [0.1, 8.2]	n/a	0.2 [0.1, 0.8]	2.4 [0.2, 5.5]
		80	17 [8.1, 37]	1.5 [0.8, 2.7]	1.8 [1.4, 4.2]	6 [0.1, 13.5]	n/a	0.3 [0.1, 1]	2.6 [0.2, 5.9]
		90	31 [14.7, 67.6]	2.3 [1.3, 4.2]	3.1 [2.3, 7.1]	8.7 [0.2, 19.5]	n/a	0.4 [0.1, 1.3]	2.8 [0.2, 6.4]
		100	52.7 [25.1, 114.8]	3.3 [1.8, 6.1]	4.8 [3.8, 11.2]	11.3 [0.3, 25.4]	n/a	0.4 [0.1, 1.6]	3 [0.2, 6.8]
Atrial septostomy	Female	20	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.2 [0.1, 0.3]	0.1 [0, 0.2]	1.9 [0.2, 4.4]
		30	0.2 [0.2, 0.3]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0]	1.1 [0.8, 1.6]	0.2 [0.1, 0.7]	2 [0.2, 4.6]
		40	0.8 [0.5, 1.1]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0.1 [0, 0.2]	4.1 [2.9, 5.7]	0.4 [0.1, 1.5]	2.1 [0.2, 4.8]
		50	3 [2, 4.4]	0.3 [0.2, 0.5]	0.1 [0, 0.3]	0.3 [0, 1]	11 [7.9, 15.5]	0.6 [0.2, 2.3]	2.1 [0.2, 4.9]
		60	9.5 [6.4, 14.1]	0.6 [0.4, 0.9]	0.2 [0.1, 0.7]	0.8 [0, 3.2]	21.5 [15.4, 30.3]	0.8 [0.2, 3.1]	2.2 [0.2, 5.1]
		70	23 [15.4, 34]	1.1 [0.7, 1.6]	0.5 [0.2, 1.4]	1.8 [0, 7]	33.8 [24.3, 47.8]	1 [0.3, 3.8]	2.3 [0.2, 5.4]
		80	43.9 [29.5, 64.8]	1.9 [1.2, 2.8]	1 [0.4, 2.6]	3.4 [0, 13.1]	48.1 [34.5, 68]	1.2 [0.3, 4.5]	2.5 [0.2, 5.7]
		90	72.1 [48.6, 106]	2.9 [1.9, 4.4]	1.6 [0.6, 4.4]	5.5 [0, 20.9]	64.2 [46.1, 90.8]	1.4 [0.4, 5.2]	2.6 [0.2, 6.1]
		100	113.5 [76.5, 166]	4.3 [2.8, 6.4]	2.6 [1, 6.8]	7.4 [0, 28.2]	82.3 [59, 116.4]	1.6 [0.4, 5.9]	2.8 [0.3, 6.5]

Risks as a function of attained age, per 100,000 [interquartile range], based on 25th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Atrial septostomy	Male	20	0 [0, 0]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0]	1 [0.1, 2.2]
		30	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	n/a	0 [0, 0.1]	1 [0.1, 2.3]
		40	0.1 [0.1, 0.2]	0 [0, 0.1]	0 [0, 0.1]	0.1 [0, 0.2]	n/a	0 [0, 0.2]	1 [0.1, 2.4]
		50	0.4 [0.2, 1]	0.1 [0.1, 0.2]	0.1 [0.1, 0.2]	0.3 [0, 0.7]	n/a	0.1 [0, 0.2]	1.1 [0.1, 2.5]
		60	1.4 [0.7, 3.2]	0.2 [0.1, 0.4]	0.2 [0.2, 0.5]	0.9 [0, 1.9]	n/a	0.1 [0, 0.4]	1.1 [0.1, 2.6]
		70	3.8 [1.8, 8.2]	0.4 [0.2, 0.7]	0.5 [0.3, 1]	1.7 [0, 3.9]	n/a	0.1 [0, 0.5]	1.2 [0.1, 2.7]
		80	7.9 [3.8, 17.3]	0.6 [0.3, 1.2]	0.9 [0.6, 2]	2.8 [0.1, 6.4]	n/a	0.2 [0, 0.7]	1.3 [0.1, 2.9]
		90	14.5 [6.9, 31.5]	1 [0.5, 1.8]	1.4 [1.1, 3.3]	4.1 [0.1, 9.2]	n/a	0.2 [0.1, 0.9]	1.4 [0.1, 3.2]
		100	24.6 [11.7, 53.6]	1.4 [0.8, 2.6]	2.3 [1.8, 5.2]	5.3 [0.1, 12]	n/a	0.3 [0.1, 1.1]	1.5 [0.1, 3.4]
Atrial septostomy	Female	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.1 [0.1, 0.1]	0 [0, 0.1]	0.7 [0.1, 1.7]
		30	0.1 [0.1, 0.1]	0 [0, 0]	0 [0, 0]	0 [0, 0]	0.4 [0.3, 0.6]	0.1 [0, 0.5]	0.8 [0.1, 1.7]
		40	0.3 [0.2, 0.5]	0.1 [0, 0.1]	0 [0, 0.1]	0 [0, 0.1]	1.6 [1.1, 2.2]	0.3 [0.1, 1]	0.8 [0.1, 1.8]
		50	1.3 [0.9, 1.9]	0.1 [0.1, 0.2]	0 [0, 0.1]	0.1 [0, 0.5]	4.3 [3.1, 6.1]	0.4 [0.1, 1.5]	0.8 [0.1, 1.8]
		60	4.2 [2.8, 6.2]	0.3 [0.2, 0.4]	0.1 [0, 0.3]	0.4 [0, 1.5]	8.4 [6, 11.8]	0.6 [0.1, 2]	0.8 [0.1, 1.9]
		70	10 [6.7, 14.8]	0.5 [0.3, 0.7]	0.2 [0.1, 0.6]	0.9 [0, 3.4]	13.2 [9.5, 18.7]	0.7 [0.2, 2.5]	0.9 [0.1, 2]
		80	19.1 [12.9, 28.3]	0.8 [0.5, 1.2]	0.4 [0.1, 1.1]	1.7 [0, 6.4]	18.8 [13.5, 26.5]	0.8 [0.2, 3]	0.9 [0.1, 2.1]
		90	31.5 [21.2, 46.2]	1.3 [0.9, 2]	0.7 [0.2, 1.8]	2.7 [0, 10.2]	25.1 [18, 35.5]	0.9 [0.3, 3.5]	1 [0.1, 2.3]
		100	49.5 [33.4, 72.4]	1.9 [1.2, 2.8]	1.1 [0.4, 2.8]	3.6 [0, 13.7]	32.1 [23, 45.4]	1.1 [0.3, 3.9]	1 [0.1, 2.4]

Risks as a function of attained age, per 100,000 [interquartile range], based on 75th percentiles of organ doses:

Procedure		Attained age (y)	Lung	Stomach	Liver	Oesophagus	Breast	Thyroid	Leukaemia
Atrial septostomy	Male	20	0 [0, 0.1]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	n/a	0 [0, 0.1]	4.4 [0.3, 10.2]
		30	0.1 [0.1, 0.3]	0.1 [0, 0.1]	0.1 [0, 0.1]	0.1 [0, 0.2]	n/a	0.1 [0, 0.2]	4.7 [0.4, 10.7]
		40	0.6 [0.3, 1.2]	0.2 [0.1, 0.4]	0.2 [0.1, 0.4]	0.4 [0, 0.9]	n/a	0.1 [0, 0.5]	4.8 [0.4, 11.1]
		50	2.1 [1, 4.6]	0.5 [0.3, 0.9]	0.4 [0.3, 1]	1.5 [0, 3.3]	n/a	0.2 [0.1, 0.8]	5 [0.4, 11.5]
		60	7 [3.3, 15.3]	1 [0.6, 1.9]	1.1 [0.7, 2.4]	4.1 [0.1, 9.1]	n/a	0.3 [0.1, 1.3]	5.2 [0.4, 12]
		70	18.3 [8.7, 39.8]	2 [1.1, 3.6]	2.2 [1.6, 4.9]	8.2 [0.2, 18.5]	n/a	0.5 [0.1, 1.8]	5.5 [0.4, 12.7]
		80	38.5 [18.3, 83.9]	3.4 [1.8, 6.2]	4.1 [3, 9.2]	13.6 [0.3, 30.5]	n/a	0.6 [0.2, 2.4]	6 [0.5, 13.8]
		90	70.3 [33.4, 153.2]	5.3 [2.9, 9.6]	6.8 [5.1, 15.5]	19.5 [0.5, 43.9]	n/a	0.8 [0.2, 3.1]	6.5 [0.5, 14.9]
		100	119.5 [56.9, 260.2]	7.6 [4.2, 14]	10.7 [8.3, 24.6]	25.4 [0.7, 57.1]	n/a	1 [0.3, 3.8]	6.9 [0.6, 15.9]
Atrial septostomy	Female	20	0.2 [0.1, 0.3]	0 [0, 0]	0 [0, 0.1]	0 [0, 0]	0.4 [0.3, 0.6]	0.1 [0, 0.5]	4.1 [0.4, 9.4]
		30	0.5 [0.3, 0.7]	0.1 [0.1, 0.2]	0.1 [0, 0.2]	0 [0, 0.1]	2.5 [1.8, 3.5]	0.5 [0.1, 1.9]	4.3 [0.4, 9.9]
		40	1.7 [1.1, 2.5]	0.3 [0.2, 0.5]	0.1 [0, 0.3]	0.1 [0, 0.5]	8.8 [6.3, 12.5]	1.1 [0.3, 4.1]	4.4 [0.4, 10.2]
		50	6.6 [4.4, 9.7]	0.7 [0.5, 1.1]	0.2 [0.1, 0.7]	0.6 [0, 2.3]	23.8 [17.1, 33.7]	1.7 [0.4, 6.2]	4.5 [0.4, 10.4]
		60	21 [14.1, 31.1]	1.4 [0.9, 2.1]	0.5 [0.2, 1.5]	1.8 [0, 7.1]	46.6 [33.4, 65.9]	2.2 [0.6, 8.2]	4.7 [0.4, 10.8]
		70	50.5 [34, 74.7]	2.6 [1.7, 3.8]	1.1 [0.4, 2.9]	4.1 [0, 15.6]	73.4 [52.7, 103.8]	2.7 [0.7, 10.1]	4.9 [0.5, 11.4]
		80	96.5 [65, 142.5]	4.4 [2.9, 6.6]	2 [0.7, 5.5]	7.6 [0, 29.1]	104.4 [74.9, 147.6]	3.3 [0.9, 12.1]	5.2 [0.5, 12.1]
		90	158.6 [106.9, 233.1]	6.9 [4.5, 10.3]	3.5 [1.3, 9.3]	12.2 [0, 46.7]	139.4 [100, 197.2]	3.8 [1, 14]	5.6 [0.5, 13]
		100	249.6 [168.4, 365.2]	10 [6.5, 14.9]	5.4 [2.1, 14.5]	16.5 [0, 62.9]	178.6 [128.1, 252.6]	4.2 [1.1, 15.8]	5.9 [0.5, 13.7]

LAR for all cancers combined, presented for alternative values for age-at-exposure. ABM= active bone marrow

Procedure	Age	Sample size	Central LAR estimate		Median organ doses (mSv)							
			Male	Female	Effective dose	ABM	Breasts	Lungs	Oesophagus	Thyroid	Stomach	Liver
ASD occlusion	10	163	13	39	1.0	0.6	1.8	3.6	2.3	0.1	0.6	0.8
ASD occlusion	15	77	25	69	2.2	2.0	3.8	8.0	5.3	0.2	1.0	1.6
PDA occlusion	5	528	34	131	2.5	0.8	7.0	7.1	5.1	0.4	1.2	2.8
PDA occlusion	10	98	31	124	2.9	1.0	8.7	8.3	5.5	0.3	1.2	3.1
PDA occlusion	15	43	29	131	3.5	1.6	12.8	10.0	5.2	0.2	1.1	3.3
Pulmonary valvuloplasty	5	61	38	128	2.7	1.0	5.9	8.0	5.5	0.4	1.4	2.8
Pulmonary artery balloon/stent	0	56	66	258	3.9	1.3	11.1	10.8	8.8	0.8	1.9	3.8
Pulmonary artery balloon/stent	19	67	45	183	6.4	2.2	20.3	17.7	10.8	0.6	2.2	6.6
Pulmonary artery balloon/stent	15	66	79	277	9.2	4.2	21.5	26.6	14.9	0.6	2.4	9.9
Coarctation balloon/stent	0	77	64	212	3.4	1.5	7.6	10.6	8.0	0.7	1.7	3.3
Coarctation balloon/stent	15	53	67	224	6.7	4.4	15.9	23.1	11.8	0.4	2.0	6.8
EPS/RFA	10	92	15	38	1.0	0.7	1.1	4.1	2.7	0.1	0.5	0.8
EPS/RFA	18	140	23	50	2.3	2.0	1.3	8.5	5.3	0.1	0.7	1.8
Heart biopsy	5	87	7	21	0.4	0.2	0.9	1.4	1.0	0.1	0.2	0.3
Heart biopsy	18	43	7	19	0.7	0.7	1.1	2.5	1.8	0.0	0.3	0.4
Coronary angiography	5	84	39	120	2.9	1.2	5.1	7.5	6.3	0.4	2.8	1.7
Coronary angiography	18	82	32	99	3.8	2.5	7.6	11.5	6.7	0.2	3.6	1.8
Pacemaker procedures	10	50	12	31	1.0	0.5	1.1	3.1	2.1	0.1	0.5	0.8
Pacemaker procedures	18	35	4	9	0.3	0.4	0.4	1.3	0.9	0.0	0.2	0.3

LAR for all cancers combined, per 100,000, for age-at-exposure ranging from 0 to 20 years, based on median organ doses for whole cohort:

Bone marrow: 1.2 mSv, breasts: 4.4 mSv, lungs: 7.6 mSv, oesophagus: 5.1 mSv, thyroid: 0.3 mSv, liver: 2.1 mSv, stomach: 1.1 mSv.

Age (y)	Male	Female
0	44.1 [16.5, 97]	137.7 [88.6, 218.8]
2	40 [15.2, 87.9]	125.3 [80.9, 198.7]
4	36.5 [13.9, 80.2]	114.4 [74, 181.1]
6	33.5 [12.8, 73.5]	104.5 [67.6, 165.3]
8	30.7 [11.8, 67.3]	95.4 [61.8, 151]
10	28.2 [10.9, 61.8]	87.2 [56.5, 138]
12	25.9 [10, 56.9]	79.8 [51.6, 126.2]
14	23.9 [9.2, 52.4]	73 [47.2, 115.6]
16	22.1 [8.5, 48.3]	66.8 [43.2, 105.8]
18	20.3 [7.9, 44.6]	61.2 [39.5, 96.9]
20	18.8 [7.3, 41.2]	56 [36.1, 88.8]