

Appendix 1: Dose indicators

Hospital 1: 1994-2000 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	8.9 [5.8 : 15.1]	18.6 [12.3 : 29.5]	28.5 [20.1 : 42.8]	62.9 [37.2 : 93.7]	103.8 [68.9 : 144.8]	75.7 [7.7 : 305.1]	25.9 [13 : 54.9]
Mean P <sub>KA</sub> [STD]	12.2 [10.1]	23.6 [16]	35.2 [25.8]	76 [65]	113.9 [80.5]	160.5 [194]	47.4 [68.6]
Median P <sub>KA</sub> /kg [IQR]	2.52 [1.81 : 4.32]	2.4 [1.63 : 3.73]	1.8 [1.19 : 2.58]	1.97 [1.11 : 2.74]	1.94 [1.22 : 2.46]	1.07 [0.09 : 3.41]	2.07 [1.31 : 3.21]
Median proportion PA [IQR]	0.72 [0.64 : 0.8]	0.71 [0.62 : 0.77]	0.67 [0.62 : 0.73]	0.63 [0.5 : 0.71]	0.59 [0.5 : 0.69]	0.56 [0.5 : 0.67]	0.68 [0.58 : 0.75]
Screening time [IQR]	16.4 [9.5 : 25.3]	21.4 [13.1 : 29.4]	20.5 [12 : 29.3]	24.1 [10.4 : 36.6]	18.4 [12.8 : 31.3]	13.5 [1.6 : 31.7]	19.5 [11.9 : 30.1]
n	68	115	94	58	39	18	392

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	7 [3.2 : 14.3]	19.7 [11.1 : 28.5]	25.7 [16.2 : 37.6]	51.4 [29 : 86]	81.5 [63 : 118.3]	99.1 [76.9 : 125.6]	26.9 [13.9 : 54.1]
Mean P <sub>KA</sub> [STD]	8.3 [6.1]	22.5 [15.9]	33.5 [28.1]	79.9 [75]	104 [91.4]	117.2 [81]	45.8 [57]
Median P <sub>KA</sub> /kg [IQR]	1.72 [0.99 : 3.84]	2.19 [1.13 : 2.88]	1.5 [1 : 2.33]	1.65 [1.07 : 2.74]	1.7 [1.11 : 2.17]	1.4 [1.05 : 1.66]	1.64 [1.02 : 2.53]
Median proportion PA [IQR]	0.71 [0.68 : 0.84]	0.7 [0.6 : 0.77]	0.55 [0.43 : 0.63]	0.59 [0.48 : 0.68]	0.63 [0.55 : 0.69]	0.68 [0.65 : 0.78]	0.62 [0.5 : 0.72]
Screening time [IQR]	11.7 [7.1 : 17.6]	17.1 [12.7 : 25.1]	18.3 [12 : 29.7]	20.1 [12.9 : 36.7]	19.6 [12.7 : 30.9]	21.6 [12.7 : 33.1]	17.9 [11.7 : 29.5]
n	19	32	60	26	14	7	158

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	6.7 [2.2 : 13.2]	18.3 [9 : 19.6]	45.5 [24.8 : 73.7]	97.1 [65.1 : 142.8]	189.9 [150.7 : 216]	137.9 [115.3 : 172]	68.9 [22.3 : 132.6]
Mean P <sub>KA</sub> [STD]	7.7 [6.4]	21.3 [17.6]	50.1 [30.3]	104 [49.9]	191.5 [68.1]	138.1 [59.3]	86.9 [70.6]
Median P <sub>KA</sub> /kg [IQR]	2.32 [1.01 : 3.94]	2.1 [1.74 : 2.22]	2.8 [1.36 : 4.36]	2.56 [2.19 : 3.54]	3.06 [2.75 : 3.89]	1.87 [1.64 : 2.37]	2.32 [1.65 : 3.64]
Median proportion PA [IQR]	0.75 [0.73 : 0.93]	0.6 [0.48 : 0.65]	0.65 [0.58 : 0.67]	0.58 [0.42 : 0.64]	0.59 [0.45 : 0.64]	0.54 [0.46 : 0.66]	0.61 [0.47 : 0.67]
Screening time [IQR]	25.1 [15.2 : 37.7]	17 [4.9 : 26.8]	18.7 [11 : 31.3]	20.3 [12.7 : 24.9]	27.8 [15.4 : 36.8]	24.1 [17.4 : 26.9]	20.2 [13.4 : 28.8]
n	5	6	18	15	7	9	60

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		8.6	73 [20.7 : 125.4]	45.8			33.2 [14.6 : 85.6]
Mean P <sub>KA</sub> [STD]		8.6	73 [74.1]	45.8			50.1 [52.5]
Median P <sub>KA</sub> /kg [IQR]		0.9	3.91 [0.97 : 6.85]	1.19			1.08 [0.94 : 4.02]
Median proportion PA [IQR]		0.7	0.62 [0.53 : 0.7]	0.85			0.7 [0.62 : 0.77]
Screening time [IQR]		12.7	40.3 [20 : 60.6]	28.3			24.2 [16.4 : 44.5]
n	0	1	2	1	0	0	4

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		32 [24.2 : 50.2]	23.1 [13.3 : 43]	23 [20 : 34.3]	66.7		27.1 [14.4 : 45]
Mean P <sub>KA</sub> [STD]		37.9 [21.7]	34.4 [31]	27.7 [13.6]	66.7		34.9 [28.2]
Median P <sub>KA</sub> /kg [IQR]		3.23 [2.5 : 4.49]	1.42 [0.9 : 2.44]	0.79 [0.55 : 1.23]	1.3		1.59 [0.92 : 2.55]
Median proportion PA [IQR]		0.59 [0.52 : 0.62]	0.46 [0.39 : 0.55]	0.48 [0.42 : 0.54]	0.64		0.48 [0.4 : 0.57]
Screening time [IQR]		19.6 [12.4 : 42.8]	16.9 [11 : 27.5]	12.4 [8.6 : 13.3]	15.8		16 [11.2 : 23.3]
n	0	8	36	5	1	0	50

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	15.2 [12.2 : 16.3]	16.6 [12.5 : 27]	17.9 [11.7 : 23.6]	48.2 [26.9 : 127.7]	135 [127.6 : 142.4]		18.3 [13.2 : 32]
Mean P <sub>KA</sub> [STD]	14.3 [3.1]	19.8 [10.2]	17.6 [7]	74 [70.8]	135 [10.5]		34.9 [42.4]
Median P <sub>KA</sub> /kg [IQR]	4 [3.71 : 4.51]	2.05 [1.19 : 2.77]	1.01 [0.59 : 1.61]	1.93 [0.86 : 3.13]	2.28 [2.17 : 2.38]		2.11 [1.22 : 3.28]
Median proportion PA [IQR]	0.66 [0.57 : 0.69]	0.72 [0.63 : 0.75]	0.64 [0.56 : 0.72]	0.67 [0.62 : 0.75]	0.52 [0.42 : 0.62]		0.67 [0.6 : 0.73]
Screening time [IQR]	35.8 [22.7 : 48.6]	15.9 [13.3 : 29]	14.1 [9.9 : 19.7]	19.9 [10.7 : 36.7]	23.2 [12.7 : 33.6]		17.8 [13 : 31.4]
n	4	11	4	3	2	0	24

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	7.4	15.8 [10.2 : 21.4]	21.3	54.6	88.9 [66.6 : 111.2]		21.4 [12.9 : 63.6]
Mean P <sub>KA</sub> [STD]	7.4	15.8 [7.9]	21.3	54.6	88.9 [31.6]		41.8 [37.9]
Median P <sub>KA</sub> /kg [IQR]	1.72	1.66 [0.88 : 2.43]	1.2	1.39	1.59 [1.11 : 2.07]		1.39 [1.14 : 1.98]
Median proportion PA [IQR]	0.69	0.79 [0.76 : 0.83]	0.57	0.62	0.55 [0.55 : 0.55]		0.62 [0.56 : 0.75]
Screening time [IQR]	5.9	16.3 [9.4 : 23.2]	16.4	30	25.3 [19.6 : 30.9]		19.6 [11.2 : 28.3]
n	1	2	1	1	2	0	7

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		25.6 [17.9 : 32]	23.6 [18.4 : 27.3]	167.2 [42.3 : 262.8]	118.3		27.9 [24.3 : 130.5]
Mean P <sub>KA</sub> [STD]		25 [9.4]	22.9 [5.4]	161.5 [126.4]	118.3		84 [100.3]
Median P <sub>KA</sub> /kg [IQR]		2.89 [1.78 : 4.29]	1.26 [1.21 : 1.34]	5.57 [1.13 : 7.43]	2.33		1.42 [1.25 : 4.96]
Median proportion PA [IQR]		0.67 [0.63 : 0.79]	0.66 [0.61 : 0.74]	0.58 [0.38 : 0.67]	0.66		0.64 [0.58 : 0.71]
Screening time [IQR]		26.6 [20 : 33.2]	20.2 [18.7 : 26.4]	54.3 [32.6 : 101.9]	24.3		26.6 [20.2 : 41.1]
n	0	3	4	5	1	0	13

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		11.1 [7.4 : 17.2]	31.6 [28.8 : 34.5]			132.2 [104.4 : 248]	28.8 [12.1 : 104.4]
Mean P <sub>KA</sub> [STD]		12.3 [6.8]	31.6 [4]			171.3 [101.5]	69.6 [92.1]
Median P <sub>KA</sub> /kg [IQR]		1.71 [1.12 : 1.99]	1.94 [1.83 : 2.05]			1.72 [1.53 : 3.42]	1.82 [1.57 : 2.08]
Median proportion PA [IQR]		0.75 [0.64 : 0.79]	0.69 [0.64 : 0.75]			0.68 [0.68 : 0.71]	0.73 [0.67 : 0.76]
Screening time [IQR]		10.9 [6.8 : 18.2]	10.1 [8 : 12.1]			21.6 [13.8 : 37.7]	12.1 [8.7 : 22.1]
n	0	4	2	0	0	3	9

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			19.8 [11.1 : 28.5]	65.5 [52.6 : 153.3]	73.8 [44.2 : 129.3]	95.8 [65.6 : 242.7]	70.6 [46.8 : 147.4]
Mean P <sub>KA</sub> [STD]			19.8 [12.2]	116 [106.2]	104.9 [99.4]	188.3 [212.1]	122.5 [136.9]
Median P <sub>KA</sub> /kg [IQR]			1.07 [0.72 : 1.42]	2.01 [1.44 : 5.11]	1.36 [0.84 : 2.41]	1.33 [0.9 : 3.14]	1.43 [0.95 : 2.67]
Median proportion PA [IQR]			0.64 [0.63 : 0.65]	0.61 [0.57 : 0.63]	0.59 [0.38 : 0.66]	0.62 [0.35 : 0.7]	0.59 [0.45 : 0.65]
Screening time [IQR]			13.9 [8.9 : 18.8]	31.2 [22.1 : 48.9]	17 [10.8 : 40]	27.7 [16.5 : 39.1]	23.3 [11.8 : 40.2]
n	0	0	2	6	16	8	32

Heart Biopsy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			24.8 [3.2 : 46.4]	49.2 [14.3 : 70.8]		4.7 [3.4 : 5.5]	6.3 [3.4 : 47.8]
Mean P <sub>KA</sub> [STD]			24.8 [30.5]	45.9 [37.4]		4.7 [1.9]	25.2 [31.3]
Median P <sub>KA</sub> /kg [IQR]			1.25 [0.14 : 2.37]	1.59 [0.36 : 2.05]		0.06 [0.04 : 0.07]	0.12 [0.05 : 1.79]
Median proportion PA [IQR]			0.4 [0.31 : 0.5]	0.56 [0.47 : 0.86]		0.5 [0.5 : 0.5]	0.5 [0.5 : 0.53]
Screening time [IQR]			23.4 [1.8 : 44.9]	8.7 [3.2 : 16.4]		1.1 [1 : 1.5]	2.1 [1.3 : 10.6]
n	0	0	2	5	0	5	12

Coronary angiography	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	11.4 [6.7 : 16]	55.6	62.9 [44.5 : 87.8]	100.7 [65.4 : 149.1]	179.7 [144.5 : 217.9]	143.5 [122.2 : 183]	100.7 [62.9 : 149.2]
Mean P <sub>KA</sub> [STD]	11.4 [6.6]	55.6	67.5 [24.2]	108.6 [48.3]	188.4 [74.1]	153.5 [40.2]	111.9 [64.2]
Median P <sub>KA</sub> /kg [IQR]	3.81 [2.32 : 5.29]	4.63	4.31 [2.44 : 4.79]	2.67 [2.22 : 3.6]	2.99 [2.69 : 3.9]	1.93 [1.71 : 2.48]	2.86 [2.08 : 4.31]
Median proportion PA [IQR]	0.74 [0.73 : 0.75]	0.39	0.65 [0.58 : 0.67]	0.59 [0.44 : 0.64]	0.53 [0.45 : 0.61]	0.54 [0.45 : 0.61]	0.59 [0.46 : 0.65]
Screening time [IQR]	18.8 [12.4 : 25.1]	32.4	28.2 [15.2 : 32.8]	22.3 [14.3 : 25]	22.2 [15 : 29.4]	24.9 [18.5 : 28.2]	24.4 [15.1 : 30.6]
n	2	1	11	14	6	8	42

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		149	9.8 [8.8 : 31.9]	38.4 [6.1 : 70.6]	79.5 [17.4 : 141.5]		22.4 [8.9 : 70.6]
Mean P <sub>KA</sub> [STD]		149	20 [16.3]	38.4 [45.6]	79.5 [87.7]		48.5 [54.9]
Median P <sub>KA</sub> /kg [IQR]		13.42	0.58 [0.53 : 1.66]	1 [0.14 : 1.86]	1.3 [0.38 : 2.22]		1.09 [0.52 : 1.86]
Median proportion PA [IQR]		0.61	0.65 [0.5 : 1]	0.65 [0.5 : 0.8]	0.75 [0.5 : 1]		0.63 [0.5 : 1]
Screening time [IQR]		48.6	20.5 [12.9 : 31.8]	17.8 [5.2 : 30.4]	25.6 [13.5 : 37.7]		25.5 [13.5 : 35.7]
n	0	1	5	2	2	0	10

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	3.7 [3 : 7.1]						3.7 [3 : 7.1]
Mean P <sub>KA</sub> [STD]	6.7 [6]						6.7 [6]
Median P <sub>KA</sub> /kg [IQR]	1.04 [0.94 : 2.05]						1.04 [0.94 : 2.05]
Median proportion PA [IQR]	0.78 [0.68 : 0.86]						0.78 [0.68 : 0.86]
Screening time [IQR]	10.7 [6.8 : 13.1]						10.7 [6.8 : 13.1]
n	14	0	0	0	0	0	14

Hospital 1: 1994-2000 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	12.5 [7.6 : 20.9]	24 [16.1 : 32.7]	34.1 [20.6 : 60.7]	70.1 [35.5 : 109.2]	101.5 [72.7 : 143.5]	90.2 [70.6 : 167.1]	26 [13 : 55.5]
Mean P <sub>KA</sub> [STD]	17.5 [15.2]	27.5 [16.4]	43.8 [33.9]	98 [111.8]	135.8 [110.9]	136.3 [118.6]	48.4 [70.9]
Median P <sub>KA</sub> /kg [IQR]	2.45 [1.64 : 4.23]	2.04 [1.38 : 3.09]	1.72 [1.07 : 2.58]	1.9 [0.99 : 2.75]	2.01 [1.32 : 2.8]	1.82 [1.26 : 3.53]	2.08 [1.31 : 3.21]
Median proportion PA [IQR]	0.71 [0.63 : 0.78]	0.7 [0.64 : 0.76]	0.65 [0.58 : 0.72]	0.6 [0.5 : 0.7]	0.62 [0.5 : 0.71]	0.64 [0.51 : 0.7]	0.68 [0.57 : 0.75]
Screening time [IQR]	18.3 [11.6 : 25.9]	22.3 [12.6 : 28.8]	18.6 [11.4 : 29.9]	20 [9.2 : 35.9]	19.8 [12.7 : 29.9]	22.3 [13.1 : 29.9]	19.5 [11.9 : 30]
n	127	105	64	68	20	15	399

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	7.6 [3.8 : 15.2]	21.5 [13.2 : 35.3]	34.9 [22.6 : 54.1]	70.8 [48 : 121.7]	85.2 [54.7 : 236.2]	99.1 [77.8 : 116.5]	27.1 [13.8 : 54.2]
Mean P <sub>KA</sub> [STD]	10.6 [8.2]	30.1 [25.6]	49.3 [46.8]	100.9 [89.6]	138.8 [129.6]	92.1 [39.1]	46 [57.2]
Median P <sub>KA</sub> /kg [IQR]	1.72 [1 : 3.65]	1.66 [0.97 : 2.77]	1.6 [1.1 : 1.96]	1.7 [1.07 : 2.34]	2.2 [1.15 : 3.54]	1.46 [1.17 : 2.04]	1.62 [1.02 : 2.51]
Median proportion PA [IQR]	0.71 [0.65 : 0.82]	0.58 [0.47 : 0.68]	0.58 [0.48 : 0.64]	0.64 [0.55 : 0.72]	0.69 [0.49 : 0.72]	0.68 [0.41 : 0.91]	0.62 [0.5 : 0.72]
Screening time [IQR]	12.7 [8.5 : 21.3]	17.8 [11.4 : 29.5]	19.7 [12.9 : 28.3]	25.3 [14.1 : 36]	18.5 [18.4 : 37]	17.1 [8.3 : 24.6]	17.9 [11.7 : 29.5]
n	29	61	34	25	3	5	157

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	9 [5.7 : 16.4]	55.6 [27.8 : 62.3]	54.6 [30.4 : 92.2]	144.5 [89.1 : 161.2]	189.9 [120.7 : 219.5]	132.6 [102.6 : 155.6]	68.9 [22.3 : 132.6]
<b>Mean P<sub>KA</sub> [STD]</b>	10.1 [6.5]	54.1 [30.3]	64.3 [44.9]	132.8 [51.9]	179.8 [87]	125.3 [55.5]	86.9 [70.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	2.18 [1.26 : 2.61]	3.56 [2.07 : 4.61]	2.67 [1.39 : 4.02]	2.32 [1.91 : 3.72]	3.06 [2.48 : 3.77]	1.82 [1.63 : 2.48]	2.32 [1.65 : 3.64]
<b>Median proportion PA [IQR]</b>	0.73 [0.63 : 0.79]	0.66 [0.45 : 0.74]	0.58 [0.45 : 0.65]	0.58 [0.49 : 0.63]	0.61 [0.41 : 0.66]	0.61 [0.5 : 0.7]	0.61 [0.47 : 0.67]
<b>Screening time [IQR]</b>	17.6 [10.5 : 28]	24.8 [16.8 : 31.4]	19.5 [10.4 : 28.4]	24.7 [16.2 : 32.8]	27.8 [15.3 : 35.1]	17.7 [13.6 : 24.9]	20.2 [13.4 : 28.8]
<b>n</b>	9	7	20	9	7	8	60

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>		67 [8.6 : 125.4]	33.2 [20.7 : 45.8]				33.2 [14.6 : 85.6]
<b>Mean P<sub>KA</sub> [STD]</b>		67 [82.6]	33.2 [17.8]				50.1 [52.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		3.88 [0.9 : 6.85]	1.08 [0.97 : 1.19]				1.08 [0.94 : 4.02]
<b>Median proportion PA [IQR]</b>		0.7 [0.7 : 0.7]	0.69 [0.53 : 0.85]				0.7 [0.62 : 0.77]
<b>Screening time [IQR]</b>		36.7 [12.7 : 60.6]	24.2 [20 : 28.3]				24.2 [16.4 : 44.5]
<b>n</b>	0	2	2	0	0	0	4

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>		22.1 [12.8 : 37.5]	35 [23.6 : 55]	50.3 [29.8 : 62.6]			27.1 [14.4 : 45]
<b>Mean P<sub>KA</sub> [STD]</b>		31.3 [26.2]	44.8 [35.9]	46.7 [22.1]			34.9 [28.2]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		1.51 [0.91 : 2.77]	1.81 [1.07 : 2.5]	1.3 [0.92 : 1.6]			1.59 [0.92 : 2.55]
<b>Median proportion PA [IQR]</b>		0.49 [0.43 : 0.58]	0.42 [0.31 : 0.48]	0.57 [0.54 : 0.62]			0.48 [0.4 : 0.57]
<b>Screening time [IQR]</b>		14.7 [10.1 : 26.5]	17.6 [12.9 : 23.3]	14.6 [13 : 15.5]			16 [11.2 : 23.3]
<b>n</b>	0	37	10	3	0	0	50

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	15.3 [9.4 : 18.6]	20.5 [14.1 : 27.2]	17.9 [11.7 : 88.4]	48.2 [26.9 : 118.8]		127.6	18.3 [13.2 : 32]
<b>Mean P<sub>KA</sub> [STD]</b>	16.4 [8.9]	21.7 [8.7]	50 [69.6]	70.1 [64.2]		127.6	34.9 [42.4]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	3.6 [2.04 : 4.23]	1.89 [1.43 : 2.62]	1.01 [0.59 : 2.43]	1.93 [0.86 : 2.27]		2.17	2.11 [1.22 : 3.28]
<b>Median proportion PA [IQR]</b>	0.64 [0.58 : 0.7]	0.74 [0.72 : 0.75]	0.6 [0.56 : 0.64]	0.67 [0.63 : 0.75]		0.42	0.67 [0.6 : 0.73]
<b>Screening time [IQR]</b>	27.8 [12.7 : 46]	16.1 [15.2 : 26]	16 [9.9 : 21.6]	12.7 [8.9 : 34.9]	[ : ]	33.6	17.8 [13 : 31.4]
<b>n</b>	9	7	4	3	0	1	24

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	14.4 [7.4 : 21.4]	10.2	21.3	66.6 [57.6 : 100]			21.4 [12.9 : 63.6]
Mean P <sub>KA</sub> [STD]	14.4 [9.9]	10.2	21.3	77.4 [29.8]			41.8 [37.9]
Median P <sub>KA</sub> /kg [IQR]	2.07 [1.72 : 2.43]	0.88	1.2	1.39 [1.18 : 1.9]			1.39 [1.14 : 1.98]
Median proportion PA [IQR]	0.76 [0.69 : 0.83]	0.76	0.57	0.55 [0.55 : 0.6]			0.62 [0.56 : 0.75]
Screening time [IQR]	14.6 [5.9 : 23.2]	9.4	16.4	30 [22.2 : 30.7]			19.6 [11.2 : 28.3]
n	2	1	1	3	0	0	7

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	25.6	16.5 [15.6 : 29.7]	27.3 [23.6 : 135.3]	118.3 [42.3 : 206.2]			27.9 [24.3 : 130.5]
Mean P <sub>KA</sub> [STD]	25.6	21.9 [10.5]	79.4 [108.8]	136.7 [118.5]			84 [100.3]
Median P <sub>KA</sub> /kg [IQR]	4.76	1.42 [1.31 : 2.52]	1.33 [1.21 : 4.38]	2.33 [1.13 : 6.09]			1.42 [1.25 : 4.96]
Median proportion PA [IQR]	0.83	0.61 [0.59 : 0.65]	0.66 [0.63 : 0.74]	0.58 [0.38 : 0.7]			0.64 [0.58 : 0.71]
Screening time [IQR]	26.6	20.2 [18.4 : 31.6]	26.4 [18.7 : 57.3]	36.7 [23.3 : 81]			26.6 [20.2 : 41.1]
n	1	3	4	5	0	0	13

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	9.2 [6.5 : 12.1]	25.1 [21.5 : 28.8]	34.5	132.2	286.5	95.1	28.8 [12.1 : 104.4]
Mean P <sub>KA</sub> [STD]	9.3 [3.7]	25.1 [5.2]	34.5	132.2	286.5	95.1	69.6 [92.1]
Median P <sub>KA</sub> /kg [IQR]	1.61 [0.88 : 1.77]	2.11 [2.05 : 2.17]	1.83	1.72	3.99	1.46	1.82 [1.57 : 2.08]
Median proportion PA [IQR]	0.78 [0.61 : 0.8]	0.74 [0.73 : 0.75]	0.64	0.68	0.73	0.68	0.73 [0.67 : 0.76]
Screening time [IQR]	8.9 [5.8 : 11.8]	15.8 [8 : 23.6]	12.1	11.2	43.1	21.6	12.1 [8.7 : 22.1]
n	3	2	1	1	1	1	9

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		11.1	61.9 [44.5 : 78.7]	111.3 [65.6 : 220.8]	60.4 [40.4 : 83.8]	26	70.6 [46.8 : 147.4]
Mean P <sub>KA</sub> [STD]		11.1	70 [40.7]	172.1 [168.8]	91.4 [96.8]	26	122.5 [136.9]
Median P <sub>KA</sub> /kg [IQR]		0.72	1.59 [1.38 : 2.24]	1.8 [1.11 : 4.03]	1.01 [0.75 : 1.41]	0.49	1.43 [0.95 : 2.67]
Median proportion PA [IQR]		0.63	0.61 [0.53 : 0.62]	0.59 [0.38 : 0.67]	0.59 [0.26 : 0.65]	0.89	0.59 [0.45 : 0.65]
Screening time [IQR]		8.9	19.4 [17.5 : 34.6]	32.7 [16.8 : 56.4]	13.1 [11.5 : 29]	6.1	23.3 [11.8 : 40.2]
n	0	1	7	16	7	1	32

Heart Biopsy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]			46.4	4.7 [2.9 : 15.7]	97.6	4.8	5.5 [3.2 : 46.4]
Mean P <sub>KA</sub> [STD]			46.4	14.8 [20.8]	97.6	4.8	22.3 [29.8]
Median P <sub>KA</sub> /kg [IQR]			2.37	0.09 [0.05 : 0.74]	2.19	0.06	0.12 [0.05 : 1.79]
Median proportion PA [IQR]			0.31	0.5 [0.5 : 0.73]	0.56	0.5	0.5 [0.5 : 0.56]
Screening time [IQR]			44.9	2.4 [1.2 : 3.5]	28	1.4	2.6 [1.4 : 8.7]
n	0	0	1	11	1	1	14

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	11.4 [6.7 : 16]	61.6 [58 : 85.9]	77.6 [47.6 : 95]	130.7 [81.2 : 149.2]	189.9 [120.7 : 219.5]	137.9 [114.4 : 158.3]	100.7 [62.9 : 149.2]
Mean P <sub>KA</sub> [STD]	11.4 [6.6]	71.9 [24.8]	82.8 [40.9]	123.1 [45.9]	179.8 [87]	141 [36.1]	111.9 [64.2]
Median P <sub>KA</sub> /kg [IQR]	3.81 [2.32 : 5.29]	4.59 [3.39 : 6.41]	3.56 [2.56 : 4.36]	2.25 [1.82 : 3.18]	3.06 [2.48 : 3.77]	1.87 [1.7 : 2.59]	2.86 [2.08 : 4.31]
Median proportion PA [IQR]	0.74 [0.73 : 0.75]	0.53 [0.39 : 0.66]	0.59 [0.46 : 0.65]	0.56 [0.48 : 0.61]	0.61 [0.41 : 0.66]	0.6 [0.49 : 0.61]	0.59 [0.46 : 0.65]
Screening time [IQR]	18.8 [12.4 : 25.1]	30.3 [18.5 : 32.5]	24.4 [16.5 : 32.3]	22.5 [14.4 : 27.8]	27.8 [15.3 : 35.1]	18.8 [15.5 : 25.3]	24.4 [15.1 : 30.6]
n	2	4	14	8	7	7	42

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		33.3 [28.9 : 120.1]	9.8 [8.8 : 25.3]	17.4 [8.9 : 57.3]	6.1 [6.1 : 6.1]	141.5 [141.5 : 141.5]	18.5 [8.8 : 51.8]
Mean P <sub>KA</sub> [STD]		69.9 [68.6]	18.2 [15.8]	31.3 [34.5]	6.1 [0]	141.5 [0]	41.7 [49.5]
Median P <sub>KA</sub> /kg [IQR]		7.51 [1.6 : 13.42]	0.56 [0.53 : 1.21]	1.12 [0.38 : 1.86]	0.14 [0.14 : 0.14]	2.22 [2.22 : 2.22]	1.09 [0.52 : 1.86]
Median proportion PA [IQR]		1 [0.71 : 1]	0.5 [0.5 : 0.74]	0.5 [0.5 : 0.72]	0.5 [0.5 : 0.5]	1 [1 : 1]	0.61 [0.5 : 1]
Screening time [IQR]		39.4 [32.7 : 46.3]	14.6 [11.2 : 24.3]	13.5 [6.8 : 26.2]	5.2 [5.2 : 5.2]	37.7 [37.7 : 37.7]	20.5 [11.2 : 36.2]
n	0	3	5	3	1	1	13

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	3.5 [2.8 : 7]						3.5 [2.8 : 7]
Mean P <sub>KA</sub> [STD]	5.5 [4.3]						5.5 [4.3]
Median P <sub>KA</sub> /kg [IQR]	1.02 [0.93 : 1.91]						1.02 [0.93 : 1.91]
Median proportion PA [IQR]	0.8 [0.68 : 0.87]						0.8 [0.68 : 0.87]
Screening time [IQR]	10.7 [6.8 : 13.1]						10.7 [6.8 : 13.1]
n	13	0	0	0	0	0	13

Hospital 1: 1999-2001 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.9 [1.7 : 7.2]	8 [5.4 : 14.1]	11.4 [5.3 : 20.1]	19.3 [7.3 : 38.3]	49.8 [23 : 90]	140.7 [80.1 : 199.2]	14 [6 : 27.8]
<b>Mean P<sub>KA</sub> [STD]</b>	4.6 [3.6]	11.1 [8.9]	20.6 [48.2]	33 [42.4]	61.9 [49.3]	139 [77.3]	31 [47.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.97 [0.45 : 1.72]	1.12 [0.7 : 1.6]	0.74 [0.36 : 1.1]	0.65 [0.21 : 1.04]	0.95 [0.44 : 1.58]	1.66 [0.96 : 2.22]	0.88 [0.41 : 1.48]
<b>Median proportion PA [IQR]</b>	0.67 [0.62 : 0.79]	0.71 [0.61 : 0.81]	0.67 [0.6 : 0.79]	0.8 [0.64 : 1]	0.7 [0.47 : 0.89]	0.58 [0.33 : 0.96]	0.71 [0.59 : 0.86]
<b>Screening time [IQR]</b>	8.9 [3.2 : 13.7]	13.7 [8.6 : 20.5]	12.2 [5.3 : 17.6]	12.8 [7.1 : 20.6]	10.9 [7.2 : 17.2]	14 [10.5 : 15.3]	12.6 [7.1 : 19.2]
<b>n</b>	14	50	47	58	32	7	208

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	4 [1.7 : 7.5]	5.4 [2.8 : 10.3]	7.9 [4.9 : 14.8]	19 [9 : 30.1]	48.3 [26.9 : 96.7]	45.9 [28.7 : 91.8]	7.6 [3.7 : 17.9]
<b>Mean P<sub>KA</sub> [STD]</b>	7.9 [10.5]	10.8 [24.8]	14.3 [24.1]	22.6 [19.2]	72 [62.7]	72.4 [75.9]	18.7 [34]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	1.09 [0.43 : 2.6]	0.68 [0.38 : 1.21]	0.47 [0.31 : 0.79]	0.57 [0.29 : 0.93]	0.83 [0.46 : 1.8]	0.64 [0.35 : 1.24]	0.62 [0.35 : 1.17]
<b>Median proportion PA [IQR]</b>	0.7 [0.52 : 0.8]	0.62 [0.51 : 0.74]	0.64 [0.46 : 0.84]	0.7 [0.5 : 0.87]	0.65 [0.44 : 0.86]	0.68 [0.63 : 0.83]	0.65 [0.5 : 0.79]
<b>Screening time [IQR]</b>	10.8 [6 : 19.7]	10.1 [5.2 : 17]	9.4 [5.3 : 16.4]	10.4 [5.5 : 19.9]	11.3 [7.5 : 22.6]	11.3 [9.1 : 16.6]	10.1 [5.5 : 17.9]
<b>n</b>	53	135	104	46	28	8	374

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.5 [2 : 7.2]	8.1 [4.5 : 13.4]	11.7 [7.3 : 22.8]	27.6 [11.8 : 41.4]	45.2 [24.6 : 78]	59.7 [25.5 : 94.2]	12 [6.4 : 30.2]
<b>Mean P<sub>KA</sub> [STD]</b>	4.7 [3.8]	11.9 [12.9]	17.6 [15.9]	36.2 [37.6]	56.6 [43.9]	83 [97]	25.3 [35.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.9 [0.66 : 1.72]	0.92 [0.54 : 1.48]	0.71 [0.45 : 1.22]	0.85 [0.39 : 1.21]	0.91 [0.48 : 1.42]	0.77 [0.38 : 1.24]	0.84 [0.48 : 1.36]
<b>Median proportion PA [IQR]</b>	0.72 [0.59 : 0.78]	0.7 [0.6 : 0.81]	0.68 [0.55 : 0.8]	0.57 [0.38 : 0.73]	0.66 [0.52 : 0.81]	0.74 [0.5 : 1]	0.67 [0.54 : 0.81]
<b>Screening time [IQR]</b>	13.3 [6.1 : 19.4]	13.1 [7.9 : 21.9]	10.5 [5.1 : 21.2]	8.9 [4 : 18.6]	11.4 [7.8 : 17.5]	10.7 [3.8 : 23]	12 [6.3 : 20]
<b>n</b>	38	95	99	68	44	12	356

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>		3.4 [2.3 : 6.8]	4.5 [2.2 : 8.7]	10.5 [3.2 : 29.4]	25 [16.8 : 57.8]	180.7 [121.2 : 240.1]	6.3 [2.9 : 19.3]
<b>Mean P<sub>KA</sub> [STD]</b>		5.4 [5.8]	6.7 [6.8]	16.7 [17.4]	37.3 [36.1]	180.7 [84.1]	21.6 [44]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		0.41 [0.31 : 0.65]	0.24 [0.15 : 0.44]	0.27 [0.11 : 1.01]	0.43 [0.29 : 1.1]	2.42 [1.66 : 3.18]	0.35 [0.16 : 0.6]
<b>Median proportion PA [IQR]</b>		0.83 [0.57 : 0.9]	1 [0.97 : 1]	1 [0.71 : 1]	1 [1 : 1]	0.8 [0.62 : 0.99]	1 [0.83 : 1]
<b>Screening time [IQR]</b>		9 [6.6 : 22.1]	11.6 [7.5 : 17.7]	8.7 [4.5 : 15.1]	16.2 [8.2 : 24.1]	39.2 [16.2 : 62.1]	11.3 [6.8 : 19.9]
<b>n</b>	0	5	17	10	4	2	38



PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2.2 [1.2 : 3.7]	4.3 [2.4 : 8.2]	6.4 [4.3 : 9.8]	11 [8.3 : 18.7]	29.4 [25.5 : 86.9]		6.1 [3.3 : 11.7]
Mean P <sub>KA</sub> [STD]	2.4 [1.5]	6.3 [5.3]	8.7 [8.3]	14.5 [9.3]	59.2 [57.8]		10.2 [17]
Median P <sub>KA</sub> /kg [IQR]	0.63 [0.36 : 0.92]	0.48 [0.34 : 0.94]	0.38 [0.25 : 0.63]	0.37 [0.23 : 0.71]	0.62 [0.43 : 1.76]		0.41 [0.3 : 0.82]
Median proportion PA [IQR]	0.71 [0.64 : 0.86]	0.47 [0.37 : 0.6]	0.44 [0.3 : 0.57]	0.4 [0.31 : 0.54]	0.42 [0.17 : 0.59]		0.46 [0.31 : 0.59]
Screening time [IQR]	11.4 [6.7 : 14.1]	5.1 [2.8 : 7.5]	5.5 [1.9 : 9.4]	6.6 [3.3 : 9.9]	6.8 [3 : 15]		5.7 [2.7 : 9.5]
n	4	49	43	10	5	0	111

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	4.8 [2.6 : 10.6]	3.6 [2.2 : 5.5]	9.6 [7.7 : 13.4]	14.3 [13.8 : 23.5]	48.8 [43.5 : 138.7]		6 [2.8 : 10.7]
Mean P <sub>KA</sub> [STD]	6.9 [5.1]	4.3 [2.8]	12.2 [7.3]	18.2 [7.2]	86.4 [71.3]		12 [24.1]
Median P <sub>KA</sub> /kg [IQR]	1.5 [0.64 : 3.29]	0.55 [0.32 : 0.93]	0.59 [0.49 : 0.79]	0.57 [0.49 : 0.76]	0.9 [0.74 : 2.26]		0.69 [0.41 : 1.18]
Median proportion PA [IQR]	0.55 [0.5 : 0.74]	0.62 [0.56 : 0.72]	0.61 [0.57 : 0.67]	0.62 [0.55 : 0.65]	0.73 [0.67 : 0.77]		0.62 [0.55 : 0.71]
Screening time [IQR]	11 [6.3 : 22.1]	10.4 [7.1 : 13.2]	10.7 [8.2 : 16.5]	8.6 [6.1 : 21.7]	22.6 [19.1 : 31.8]		10.8 [7.1 : 17.4]
n	13	23	10	3	3	0	52

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	5.6 [3.1 : 6.8]	2.7 [1.7 : 4]	6.7 [5.3 : 9.9]	12 [8.1 : 27.2]	33.7 [21.9 : 55.1]	29.4 [29.4 : 29.4]	6.8 [4.1 : 21.9]
Mean P <sub>KA</sub> [STD]	5 [2.8]	2.8 [1.4]	7.5 [3.1]	17 [13.4]	38.5 [24.2]	29.4 [0]	14.5 [17.6]
Median P <sub>KA</sub> /kg [IQR]	1.49 [0.84 : 2]	0.37 [0.32 : 0.61]	0.48 [0.4 : 0.49]	0.44 [0.25 : 0.69]	0.56 [0.41 : 1.03]	0.36 [0.36 : 0.36]	0.49 [0.36 : 0.81]
Median proportion PA [IQR]	0.54 [0.46 : 0.7]	0.71 [0.55 : 0.73]	0.78 [0.61 : 0.84]	0.72 [0.66 : 0.78]	0.53 [0.37 : 0.67]	0.87 [0.87 : 0.87]	0.67 [0.54 : 0.76]
Screening time [IQR]	9.4 [7.6 : 11.3]	6.9 [4.2 : 9.3]	10.5 [8.6 : 15.4]	11.2 [10.9 : 21.4]	6.7 [4.8 : 9.6]	12.1 [12.1 : 12.1]	9.3 [7.1 : 11.5]
n	4	5	3	3	4	1	20

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	6.8 [6.8 : 6.8]	8.8 [6 : 10.9]	34.2 [16.8 : 52.4]	31.1 [20.5 : 67.3]	38.2 [21.4 : 81.3]		20.2 [8.8 : 41.4]
Mean P <sub>KA</sub> [STD]	6.8 [0]	11.5 [9.7]	41.5 [34.2]	45.5 [33.7]	49.9 [41.2]		32.4 [31.1]
Median P <sub>KA</sub> /kg [IQR]	1.71 [1.71 : 1.71]	1.01 [0.74 : 1.44]	1.78 [1.08 : 2.62]	0.93 [0.75 : 1.8]	0.65 [0.38 : 1.44]		1.07 [0.74 : 1.71]
Median proportion PA [IQR]	0.75 [0.75 : 0.75]	0.7 [0.55 : 0.75]	0.69 [0.58 : 0.82]	0.79 [0.57 : 0.88]	0.7 [0.64 : 0.82]		0.7 [0.58 : 0.82]
Screening time [IQR]	15.9 [15.9 : 15.9]	20.6 [15.3 : 23.9]	23.7 [18.4 : 36.8]	23.2 [14.4 : 26.4]	19.1 [13.3 : 20.4]		20 [15.9 : 24.7]
n	1	7	6	5	3	0	22

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2.9 [2.7 : 5]	5.5 [3.8 : 8.4]	10.5 [8.5 : 26.5]	16.7	48.3 [48.2 : 48.3]	38.2 [14.2 : 56.4]	7.4 [4.2 : 24.6]
Mean P <sub>KA</sub> [STD]	3.8 [2.2]	7.5 [6.9]	16.7 [13.2]	16.7	48.3 [0.1]	35.6 [28.2]	16.1 [18]
Median P <sub>KA</sub> /kg [IQR]	0.74 [0.65 : 1.39]	0.69 [0.43 : 1.13]	0.76 [0.56 : 1.64]	0.42	0.83 [0.78 : 0.89]	0.56 [0.21 : 0.67]	0.71 [0.5 : 0.99]
Median proportion PA [IQR]	0.75 [0.57 : 0.82]	0.73 [0.61 : 0.88]	0.71 [0.36 : 0.76]	0.81	0.28 [0.26 : 0.3]	0.64 [0.63 : 0.75]	0.72 [0.58 : 0.81]
Screening time [IQR]	14.1 [7.9 : 18.1]	11.8 [7.4 : 17]	6.9 [4.2 : 16.1]	11.6	8.3 [6.9 : 9.6]	8.1 [4.5 : 9.5]	9.8 [6.9 : 15]
n	4	9	3	1	2	3	22

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	19 [6.6 : 31.5]		19.7 [11.4 : 28]	35.5 [17.7 : 84.3]	99.7 [75.8 : 137.4]	148.9 [138.7 : 223.4]	77.3 [21.6 : 140.7]
Mean P <sub>KA</sub> [STD]	19 [17.6]		19.7 [11.7]	59.7 [60.2]	105.7 [54.5]	176.8 [50.7]	88.4 [72]
Median P <sub>KA</sub> /kg [IQR]	5.36 [1.73 : 9]		0.88 [0.62 : 1.15]	1.05 [0.53 : 2.39]	1.68 [1.43 : 2.43]	2.01 [1.63 : 2.42]	1.63 [0.63 : 2.39]
Median proportion PA [IQR]	0.61 [0.51 : 0.71]		0.57 [0.54 : 0.6]	0.29 [0.19 : 0.45]	0.28 [0.18 : 0.41]	0.35 [0.32 : 0.65]	0.36 [0.27 : 0.55]
Screening time [IQR]	16.8 [5.5 : 28.2]		16.5 [5.9 : 27.1]	10.5 [8.5 : 13.6]	10 [8.3 : 10.9]	10.9 [10.3 : 16.5]	10.5 [8.5 : 15.5]
n	2	0	2	10	7	5	26

Heart Biopsy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			1.3 [0.8 : 3.4]	5.9 [2.2 : 10.9]	10 [9 : 12.2]	62.6	6 [1.7 : 10.9]
Mean P <sub>KA</sub> [STD]			2 [1.9]	7.5 [6.8]	10 [2.4]	62.6	8.9 [12]
Median P <sub>KA</sub> /kg [IQR]			0.07 [0.03 : 0.14]	0.19 [0.06 : 0.35]	0.18 [0.15 : 0.22]	0.77	0.16 [0.07 : 0.23]
Median proportion PA [IQR]			1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1	1 [1 : 1]
Screening time [IQR]			2.9 [0.7 : 4]	5.7 [4.2 : 8]	6 [4.3 : 7.2]	14.4	5.3 [2.9 : 7.2]
n	0	0	6	15	6	1	28

Coronary angiography	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		4.9 [2.7 : 31.3]	10.3 [7.2 : 13.7]	20.6 [10.1 : 31.9]	34.4 [25.3 : 56.7]	61.9 [50 : 82]	18.1 [9.7 : 33.6]
Mean P <sub>KA</sub> [STD]		20.8 [26.4]	11.6 [6.3]	27.7 [25.8]	45.3 [31.5]	68.7 [37.6]	27.5 [27.9]
Median P <sub>KA</sub> /kg [IQR]		0.54 [0.35 : 2.88]	0.52 [0.35 : 0.86]	0.63 [0.33 : 1.14]	0.69 [0.51 : 1.02]	0.83 [0.63 : 1.14]	0.64 [0.38 : 1.05]
Median proportion PA [IQR]		0.62 [0.56 : 0.81]	0.48 [0.3 : 0.55]	0.4 [0.26 : 0.5]	0.45 [0.33 : 0.55]	0.51 [0.35 : 0.67]	0.46 [0.32 : 0.58]
Screening time [IQR]		9.7 [3 : 18.6]	4.3 [2.3 : 7.7]	5.3 [2.6 : 8.8]	6.9 [3.6 : 10.1]	4.8 [2.5 : 6.7]	5.2 [2.6 : 9.3]
n	0	9	23	33	12	5	82

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.1 [0.7 : 2.1]	25.4 [17.1 : 33.7]		56.3 [38.7 : 60.8]			2.1 [0.8 : 28.9]
<b>Mean P<sub>KA</sub> [STD]</b>	1.5 [1.2]	25.4 [11.7]		50.5 [15.5]			14.5 [21.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.37 [0.18 : 0.73]	4.47 [2.19 : 6.74]		1.27 [1.09 : 1.65]			0.73 [0.23 : 1.25]
<b>Median proportion PA [IQR]</b>	0.8 [0.72 : 0.87]	0.68 [0.65 : 0.72]		0.7 [0.52 : 0.83]			0.78 [0.66 : 0.87]
<b>Screening time [IQR]</b>	5.6 [3.2 : 8]	21.7 [19.4 : 23.9]		43.1 [17.5 : 65.5]			8 [4.3 : 19.9]
<b>n</b>	10	2	0	3	0	0	15

Hospital 1: 1999-2001 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	5.4 [2.9 : 8.8]	13.3 [7.8 : 19.8]	17 [8 : 29.5]	24 [9 : 69.2]	36.1 [25.2 : 99.7]	90 [37.5 : 129]	14.3 [6 : 28.5]
<b>Mean P<sub>KA</sub> [STD]</b>	8.2 [9.6]	20.4 [45.2]	22.9 [20.7]	52 [61.1]	57.7 [55.7]	83.3 [63.7]	31.8 [48.2]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.97 [0.5 : 1.66]	1.07 [0.74 : 1.48]	0.65 [0.41 : 1.02]	0.66 [0.21 : 1.49]	0.72 [0.35 : 1.54]	1.65 [0.71 : 2.65]	0.88 [0.41 : 1.48]
<b>Median proportion PA [IQR]</b>	0.71 [0.61 : 0.78]	0.71 [0.62 : 0.81]	0.64 [0.53 : 0.76]	0.81 [0.56 : 1]	0.78 [0.67 : 1]	0.78 [0.57 : 0.9]	0.71 [0.58 : 0.86]
<b>Screening time [IQR]</b>	11.6 [4.7 : 19.2]	15.1 [11.8 : 20.7]	11.4 [6.7 : 15.2]	11 [6.2 : 19.2]	10.8 [10 : 14]	17.9 [6.5 : 34.2]	12.6 [7.1 : 19.1]
<b>n</b>	37	52	44	74	6	4	217

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	4.2 [2.3 : 7.5]	7.1 [4.1 : 12.1]	10 [6.3 : 20.2]	26.6 [13 : 54.5]	41.6 [28.5 : 111.7]		7.6 [3.7 : 18.4]
<b>Mean P<sub>KA</sub> [STD]</b>	7.9 [11.7]	13.8 [30.1]	16.1 [16.8]	43.2 [50.6]	69.8 [64.7]		18.7 [33.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.82 [0.41 : 1.57]	0.51 [0.32 : 1.06]	0.52 [0.33 : 0.83]	0.62 [0.34 : 1.25]	0.73 [0.53 : 1.83]		0.62 [0.35 : 1.17]
<b>Median proportion PA [IQR]</b>	0.66 [0.55 : 0.75]	0.59 [0.44 : 0.79]	0.66 [0.46 : 0.86]	0.73 [0.52 : 0.97]	0.65 [0.62 : 0.73]		0.65 [0.51 : 0.8]
<b>Screening time [IQR]</b>	10.4 [5.5 : 19]	9.6 [5.1 : 17]	9.6 [5.9 : 15.4]	11.6 [7.1 : 22.6]	12.2 [8.7 : 25.3]		10.4 [5.6 : 18.4]
<b>n</b>	129	131	60	55	16	0	391

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	4.4 [2.7 : 8.1]	10.3 [6.3 : 18.6]	14 [7.7 : 27.7]	28.8 [13.6 : 57.1]	43.2 [22.1 : 105.1]	101.7 [47.7 : 126.5]	11.6 [6.3 : 29.4]
<b>Mean P<sub>KA</sub> [STD]</b>	6 [6.9]	15.6 [15]	22 [27.7]	41.9 [48.1]	61.2 [50.8]	92.6 [43.2]	24.7 [35.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.89 [0.55 : 1.31]	0.9 [0.52 : 1.54]	0.71 [0.34 : 1.18]	0.7 [0.39 : 1.14]	0.94 [0.54 : 1.83]	1.4 [1.01 : 1.91]	0.84 [0.48 : 1.36]
<b>Median proportion PA [IQR]</b>	0.7 [0.58 : 0.78]	0.71 [0.61 : 0.82]	0.65 [0.47 : 0.77]	0.61 [0.45 : 0.79]	0.66 [0.54 : 0.86]	0.73 [0.52 : 0.82]	0.67 [0.54 : 0.81]
<b>Screening time [IQR]</b>	11.4 [6.6 : 17.1]	15.1 [7.2 : 24.7]	10.5 [3.7 : 18]	9.3 [5.6 : 15.7]	15.5 [5.8 : 25.3]	17.5 [11.6 : 27]	12 [6.2 : 20.3]
<b>n</b>	81	108	77	79	22	8	375

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.6 [3.4 : 3.8]	4.5 [2.1 : 7.6]	4.5 [2.1 : 19.6]	21.9 [8.4 : 59.9]	4.4		5.2 [2.8 : 20.6]
<b>Mean P<sub>KA</sub> [STD]</b>	3.6 [0.2]	7.1 [8.8]	13.1 [16.1]	48.8 [70.6]	4.4		20.9 [42.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.42 [0.41 : 0.43]	0.25 [0.16 : 0.41]	0.3 [0.12 : 0.95]	0.43 [0.17 : 1.34]			0.35 [0.16 : 0.6]
<b>Median proportion PA [IQR]</b>	0.51 [0.39 : 0.63]	0.9 [0.82 : 1]	1 [1 : 1]	1 [0.85 : 1]	1		1 [0.82 : 1]
<b>Screening time [IQR]</b>	6.1 [5.2 : 7]	15.8 [6.5 : 20.6]	9.7 [6.9 : 17.1]	14.6 [7.7 : 20.6]	13		11.6 [6.5 : 20]
<b>n</b>	2	13	13	12	1	0	41

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.4 [1.8 : 4.2]	5.8 [3.3 : 10.4]	8.5 [6.3 : 15.5]	13.4 [11 : 28.6]	157.8		6.2 [3.3 : 11.9]
<b>Mean P<sub>KA</sub> [STD]</b>	3.2 [1.9]	8 [7.7]	11.1 [7.9]	21.1 [17.8]	157.8		10.1 [16.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.37 [0.34 : 0.73]	0.45 [0.29 : 0.93]	0.39 [0.31 : 0.75]	0.35 [0.26 : 0.55]	2.96		0.41 [0.3 : 0.82]
<b>Median proportion PA [IQR]</b>	0.47 [0.35 : 0.67]	0.47 [0.33 : 0.58]	0.44 [0.3 : 0.66]	0.5 [0.28 : 0.54]	0.64		0.47 [0.31 : 0.58]
<b>Screening time [IQR]</b>	4.4 [2.6 : 6.3]	6 [2.6 : 9.4]	6.3 [3.8 : 10]	5.2 [3.2 : 7.6]	28.4		5.8 [2.7 : 9.5]
<b>n</b>	19	64	21	9	1	0	114

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	4.3 [2.2 : 7.4]	7.2 [3.9 : 11.1]	13.6 [10.7 : 19.7]	48.8 [43.5 : 138.7]			6 [2.8 : 10.7]
<b>Mean P<sub>KA</sub> [STD]</b>	5.4 [4]	9.3 [7.6]	15.3 [6.6]	86.4 [71.3]			11.9 [23.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.79 [0.41 : 1.5]	0.49 [0.3 : 0.59]	0.74 [0.49 : 0.82]	0.9 [0.74 : 2.26]			0.69 [0.41 : 1.18]
<b>Median proportion PA [IQR]</b>	0.61 [0.55 : 0.73]	0.59 [0.53 : 0.63]	0.62 [0.61 : 0.67]	0.73 [0.67 : 0.77]			0.62 [0.55 : 0.72]
<b>Screening time [IQR]</b>	10.7 [6.5 : 16.8]	11.7 [9.1 : 16.5]	8.6 [8.3 : 19]	22.6 [19.1 : 31.8]			11.1 [7.1 : 17.9]
<b>n</b>	34	10	7	3	0	0	54

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	4.1 [1.9 : 5.2]	8.8 [5.8 : 15]	12	30.8 [18.1 : 52]	28.9 [18.3 : 36]		6.8 [4.4 : 19.1]
<b>Mean P<sub>KA</sub> [STD]</b>	3.8 [2.2]	10.4 [6.3]	12	35.1 [27]	27.4 [11.9]		14.3 [17]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.53 [0.35 : 1.43]	0.48 [0.4 : 0.49]	0.44	0.57 [0.27 : 1.12]	0.53 [0.35 : 0.58]		0.49 [0.36 : 0.81]
<b>Median proportion PA [IQR]</b>	0.65 [0.52 : 0.72]	0.82 [0.67 : 0.9]	0.6	0.76 [0.56 : 0.84]	0.65 [0.41 : 0.69]		0.69 [0.56 : 0.78]
<b>Screening time [IQR]</b>	7.8 [6.9 : 11.8]	13.5 [9.2 : 16.7]	11.2	11.6 [11 : 18.5]	5.4 [4.5 : 7.4]		10.7 [7.2 : 12.1]
<b>n</b>	10	4	1	4	3	0	22

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	7.1 [6.5 : 10.2]	12.8 [6.9 : 24.9]	31.1 [19.4 : 52.4]	31.1 [18.6 : 85.9]	38.2		19.4 [8.3 : 40.6]
Mean P <sub>KA</sub> [STD]	8.1 [2.4]	15.9 [12.4]	40.6 [34.9]	47.7 [37.3]	38.2		31.3 [30.9]
Median P <sub>KA</sub> /kg [IQR]	1.07 [0.94 : 1.61]	0.92 [0.59 : 2.05]	2.32 [0.75 : 3.86]	1.24 [0.52 : 1.69]	0.65		1.07 [0.74 : 1.71]
Median proportion PA [IQR]	0.75 [0.68 : 0.82]	0.62 [0.35 : 0.79]	0.64 [0.58 : 0.78]	0.79 [0.68 : 0.87]	0.63		0.71 [0.58 : 0.81]
Screening time [IQR]	20.6 [15.4 : 28.9]	19.2 [14.1 : 20.5]	22.6 [15.5 : 36.8]	23.2 [19.5 : 27.4]	11.3		20.6 [16 : 26.2]
n	5	4	6	7	1	0	23

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	4.8 [2.9 : 7.1]	7.9 [3.9 : 9.8]	19.8 [7.8 : 31.8]	48.2 [13.9 : 51.9]	22.2 [6.3 : 38.2]		7.4 [4.2 : 24.6]
Mean P <sub>KA</sub> [STD]	6.7 [6.8]	7 [4]	19.8 [17]	36.3 [24]	22.2 [22.6]		16.1 [18]
Median P <sub>KA</sub> /kg [IQR]	0.88 [0.58 : 1.47]	0.69 [0.39 : 0.74]	1.21 [0.5 : 1.93]	0.71 [0.48 : 0.81]	0.33 [0.09 : 0.56]		0.71 [0.5 : 0.99]
Median proportion PA [IQR]	0.73 [0.63 : 0.84]	0.77 [0.59 : 0.84]	0.48 [0.25 : 0.71]	0.79 [0.29 : 0.86]	0.63 [0.62 : 0.64]		0.72 [0.58 : 0.81]
Screening time [IQR]	9.8 [5.4 : 17.7]	19.2 [13.7 : 21.9]	5.1 [3.3 : 6.9]	9.6 [7.8 : 11.7]	6.7 [3.3 : 10]		9.8 [6.9 : 15]
n	10	3	2	5	2	0	22

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	19 [6.6 : 31.5]		36.2 [16.6 : 66.4]	137.8 [40 : 185.4]	124.3 [99.7 : 148.9]	74.3	77.8 [24.1 : 144.8]
Mean P <sub>KA</sub> [STD]	19 [17.6]		41.8 [28.2]	124.5 [77.2]	124.3 [34.8]	74.3	91.5 [71.9]
Median P <sub>KA</sub> /kg [IQR]	5.36 [1.73 : 9]		1.15 [0.6 : 1.57]	2.11 [0.63 : 2.82]	1.61 [1.54 : 1.68]	1.41	1.63 [0.63 : 2.39]
Median proportion PA [IQR]	0.61 [0.51 : 0.71]		0.25 [0.17 : 0.54]	0.32 [0.27 : 0.44]	0.5 [0.15 : 0.86]	0.37	0.33 [0.23 : 0.54]
Screening time [IQR]	16.8 [5.5 : 28.2]		11.1 [8.9 : 14.1]	10.7 [8.1 : 16.7]	10.1 [10 : 10.1]	11	10.5 [8.6 : 15.6]
n	2	0	8	15	2	1	28

Heart Biopsy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		5.2	1.2 [0.9 : 1.3]	7.5 [3.3 : 11.9]	0.4	0.7	5.7 [2 : 10.1]
Mean P <sub>KA</sub> [STD]		5.2	1.1 [0.3]	10.2 [12.5]	0.4	0.7	8.5 [11.7]
Median P <sub>KA</sub> /kg [IQR]		0.29	0.06 [0.04 : 0.07]	0.19 [0.11 : 0.24]	0.01	0.02	0.16 [0.07 : 0.23]
Median proportion PA [IQR]		0.73	1 [1 : 1]	1 [1 : 1]	1	1	1 [1 : 1]
Screening time [IQR]		3.5	4 [1.4 : 5]	6 [4.4 : 8.6]	0.9	1.9	5.3 [3.5 : 7.2]
n	0	1	3	24	1	1	30

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	12.8 [2.4 : 40]	11.1 [4.9 : 15.6]	11.2 [7.6 : 26.7]	27.2 [12.9 : 38.6]	48.6 [9.4 : 65.9]	130.5	17.9 [9.7 : 32.3]
Mean P <sub>KA</sub> [STD]	21.2 [26]	14.9 [17.6]	17.1 [12.7]	32.4 [27]	49.9 [42.3]	130.5	27.2 [27.6]
Median P <sub>KA</sub> /kg [IQR]	1.1 [0.33 : 5.7]	0.7 [0.42 : 1.05]	0.55 [0.34 : 0.92]	0.63 [0.4 : 1.04]	0.83 [0.57 : 1.16]	1.87	0.64 [0.38 : 1.05]
Median proportion PA [IQR]	0.54 [0.46 : 0.79]	0.62 [0.3 : 0.76]	0.39 [0.24 : 0.49]	0.47 [0.36 : 0.6]	0.44 [0.39 : 0.51]	0.37	0.46 [0.33 : 0.58]
Screening time [IQR]	17.4 [5.5 : 30.8]	6.5 [3.6 : 10]	3.4 [2.3 : 5.5]	6.3 [3.3 : 9.3]	4 [1.6 : 11.4]	4.8	5.2 [2.6 : 9.3]
n	4	14	23	36	6	1	84

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	1.3 [0.7 : 3.4]			56.3 [38.7 : 60.8]			2.1 [0.8 : 28.9]
Mean P <sub>KA</sub> [STD]	5.5 [10]			50.5 [15.5]			14.5 [21.5]
Median P <sub>KA</sub> /kg [IQR]	0.42 [0.19 : 1.11]			1.27 [1.09 : 1.65]			0.73 [0.23 : 1.25]
Median proportion PA [IQR]	0.78 [0.68 : 0.87]			0.7 [0.52 : 0.83]			0.78 [0.66 : 0.87]
Screening time [IQR]	6.7 [3.6 : 17.6]			43.1 [17.5 : 65.5]			8 [4.3 : 19.9]
n	12	0	0	3	0	0	15

Hospital 1: 2002-2008 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.6 [0.4 : 2.3]	0.4 [0.2 : 1.3]	0.5 [0.3 : 2.2]	1.5 [0.6 : 3.2]	3.1 [1.3 : 6.5]	3.6 [1.7 : 14.3]	1.5 [0.4 : 3.9]
Mean P <sub>KA</sub> [STD]	1.2 [1.2]	0.9 [1.1]	1.7 [2.4]	3.2 [5.7]	6 [8.4]	10.4 [15]	4.1 [8.1]
Median P <sub>KA</sub> /kg [IQR]	0.15 [0.09 : 0.52]	0.04 [0.02 : 0.13]	0.03 [0.01 : 0.11]	0.04 [0.02 : 0.09]	0.05 [0.02 : 0.12]	0.05 [0.02 : 0.17]	0.05 [0.02 : 0.12]
Median proportion PA [IQR]	0.57 [0.51 : 0.68]	0.77 [0.6 : 0.92]	0.78 [0.58 : 0.94]	0.82 [0.55 : 1]	0.65 [0.4 : 0.89]	0.58 [0.31 : 0.96]	0.75 [0.51 : 0.94]
Max skin [IQR]	14 [9 : 39]	7 [3 : 16]	7 [3 : 25]	14 [7 : 32]	31 [13 : 77]	38 [16 : 122]	16 [6 : 42]
Screening time [IQR]	9.4 [4.7 : 21.5]	8.2 [4.5 : 13.4]	5.4 [3.2 : 11.3]	6.5 [4.1 : 13.1]	8.5 [4.5 : 15.1]	6.4 [3.3 : 12.6]	7.1 [4.1 : 13.4]
n	20	94	114	160	145	81	614

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.7 [0.4 : 1.1]	0.8 [0.5 : 1.7]	1.5 [0.7 : 3.6]	3.7 [1.9 : 10]	10.3 [4.9 : 22.9]	21.4 [9.2 : 46.5]	1.7 [0.7 : 5.7]
Mean P <sub>KA</sub> [STD]	0.9 [0.9]	1.4 [1.6]	3.1 [4.7]	7.7 [10.6]	15.6 [15.4]	32.5 [41.1]	6.3 [14.3]
Median P <sub>KA</sub> /kg [IQR]	0.17 [0.11 : 0.33]	0.11 [0.06 : 0.2]	0.09 [0.04 : 0.22]	0.11 [0.05 : 0.29]	0.19 [0.1 : 0.43]	0.3 [0.13 : 0.62]	0.12 [0.06 : 0.27]
Median % PA [IQR]	0.57 [0.47 : 0.73]	0.45 [0.32 : 0.63]	0.63 [0.39 : 1]	0.54 [0.35 : 0.8]	0.49 [0.31 : 0.63]	0.48 [0.35 : 0.63]	0.52 [0.35 : 0.74]
Max skin [IQR]	15 [8 : 26]	15 [9 : 27]	18 [10 : 40]	38 [24 : 84]	94 [49 : 180]	196 [80 : 380]	24 [12 : 61]
Screening time [IQR]	13.4 [8.3 : 22.4]	9.5 [6.4 : 17.2]	11 [7.1 : 20.3]	13.2 [7.9 : 23.5]	16.1 [9.6 : 22.4]	16.6 [10.6 : 31.2]	11.5 [7.4 : 21.2]
n	125	359	338	193	154	67	1236

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.8 [0.5 : 1.3]	1.5 [0.8 : 2.5]	2.3 [1.3 : 3.9]	4.6 [2.7 : 7.8]	9.6 [5.4 : 16.3]	19.1 [10.3 : 27.3]	3.2 [1.5 : 7.4]
Mean P <sub>KA</sub> [STD]	1.1 [1.3]	1.9 [1.5]	3.1 [2.7]	6.4 [7.7]	12.1 [9.4]	22.9 [18.2]	6.5 [9.4]
Median P <sub>KA</sub> /kg [IQR]	0.25 [0.15 : 0.37]	0.17 [0.1 : 0.3]	0.13 [0.08 : 0.23]	0.14 [0.08 : 0.23]	0.18 [0.1 : 0.29]	0.25 [0.13 : 0.36]	0.16 [0.09 : 0.28]
Median proportion PA [IQR]	0.58 [0.46 : 0.68]	0.6 [0.49 : 0.7]	0.54 [0.35 : 0.71]	0.4 [0.32 : 0.56]	0.44 [0.31 : 0.55]	0.38 [0.27 : 0.48]	0.48 [0.35 : 0.66]
Max skin [IQR]	16 [10 : 26]	20 [12 : 34]	24 [13 : 42]	39 [25 : 75]	81 [42 : 124]	154 [89 : 242]	34 [18 : 72]
Screening time [IQR]	12.7 [7.9 : 24.2]	14.5 [9.1 : 23.4]	11.2 [6.2 : 18.3]	10.4 [6.5 : 15.5]	10.2 [6.2 : 16.6]	9.2 [5.7 : 14.8]	11.2 [6.5 : 18.1]
n	61	204	284	260	182	75	1066

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2.2	0.4 [0.2 : 0.9]	0.6 [0.4 : 1]	2 [0.9 : 3]	1.9 [1.1 : 5.1]	9	0.8 [0.5 : 1.8]
Mean P <sub>KA</sub> [STD]	2.2	0.7 [1]	0.8 [0.6]	2.7 [2.8]	2.8 [2.3]	9	1.5 [1.9]
Median P <sub>KA</sub> /kg [IQR]	0.55	0.04 [0.02 : 0.08]	0.03 [0.02 : 0.05]	0.06 [0.03 : 0.1]	0.03 [0.02 : 0.09]	0.12	0.04 [0.02 : 0.07]
Median proportion PA [IQR]	0.6	1 [0.96 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	0.71	1 [1 : 1]
Max skin [IQR]	61	6 [4 : 13]	11 [7 : 16]	25 [13 : 40]	22 [12 : 51]	66	13 [8 : 22]
Screening time [IQR]	12.4	7.3 [5.6 : 17.4]	8.1 [4.5 : 11.2]	8.4 [6.9 : 14.7]	5.6 [3.7 : 15.6]	16.6	8.2 [5.3 : 12.2]
n	1	11	91	36	13	1	153

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.7 [0.5 : 1.1]	0.7 [0.5 : 1]	0.9 [0.5 : 1.6]	1.9 [1.6 : 2.3]	6 [3.6 : 9]	19.8 [17.5 : 22]	0.8 [0.5 : 1.3]
Mean P <sub>KA</sub> [STD]	0.8 [0.5]	0.8 [0.6]	1.2 [1]	2.3 [1.5]	6.4 [3.2]	19.8 [3.2]	1.3 [2]
Median P <sub>KA</sub> /kg [IQR]	0.16 [0.12 : 0.24]	0.08 [0.05 : 0.12]	0.06 [0.03 : 0.09]	0.05 [0.05 : 0.07]	0.12 [0.07 : 0.17]	0.27 [0.24 : 0.3]	0.07 [0.05 : 0.12]
Median proportion PA [IQR]	0.37 [0.31 : 0.44]	0.31 [0.24 : 0.39]	0.28 [0.16 : 0.4]	0.18 [0.11 : 0.29]	0.24 [0.1 : 0.38]	0.14 [0.07 : 0.2]	0.3 [0.21 : 0.39]
Max skin [IQR]	14 [9 : 25]	12 [9 : 20]	15 [10 : 22]	25 [21 : 37]	83 [39 : 95]	314 [265 : 362]	14 [10 : 24]
Screening time [IQR]	8.5 [7.3 : 10.5]	7.5 [5.5 : 10.4]	7.4 [5.4 : 10.3]	7.5 [6.3 : 12.3]	13 [7.8 : 19.6]	12.8 [10.4 : 15.2]	7.5 [6.1 : 10.5]
n	13	168	75	18	5	2	281

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.6 [0.3 : 0.7]	0.9 [0.6 : 1.3]	1.6 [1.1 : 2.9]	2 [1.6 : 8.9]	12.1 [5.3 : 23.5]	16.8 [15.9 : 19.3]	1 [0.6 : 2]
Mean P <sub>KA</sub> [STD]	0.7 [0.6]	1.2 [0.9]	2.3 [1.7]	7.2 [11.8]	14.4 [11.3]	17.5 [2.3]	2.5 [4.9]
Median P <sub>KA</sub> /kg [IQR]	0.15 [0.1 : 0.24]	0.11 [0.07 : 0.16]	0.11 [0.06 : 0.17]	0.06 [0.05 : 0.21]	0.26 [0.1 : 0.43]	0.21 [0.2 : 0.22]	0.12 [0.07 : 0.2]
Median proportion PA [IQR]	0.55 [0.49 : 0.64]	0.51 [0.42 : 0.6]	0.62 [0.49 : 0.75]	0.56 [0.53 : 0.58]	0.54 [0.4 : 0.56]	0.41 [0.4 : 0.48]	0.55 [0.46 : 0.63]
Max skin [IQR]	10 [8 : 20]	13 [9 : 23]	19 [12 : 37]	18 [13 : 61]	92 [40 : 145]	151 [150 : 178]	15 [9 : 28]
Screening time [IQR]	13 [8.5 : 19.3]	11.2 [7.4 : 17.4]	15.9 [10.1 : 24]	8 [7.4 : 18]	13.3 [8.5 : 19.2]	12.4 [10.2 : 12.4]	12.4 [8.5 : 18.3]
n	34	41	22	5	4	3	109

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.7 [0.4 : 1]	0.8 [0.7 : 1.2]	4 [1.8 : 6.2]	4.5 [3.2 : 8.1]	10.2 [8 : 13.8]	15 [9.9 : 26.4]	1.4 [0.7 : 7.1]
Mean P <sub>KA</sub> [STD]	0.8 [0.5]	1.1 [0.6]	4 [3.2]	5.7 [4]	10.3 [4.2]	20.7 [16.9]	5.4 [9.2]
Median P <sub>KA</sub> /kg [IQR]	0.23 [0.11 : 0.31]	0.14 [0.08 : 0.22]	0.18 [0.09 : 0.26]	0.12 [0.08 : 0.19]	0.2 [0.15 : 0.26]	0.21 [0.14 : 0.38]	0.17 [0.09 : 0.25]
Median proportion PA [IQR]	0.71 [0.58 : 0.79]	0.66 [0.62 : 0.77]	0.61 [0.45 : 0.78]	0.66 [0.65 : 0.76]	0.61 [0.51 : 0.66]	0.62 [0.59 : 0.67]	0.66 [0.58 : 0.77]
Max skin [IQR]	16 [9 : 23]	23 [11 : 27]	35 [19 : 50]	40 [26 : 110]	75 [68 : 100]	119 [86 : 158]	26 [14 : 60]
Screening time [IQR]	14.3 [7.5 : 33.4]	8.5 [6.8 : 19.6]	15.7 [10.1 : 21.2]	11.5 [9.6 : 15.7]	12.1 [10.5 : 18.1]	21.4 [8.4 : 42.8]	12.9 [7.9 : 23.7]
n	19	11	2	7	6	7	52

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.9 [0.6 : 1.5]	2.9 [1.5 : 5.6]	4.2 [2.2 : 6]	11.3 [5.2 : 16.6]	22.9 [8.7 : 33.5]	11.1 [8.2 : 12.5]	4.6 [2.1 : 9.1]
Mean P <sub>KA</sub> [STD]	1 [0.5]	3.7 [3]	4.8 [3.9]	14 [11.1]	27.2 [23.2]	10.4 [3]	8.8 [12.7]
Median P <sub>KA</sub> /kg [IQR]	0.3 [0.16 : 0.37]	0.34 [0.14 : 0.6]	0.24 [0.13 : 0.34]	0.38 [0.19 : 0.46]	0.42 [0.18 : 0.62]	0.17 [0.11 : 0.17]	0.29 [0.14 : 0.47]
Median proportion PA [IQR]	0.64 [0.48 : 0.71]	0.63 [0.55 : 0.72]	0.62 [0.42 : 0.76]	0.5 [0.42 : 0.63]	0.51 [0.44 : 0.62]	0.61 [0.48 : 0.72]	0.59 [0.46 : 0.72]
Max skin [IQR]	18 [15 : 28]	39 [18 : 71]	42 [25 : 72]	104 [47 : 180]	204 [80 : 346]	78 [73 : 103]	52 [25 : 104]
Screening time [IQR]	17.4 [11.4 : 26.6]	30.4 [16.4 : 43.4]	22.4 [16.5 : 34.5]	26.8 [17 : 30.8]	20.1 [16.3 : 29.6]	11.4 [5.2 : 30.7]	22.5 [15.5 : 34.1]
n	9	29	38	16	15	3	110

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.6 [0.4 : 1]	1.4 [0.8 : 1.9]	2.1 [1.6 : 2.2]	2.6 [2 : 4]	13.5 [11.3 : 20.8]	13.7 [2.6 : 24.4]	1.7 [0.8 : 3.5]
Mean P <sub>KA</sub> [STD]	1 [1.1]	1.5 [0.8]	2.1 [1.2]	3 [1.5]	14.8 [5.5]	19.4 [22]	5.3 [9.9]
Median P <sub>KA</sub> /kg [IQR]	0.18 [0.12 : 0.28]	0.18 [0.14 : 0.28]	0.13 [0.11 : 0.15]	0.07 [0.06 : 0.09]	0.23 [0.19 : 0.34]	0.19 [0.03 : 0.35]	0.16 [0.11 : 0.28]
Median proportion PA [IQR]	0.55 [0.5 : 0.65]	0.55 [0.42 : 0.62]	0.57 [0.39 : 0.66]	0.43 [0.38 : 0.56]	0.37 [0.25 : 0.49]	0.3 [0.29 : 0.53]	0.52 [0.4 : 0.61]
Max skin [IQR]	14 [7 : 22]	21 [15 : 34]	18 [17 : 25]	39 [30 : 49]	115 [74 : 189]	140 [17 : 277]	23 [15 : 49]
Screening time [IQR]	9.2 [7 : 13.8]	10.3 [8.3 : 14.2]	10.8 [9.4 : 18.1]	8.1 [6.4 : 10]	11 [8.2 : 14]	6.8 [3.2 : 11]	9.6 [7.3 : 13.9]
n	13	15	7	4	6	6	51

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2.9 [2.6 : 3.6]	1.1	1.2 [0.6 : 2.1]	2 [0.6 : 3.9]	4.4 [1.4 : 8]	6.6 [2.1 : 17.6]	3.3 [1.2 : 7.1]
Mean P <sub>KA</sub> [STD]	3.1 [0.6]	1.1	1.9 [2]	2.8 [3]	6.9 [8.9]	14.5 [19.6]	7.2 [12]
Median P <sub>KA</sub> /kg [IQR]	0.88 [0.78 : 0.99]	0.19	0.06 [0.04 : 0.12]	0.05 [0.01 : 0.12]	0.08 [0.03 : 0.15]	0.09 [0.03 : 0.22]	0.08 [0.03 : 0.16]
Median proportion PA [IQR]	0.43 [0.35 : 0.66]	0.39	0.35 [0.23 : 0.51]	0.33 [0.23 : 0.74]	0.41 [0.26 : 0.62]	0.35 [0.22 : 0.57]	0.38 [0.23 : 0.64]
Max skin [IQR]	66 [59 : 68]	11	22 [10 : 36]	24 [6 : 49]	44 [15 : 83]	59 [23 : 164]	36 [12 : 78]
Screening time [IQR]	28.1 [25.8 : 30.5]	4.5	13.7 [10 : 19.1]	12.6 [4.7 : 19.1]	14.4 [7.3 : 22.3]	8.9 [5.5 : 22]	12.6 [6.4 : 22.1]
n	3	1	10	47	66	40	167



Heart Biopsy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.5 [0.2 : 0.5]	0.3 [0.2 : 0.5]	0.3 [0.2 : 0.6]	1.2 [0.6 : 1.7]	2 [1.1 : 3.9]	1.9 [1.3 : 3.6]	0.8 [0.3 : 1.8]
Mean P <sub>KA</sub> [STD]	0.4 [0.2]	0.4 [0.3]	0.8 [1.8]	1.8 [2.7]	3.3 [3.8]	3.5 [3.9]	1.8 [2.9]
Median P <sub>KA</sub> /kg [IQR]	0.1 [0.07 : 0.11]	0.03 [0.02 : 0.05]	0.02 [0.01 : 0.03]	0.04 [0.02 : 0.05]	0.04 [0.02 : 0.07]	0.03 [0.02 : 0.05]	0.03 [0.02 : 0.05]
Median proportion PA [IQR]	0.77 [0.59 : 0.87]	0.84 [0.74 : 0.96]	0.85 [0.73 : 0.97]	0.89 [0.72 : 1]	0.83 [0.65 : 0.95]	0.87 [0.62 : 1]	0.85 [0.72 : 0.99]
Max skin [IQR]	13 [5 : 14]	4 [2 : 7]	4 [2 : 6]	12 [6 : 21]	21 [11 : 38]	22 [11 : 34]	9 [4 : 20]
Screening time [IQR]	16.2 [11.1 : 19.4]	7.1 [4.5 : 9.4]	4.4 [3 : 6.4]	5.4 [4.1 : 8.9]	6.3 [4.3 : 9.4]	3.5 [2.5 : 5.4]	5.4 [3.4 : 8.5]
n	3	61	66	99	67	29	325

Coronary angiography	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.5	1.7 [1.1 : 1.9]	2.3 [1.5 : 3.4]	4.4 [2.9 : 7.1]	9.9 [6.4 : 16]	20.3 [12.8 : 26.1]	4.8 [2.5 : 11]
Mean P <sub>KA</sub> [STD]	0.5	1.6 [1.1]	2.8 [2]	5.7 [3.9]	12.3 [8.4]	22.2 [13.5]	8.3 [9.1]
Median P <sub>KA</sub> /kg [IQR]	0.13	0.15 [0.1 : 0.18]	0.12 [0.08 : 0.18]	0.14 [0.09 : 0.2]	0.19 [0.11 : 0.28]	0.25 [0.17 : 0.35]	0.15 [0.1 : 0.25]
Median proportion PA [IQR]	0.45	0.43 [0.26 : 0.51]	0.35 [0.28 : 0.48]	0.36 [0.29 : 0.44]	0.35 [0.28 : 0.48]	0.35 [0.25 : 0.42]	0.36 [0.28 : 0.46]
Max skin [IQR]	8	20 [13 : 33]	26 [16 : 43]	39 [26 : 72]	84 [46 : 132]	155 [110 : 237]	45 [26 : 99]
Screening time [IQR]	1.2	9.6 [5.6 : 13]	7.8 [4.5 : 12.1]	9.2 [6.1 : 13.4]	9.2 [6.2 : 14.4]	8.2 [5.1 : 13.4]	8.6 [5.5 : 13.4]
n	1	19	116	170	110	56	472

PVR and pressure studies	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.6 [0.4 : 0.7]	0.5 [0.2 : 1.8]	0.8 [0.3 : 1.8]	2.5 [1.2 : 5.3]	3.7 [0.9 : 5.5]	7.7 [4.2 : 13.6]	1.3 [0.4 : 3.8]
Mean P <sub>KA</sub> [STD]	0.5 [0.2]	1.2 [1.5]	1.7 [2.3]	7 [17.8]	4.7 [5.1]	9.8 [7.9]	3.7 [9]
Median P <sub>KA</sub> /kg [IQR]	0.13 [0.08 : 0.15]	0.06 [0.02 : 0.26]	0.06 [0.02 : 0.12]	0.07 [0.04 : 0.14]	0.07 [0.02 : 0.09]	0.11 [0.06 : 0.15]	0.07 [0.02 : 0.14]
Median proportion PA [IQR]	0.61 [0.59 : 0.76]	0.71 [0.58 : 0.92]	0.78 [0.66 : 0.95]	0.82 [0.65 : 0.93]	0.91 [0.7 : 0.99]	0.81 [0.74 : 0.99]	0.8 [0.64 : 0.94]
Max skin [IQR]	11 [7 : 13]	7 [3 : 18]	11 [5 : 23]	31 [12 : 40]	36 [10 : 52]	66 [38 : 109]	14 [6 : 38]
Screening time [IQR]	18.7 [10.3 : 29.9]	9.2 [4.4 : 27.4]	9.6 [4.9 : 16.8]	12.2 [8.3 : 17.4]	9.6 [4.2 : 16.2]	13.3 [9.4 : 21.2]	10.3 [5.1 : 18]
n	4	34	45	30	23	10	146

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		0.8	0.8 [0.5 : 1.9]	1.9 [0.8 : 6.1]	1.6 [0.9 : 2.4]	2.2 [1.4 : 5.6]	1.6 [0.8 : 3]
Mean P <sub>KA</sub> [STD]		0.8	1.1 [0.8]	4.7 [6]	2 [1.8]	5.3 [7.1]	3.3 [4.8]
Median P <sub>KA</sub> /kg [IQR]		0.11	0.05 [0.03 : 0.1]	0.06 [0.02 : 0.16]	0.03 [0.02 : 0.04]	0.03 [0.02 : 0.08]	0.04 [0.02 : 0.09]
Median proportion PA [IQR]		1	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]
Max skin [IQR]		20	20 [11 : 30]	37 [12 : 94]	26 [12 : 38]	32 [19 : 87]	28 [12 : 59]
Screening time [IQR]		9.3	8.8 [5.4 : 17.3]	13.1 [4.3 : 23.1]	6.5 [3.9 : 10.5]	7.7 [4.8 : 14.7]	8.1 [4.3 : 15]
n	0	1	10	27	29	12	79

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.3 [0.3 : 0.9]	1.3 [0.6 : 2.9]	1.9 [1 : 2.5]	7.1 [3.6 : 9.4]	10.7 [9 : 13.3]	71.5 [56.7 : 86.2]	2.4 [1 : 7.9]
<b>Mean P<sub>KA</sub> [STD]</b>	0.6 [0.7]	2 [1.9]	2.3 [2.2]	7.5 [4.8]	13.2 [6.3]	71.5 [20.9]	6.9 [13.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.09 [0.07 : 0.22]	0.16 [0.08 : 0.35]	0.12 [0.07 : 0.15]	0.24 [0.1 : 0.31]	0.22 [0.19 : 0.28]	0.81 [0.63 : 0.99]	0.19 [0.08 : 0.29]
<b>Median proportion PA [IQR]</b>	0.73 [0.64 : 1]	0.69 [0.45 : 0.86]	0.89 [0.71 : 0.94]	0.62 [0.47 : 0.78]	0.71 [0.61 : 0.92]	0.4 [0.18 : 0.62]	0.7 [0.51 : 0.9]
<b>Max skin [IQR]</b>	6 [4 : 10]	14 [8 : 33]	17 [15 : 34]	66 [32 : 76]	103 [70 : 174]	635 [504 : 766]	26 [12 : 69]
<b>Screening time [IQR]</b>	13.8 [9.5 : 16.2]	17.9 [9 : 29]	17.3 [13.3 : 23.5]	18.5 [12.6 : 26]	20.3 [16.3 : 25.2]	21.9 [11 : 32.9]	17.2 [12 : 26.3]
<b>n</b>	6	24	11	7	11	2	61

Hospital 1: 2002-2008 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.4 [0.2 : 1.6]	0.5 [0.2 : 1.4]	0.7 [0.3 : 3]	2.1 [0.9 : 5.3]	4.2 [1.5 : 10.9]	4.5 [2.3 : 8.4]	1.5 [0.4 : 3.9]
<b>Mean P<sub>KA</sub> [STD]</b>	1 [1.1]	1.1 [1.3]	2.3 [3.6]	5.2 [8.6]	8.8 [13.6]	7.7 [10.2]	4.1 [8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.09 [0.03 : 0.26]	0.04 [0.02 : 0.11]	0.03 [0.01 : 0.13]	0.04 [0.02 : 0.11]	0.08 [0.02 : 0.18]	0.09 [0.04 : 0.13]	0.05 [0.02 : 0.12]
<b>Median proportion PA [IQR]</b>	0.64 [0.53 : 0.87]	0.77 [0.61 : 0.92]	0.8 [0.51 : 0.96]	0.76 [0.41 : 0.96]	0.68 [0.44 : 0.93]	0.69 [0.42 : 0.94]	0.75 [0.51 : 0.94]
<b>Max skin [IQR]</b>	9 [3 : 23]	7 [3 : 16]	8 [3 : 34]	22 [10 : 52]	38 [11 : 97]	41 [27 : 78]	16 [6 : 42]
<b>Screening time [IQR]</b>	7.4 [4.2 : 17.4]	8 [4.5 : 12.7]	5.3 [3 : 15.3]	6.4 [4.1 : 12.4]	9.4 [4.4 : 17.2]	9.7 [7.7 : 19.5]	7.2 [4.1 : 13.5]
<b>n</b>	48	120	103	269	72	12	624

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.7 [0.5 : 1.3]	1.1 [0.5 : 2.2]	2.1 [0.9 : 5.6]	7.7 [3 : 17.2]	14.3 [5.1 : 26.2]	23.9 [6.1 : 38.2]	1.7 [0.7 : 5.8]
<b>Mean P<sub>KA</sub> [STD]</b>	1.1 [1.1]	1.9 [2.2]	4.5 [6.4]	14 [16.9]	18.8 [16]	42.3 [71.8]	6.3 [14.2]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.14 [0.09 : 0.26]	0.09 [0.04 : 0.17]	0.09 [0.04 : 0.26]	0.17 [0.07 : 0.37]	0.27 [0.1 : 0.43]	0.38 [0.09 : 0.69]	0.12 [0.06 : 0.27]
<b>Median proportion PA [IQR]</b>	0.52 [0.37 : 0.66]	0.51 [0.31 : 0.77]	0.59 [0.39 : 1]	0.51 [0.32 : 0.67]	0.51 [0.38 : 0.66]	0.53 [0.41 : 0.76]	0.52 [0.35 : 0.74]
<b>Max skin [IQR]</b>	15 [9 : 27]	16 [9 : 29]	25 [13 : 58]	72 [31 : 145]	127 [58 : 262]	173 [54 : 286]	24 [11 : 61]
<b>Screening time [IQR]</b>	10.4 [7.3 : 17.3]	9.5 [6.4 : 19.1]	12.6 [7.5 : 23.2]	16.1 [9.2 : 24.1]	15.4 [8.1 : 28.7]	13 [8.9 : 42.5]	11.5 [7.4 : 21.4]
<b>n</b>	312	353	227	289	57	17	1255

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.1 [0.6 : 1.8]	1.8 [1 : 3]	2.6 [1.6 : 4.8]	6.8 [3.7 : 13.4]	9.3 [5.6 : 16.7]	9.4 [5.6 : 29.5]	3.2 [1.5 : 7.4]
<b>Mean P<sub>KA</sub> [STD]</b>	1.4 [1.3]	2.4 [2]	3.9 [3.7]	10.5 [11.2]	13.3 [14.1]	17.7 [16.1]	6.4 [9.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.23 [0.13 : 0.36]	0.16 [0.08 : 0.25]	0.12 [0.08 : 0.2]	0.16 [0.1 : 0.29]	0.18 [0.11 : 0.29]	0.15 [0.1 : 0.37]	0.16 [0.09 : 0.28]
<b>Median proportion PA [IQR]</b>	0.59 [0.48 : 0.68]	0.57 [0.41 : 0.72]	0.49 [0.34 : 0.65]	0.41 [0.31 : 0.56]	0.38 [0.27 : 0.49]	0.45 [0.36 : 0.55]	0.48 [0.35 : 0.66]
<b>Max skin [IQR]</b>	18 [12 : 30]	22 [12 : 34]	26 [15 : 45]	55 [34 : 116]	83 [45 : 134]	71 [47 : 222]	34 [18 : 72]
<b>Screening time [IQR]</b>	13.6 [9.4 : 23.3]	12.5 [6.8 : 20.2]	10.1 [6.2 : 17.1]	10.3 [6.5 : 16.4]	10.1 [6 : 15]	13 [7.5 : 23.2]	11.2 [6.5 : 18.1]
<b>n</b>	142	258	208	358	94	18	1078

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	1.6 [1 : 2.2]	0.5 [0.3 : 0.8]	0.8 [0.5 : 1.2]	2 [1.2 : 3.4]	4.8 [1.9 : 10.2]	1.1 [1.1 : 1.1]	0.8 [0.5 : 1.8]
Mean P <sub>KA</sub> [STD]	1.6 [0.9]	0.7 [0.7]	1.1 [0.8]	2.9 [2.5]	6.2 [5.1]	1.1 [0]	1.5 [1.9]
Median P <sub>KA</sub> /kg [IQR]	0.36 [0.16 : 0.55]	0.03 [0.02 : 0.06]	0.04 [0.02 : 0.06]	0.06 [0.03 : 0.1]	0.09 [0.04 : 0.17]	0.02 [0.02 : 0.02]	0.04 [0.02 : 0.07]
Median proportion PA [IQR]	0.57 [0.54 : 0.6]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1 [0.93 : 1]	1 [1 : 1]	1 [1 : 1]
Max skin [IQR]	40 [18 : 61]	8 [5 : 14]	13 [9 : 19]	25 [15 : 46]	61 [26 : 82]	10 [10 : 10]	13 [8 : 22]
Screening time [IQR]	17.8 [12.4 : 23.1]	7.7 [4.5 : 10.2]	8.1 [6.2 : 11.4]	9.2 [4.4 : 15.6]	9.2 [7.9 : 20]	1.1 [1.1 : 1.1]	8.2 [5.3 : 12.2]
n	2	54	64	29	5	1	155

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.7 [0.4 : 0.9]	0.8 [0.5 : 1.3]	1.6 [0.7 : 1.9]	2.3 [1.5 : 4.2]	8.5 [5 : 10.2]		0.8 [0.5 : 1.3]
Mean P <sub>KA</sub> [STD]	0.8 [0.6]	1 [0.8]	1.7 [1.3]	5 [6.8]	7.7 [3.5]		1.2 [2]
Median P <sub>KA</sub> /kg [IQR]	0.11 [0.06 : 0.16]	0.07 [0.04 : 0.1]	0.05 [0.03 : 0.09]	0.05 [0.04 : 0.1]	0.16 [0.1 : 0.18]		0.07 [0.05 : 0.12]
Median proportion PA [IQR]	0.34 [0.24 : 0.41]	0.3 [0.22 : 0.39]	0.24 [0.12 : 0.38]	0.12 [0.07 : 0.24]	0.37 [0.28 : 0.38]		0.3 [0.21 : 0.39]
Max skin [IQR]	12 [8 : 20]	14 [10 : 21]	19 [12 : 25]	31 [24 : 52]	93 [48 : 98]		14 [10 : 23]
Screening time [IQR]	7.5 [6.2 : 10.5]	7.5 [5.3 : 10.5]	7.5 [6.2 : 9.8]	8.3 [6.5 : 13.9]	13 [8 : 23.7]		7.5 [6.1 : 10.5]
n	92	150	26	13	3	0	284

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.6 [0.4 : 1]	1.2 [0.8 : 2.4]	2 [1.2 : 2.8]	15.6 [3 : 19.7]	28.5 [28.5 : 28.5]	16.8	1 [0.6 : 2]
Mean P <sub>KA</sub> [STD]	0.9 [0.7]	1.9 [1.6]	2.2 [1.4]	13.2 [10.4]	28.5 [0]	16.8	2.8 [5.6]
Median P <sub>KA</sub> /kg [IQR]	0.12 [0.08 : 0.19]	0.11 [0.07 : 0.22]	0.1 [0.06 : 0.14]	0.11 [0.06 : 0.26]	0.45 [0.45 : 0.45]	0.22	0.12 [0.07 : 0.2]
Median proportion PA [IQR]	0.52 [0.43 : 0.62]	0.6 [0.53 : 0.69]	0.57 [0.48 : 0.79]	0.5 [0.47 : 0.56]	0.53 [0.53 : 0.53]	0.41	0.55 [0.46 : 0.63]
Max skin [IQR]	12 [8 : 21]	15 [10 : 32]	16 [12 : 29]	116 [24 : 174]	154 [154 : 154]	149	15 [9 : 29]
Screening time [IQR]	10.4 [8.1 : 16.7]	17.4 [9.8 : 19.9]	15.9 [9.5 : 24]	12.4 [8.9 : 21.8]	8.4 [8.4 : 8.4]	9.4	12.4 [8.5 : 18.9]
n	60	28	10	11	1	1	111

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.8 [0.5 : 1.1]	1.6 [0.8 : 2.4]	3.8 [2.3 : 4.3]	8.9 [5.4 : 14.5]	14.3 [7 : 14.8]		1.4 [0.7 : 7.1]
Mean P <sub>KA</sub> [STD]	0.8 [0.5]	1.6 [1.1]	3.4 [1.4]	13.2 [13]	11.3 [5.9]		5.4 [9.2]
Median P <sub>KA</sub> /kg [IQR]	0.17 [0.09 : 0.25]	0.16 [0.08 : 0.25]	0.09 [0.09 : 0.11]	0.22 [0.13 : 0.28]	0.19 [0.1 : 0.2]		0.17 [0.09 : 0.25]
Median proportion PA [IQR]	0.71 [0.59 : 0.78]	0.66 [0.65 : 0.66]	0.78 [0.78 : 0.78]	0.63 [0.54 : 0.67]	0.6 [0.59 : 0.63]		0.66 [0.58 : 0.77]
Max skin [IQR]	18 [9 : 26]	17 [10 : 23]	40 [24 : 42]	79 [41 : 127]	113 [50 : 118]		26 [14 : 60]
Screening time [IQR]	12.7 [7.2 : 26.8]	15.8 [8.2 : 23.5]	10.1 [9.5 : 13.4]	16.6 [11 : 22.8]	6.4 [6.2 : 12.4]		12.9 [7.9 : 23.7]
n	28	2	3	16	3	0	52

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	1.3 [0.7 : 1.9]	3.5 [2.1 : 6.6]	5.8 [4.3 : 9.7]	12 [5.8 : 28.7]	18.1 [11.1 : 30.6]		4.7 [2.1 : 9.3]
Mean P <sub>KA</sub> [STD]	1.6 [1.3]	4.3 [2.9]	8.6 [8.8]	19.2 [20.8]	19.8 [10.9]		8.8 [12.7]
Median P <sub>KA</sub> /kg [IQR]	0.3 [0.15 : 0.41]	0.26 [0.14 : 0.51]	0.28 [0.21 : 0.4]	0.28 [0.14 : 0.57]	0.32 [0.17 : 0.56]		0.29 [0.14 : 0.47]
Median proportion PA [IQR]	0.63 [0.49 : 0.7]	0.66 [0.55 : 0.77]	0.53 [0.37 : 0.64]	0.53 [0.43 : 0.67]	0.51 [0.45 : 0.61]		0.59 [0.46 : 0.73]
Max skin [IQR]	24 [13 : 38]	32 [22 : 76]	59 [39 : 111]	108 [46 : 208]	143 [78 : 290]		53 [25 : 105]
Screening time [IQR]	17.8 [11.1 : 31.2]	23.2 [17.9 : 40.6]	26.3 [16.5 : 34.5]	22.4 [15.4 : 30.8]	22.3 [16.3 : 37.1]		22.5 [15.7 : 34.4]
n	18	41	22	24	6	0	111

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.8 [0.5 : 1.6]	1.9 [1.7 : 2.2]	2 [1.6 : 2.6]	11.3 [5.3 : 21.4]	9 [2.6 : 15.3]	21.4	1.7 [0.7 : 3.4]
Mean P <sub>KA</sub> [STD]	1.2 [1]	2.1 [1.3]	2.1 [0.7]	15.8 [16.6]	9 [9]	21.4	5.2 [9.8]
Median P <sub>KA</sub> /kg [IQR]	0.18 [0.12 : 0.28]	0.14 [0.13 : 0.18]	0.09 [0.06 : 0.11]	0.19 [0.1 : 0.35]	0.15 [0.03 : 0.27]	0.3	0.16 [0.11 : 0.28]
Median proportion PA [IQR]	0.55 [0.49 : 0.62]	0.4 [0.38 : 0.66]	0.52 [0.41 : 0.61]	0.4 [0.3 : 0.52]	0.38 [0.17 : 0.59]	0.17	0.52 [0.4 : 0.61]
Max skin [IQR]	17 [11 : 32]	19 [17 : 27]	24 [19 : 40]	74 [49 : 241]	102 [15 : 189]	212	22 [15 : 48]
Screening time [IQR]	9.6 [7.4 : 13.8]	11.7 [9.1 : 14.5]	8.4 [6.4 : 15.8]	9.6 [8.2 : 13.3]	6.8 [1.2 : 12.4]	6.4	9.6 [7.4 : 13.8]
n	28	6	4	11	2	1	52

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2.9 [2.6 : 3.6]	1.9 [1.6 : 2.1]	0.8 [0.5 : 3.7]	3.5 [1.7 : 7.7]	5.1 [1.5 : 13.7]	8 [3.9 : 16.1]	3.3 [1.2 : 7.2]
Mean P <sub>KA</sub> [STD]	3.1 [0.6]	1.9 [0.4]	2.6 [3.5]	7.4 [11.7]	11.2 [17.1]	12.1 [14.9]	7.1 [11.9]
Median P <sub>KA</sub> /kg [IQR]	0.88 [0.78 : 0.99]	0.1 [0.08 : 0.12]	0.05 [0.01 : 0.12]	0.07 [0.03 : 0.15]	0.11 [0.03 : 0.23]	0.1 [0.05 : 0.41]	0.08 [0.03 : 0.16]
Median proportion PA [IQR]	0.43 [0.35 : 0.66]	0.36 [0.23 : 0.49]	0.29 [0.23 : 0.69]	0.39 [0.25 : 0.64]	0.39 [0.21 : 0.58]	0.48 [0.22 : 0.96]	0.37 [0.23 : 0.64]
Max skin [IQR]	66 [59 : 68]	34 [31 : 36]	12 [6 : 51]	37 [16 : 82]	48 [12 : 109]	72 [53 : 160]	36 [12 : 78]
Screening time [IQR]	28.1 [25.8 : 30.5]	14.1 [10 : 18.2]	12.6 [6 : 18.9]	11.4 [6.4 : 20]	13.3 [7.1 : 21.3]	22.6 [4.4 : 39.6]	12.6 [6.4 : 22.3]
n	3	2	31	101	27	5	169

Heart Biopsy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.2 [0.1 : 0.4]	0.3 [0.2 : 0.5]	0.4 [0.3 : 0.8]	1.6 [0.7 : 2.7]	1.8 [1.3 : 4.8]	2.4 [2 : 3.6]	0.8 [0.3 : 1.8]
Mean P <sub>KA</sub> [STD]	0.3 [0.3]	0.4 [0.3]	1 [2]	2.2 [2.5]	4.7 [5.7]	2.7 [0.9]	1.8 [2.9]
Median P <sub>KA</sub> /kg [IQR]	0.03 [0.02 : 0.05]	0.02 [0.02 : 0.04]	0.02 [0.01 : 0.04]	0.04 [0.02 : 0.05]	0.04 [0.02 : 0.09]	0.04 [0.04 : 0.07]	0.03 [0.02 : 0.05]
Median proportion PA [IQR]	0.81 [0.68 : 0.95]	0.83 [0.74 : 0.98]	0.88 [0.77 : 0.99]	0.87 [0.71 : 1]	0.81 [0.64 : 0.95]	0.86 [0.64 : 0.94]	0.85 [0.72 : 0.99]
Max skin [IQR]	3 [2 : 7]	4 [2 : 7]	4 [3 : 9]	15 [8 : 26]	17 [10 : 60]	31 [22 : 36]	9 [4 : 20]
Screening time [IQR]	7.2 [4.3 : 9.8]	6.1 [4.2 : 9.1]	4 [2.4 : 7.1]	5.4 [3.5 : 7.5]	5.4 [3.5 : 10.5]	9.1 [8.4 : 14.3]	5.4 [3.4 : 8.6]
n	17	79	51	141	35	5	328

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	1.7 [0.8 : 2]	1.8 [1.2 : 2.8]	2.6 [1.8 : 3.9]	7 [4 : 13.5]	9.7 [6.4 : 17.7]	8.2 [6.3 : 16.2]	4.8 [2.5 : 10.9]
Mean P <sub>KA</sub> [STD]	1.4 [0.8]	2.2 [1.5]	3.6 [3.2]	10.7 [10.2]	12.2 [7.4]	16.1 [16.9]	8.3 [9.1]
Median P <sub>KA</sub> /kg [IQR]	0.28 [0.17 : 0.29]	0.14 [0.09 : 0.19]	0.12 [0.08 : 0.17]	0.17 [0.11 : 0.28]	0.18 [0.12 : 0.29]	0.14 [0.1 : 0.33]	0.15 [0.1 : 0.25]
Median proportion PA [IQR]	0.52 [0.47 : 0.63]	0.36 [0.26 : 0.48]	0.35 [0.27 : 0.46]	0.36 [0.29 : 0.45]	0.34 [0.26 : 0.46]	0.36 [0.21 : 0.45]	0.36 [0.28 : 0.46]
Max skin [IQR]	24 [12 : 32]	25 [16 : 38]	27 [17 : 45]	58 [35 : 124]	85 [46 : 132]	69 [63 : 199]	45 [26 : 99]
Screening time [IQR]	14.1 [4.4 : 16.6]	9.3 [5.5 : 13.1]	7.4 [4.5 : 10.5]	9.3 [6.1 : 14.3]	8.1 [5.3 : 13.5]	9.6 [7.6 : 14.9]	8.6 [5.5 : 13.3]
n	3	65	102	227	66	11	474

PVR and pressure studies	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.5 [0.2 : 1.8]	0.7 [0.2 : 1.4]	1.2 [0.4 : 2.1]	3.6 [1.3 : 5.9]	5.5 [0.8 : 13.1]	5.6 [1.6 : 22.1]	1.3 [0.4 : 3.8]
Mean P <sub>KA</sub> [STD]	1.1 [1.3]	1.4 [2.2]	1.7 [1.6]	6.4 [13.9]	8.8 [10.5]	11.2 [14.5]	3.7 [9]
Median P <sub>KA</sub> /kg [IQR]	0.1 [0.04 : 0.3]	0.06 [0.02 : 0.13]	0.06 [0.02 : 0.12]	0.08 [0.03 : 0.13]	0.09 [0.02 : 0.22]	0.09 [0.03 : 0.25]	0.07 [0.02 : 0.14]
Median proportion PA [IQR]	0.66 [0.58 : 0.92]	0.72 [0.63 : 0.89]	0.8 [0.7 : 0.93]	0.86 [0.66 : 0.95]	0.96 [0.7 : 1]	0.81 [0.6 : 0.95]	0.81 [0.64 : 0.94]
Max skin [IQR]	9 [3 : 24]	9 [3 : 17]	12 [6 : 25]	34 [13 : 50]	47 [10 : 113]	47 [14 : 154]	14 [6 : 38]
Screening time [IQR]	10.2 [6.4 : 27.2]	9.4 [4.5 : 21.4]	11.2 [6.2 : 17.4]	11.8 [7.8 : 17.2]	11.3 [4.2 : 17]	6.3 [2.7 : 19]	10.2 [5.1 : 18]
n	16	42	30	48	8	3	147

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		0.5 [0.1 : 0.8]	1.9 [0.8 : 3.3]	1.7 [0.9 : 3.8]	1.4 [0.4 : 2.4]	1.9 [0.3 : 3.6]	1.6 [0.8 : 2.9]
Mean P <sub>KA</sub> [STD]		0.7 [0.8]	3.4 [4.1]	3.7 [5.4]	1.8 [2]	1.9 [2.3]	3.2 [4.7]
Median P <sub>KA</sub> /kg [IQR]		0.03 [0.02 : 0.12]	0.1 [0.06 : 0.12]	0.04 [0.02 : 0.08]	0.02 [0.01 : 0.04]	0.03 [0.01 : 0.06]	0.04 [0.02 : 0.09]
Median proportion PA [IQR]		1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]
Max skin [IQR]		12 [6 : 24]	29 [13 : 79]	29 [14 : 61]	21 [9 : 34]	40 [5 : 74]	26 [12 : 57]
Screening time [IQR]		5.3 [0.5 : 9.3]	13.1 [8.7 : 27]	7.5 [4.2 : 14]	5.2 [4.1 : 7.3]	8.2 [2.1 : 14.4]	7.8 [4.2 : 14.4]
n	0	6	11	53	10	2	82

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.9 [0.4 : 1.5]	1.9 [0.6 : 3.1]	2.1 [1.4 : 4.8]	10.6 [8.4 : 17]	11.6 [6.5 : 34.6]	1.7	2.1 [0.9 : 7.9]
Mean P <sub>KA</sub> [STD]	1.3 [1.5]	2.3 [2.1]	3.1 [2.7]	17.8 [19.8]	20.6 [24.5]	1.7	6.7 [13.2]
Median P <sub>KA</sub> /kg [IQR]	0.13 [0.09 : 0.24]	0.14 [0.06 : 0.29]	0.12 [0.07 : 0.2]	0.26 [0.2 : 0.4]	0.25 [0.15 : 0.45]	0.05	0.19 [0.08 : 0.29]
Median proportion PA [IQR]	0.66 [0.48 : 0.84]	0.76 [0.54 : 0.94]	0.84 [0.71 : 0.93]	0.62 [0.51 : 0.75]	0.89 [0.51 : 0.96]	0.72	0.69 [0.51 : 0.89]
Max skin [IQR]	13 [6 : 25]	17 [8 : 35]	25 [15 : 44]	101 [69 : 168]	142 [77 : 461]	13	26 [11 : 69]
Screening time [IQR]	14.1 [9 : 26.3]	18.5 [10.9 : 27.5]	17.4 [15.8 : 21.5]	22.4 [17.1 : 29.2]	14.2 [12 : 16]	6.1	17.2 [12 : 26.6]
n	20	21	4	15	4	1	65

Hospital 1: 2007-2010 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	1.3 [1 : 1.5]	0.7 [0.4 : 1]	0.9 [0.5 : 1.9]	1.6 [0.8 : 5.2]	7 [1.4 : 11.7]	5.8 [2.6 : 11.5]	1.3 [0.7 : 4.7]
Mean P <sub>KA</sub> [STD]	1.2 [0.4]	0.7 [0.5]	1.8 [2.7]	5.3 [8]	7.6 [6.5]	7.2 [5.8]	4.1 [5.9]
Median P <sub>KA</sub> /kg [IQR]	0.44 [0.33 : 0.45]	0.07 [0.05 : 0.11]	0.05 [0.03 : 0.1]	0.06 [0.02 : 0.16]	0.16 [0.03 : 0.22]	0.08 [0.03 : 0.15]	0.07 [0.03 : 0.17]
Median proportion PA [IQR]	0.64 [0.56 : 0.71]	0.7 [0.64 : 0.83]	0.79 [0.58 : 0.86]	0.72 [0.48 : 0.87]	0.65 [0.49 : 0.94]	0.67 [0.53 : 0.78]	0.71 [0.56 : 0.85]
Max skin [IQR]	29 [19 : 42]	9 [8 : 15]	13 [5 : 23]	15 [6 : 59]	73 [15 : 104]	54 [25 : 93]	15 [8 : 50]
Screening time [IQR]	24.6 [11.3 : 37.2]	9.4 [6.2 : 15.3]	9.3 [4.9 : 13]	6.6 [4.2 : 10.4]	6.1 [3.3 : 9.5]	4.7 [3.2 : 13.2]	7.3 [4.2 : 12.1]
n	4	13	25	23	17	8	90

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.5 [0.2 : 0.8]	0.7 [0.5 : 1.4]	2.2 [1.1 : 4.5]	9.2 [3.4 : 27.2]	12.9 [5.4 : 30.9]	22.5 [13.6 : 53.9]	2.4 [0.7 : 10]
Mean P <sub>KA</sub> [STD]	0.7 [0.8]	1.5 [2.3]	3.7 [4.6]	19.2 [23.6]	29.5 [40.2]	35.2 [31.8]	11.3 [23.7]
Median P <sub>KA</sub> /kg [IQR]	0.12 [0.07 : 0.21]	0.09 [0.06 : 0.18]	0.11 [0.06 : 0.24]	0.3 [0.08 : 0.84]	0.25 [0.1 : 0.53]	0.29 [0.2 : 0.67]	0.13 [0.07 : 0.31]
Median proportion PA [IQR]	0.59 [0.41 : 0.66]	0.55 [0.36 : 0.7]	0.64 [0.49 : 0.84]	0.67 [0.53 : 0.8]	0.57 [0.41 : 0.71]	0.58 [0.47 : 0.75]	0.6 [0.45 : 0.74]
Max skin [IQR]	11 [7 : 21]	13 [8 : 24]	28 [16 : 56]	84 [39 : 188]	116 [52 : 231]	184 [96 : 314]	30 [12 : 93]
Screening time [IQR]	9.2 [6.7 : 15.3]	8.4 [5.4 : 14.3]	11.1 [8.1 : 17.9]	13.3 [8.6 : 24.3]	17.4 [9.1 : 25.8]	15.5 [10.5 : 23.1]	11.2 [7.1 : 19.9]
n	27	101	75	46	52	22	323

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.7 [0.3 : 1.1]	0.8 [0.5 : 1.7]	1.3 [0.7 : 2.5]	5.9 [2.9 : 11.9]	8.5 [5.6 : 16]	16.2 [8.3 : 31]	2.8 [1 : 8.4]
Mean P <sub>KA</sub> [STD]	0.7 [0.6]	1.4 [1.5]	2 [2.2]	8.2 [8.2]	14.1 [17.2]	22.2 [18.4]	7.5 [12.3]
Median P <sub>KA</sub> /kg [IQR]	0.14 [0.07 : 0.3]	0.1 [0.06 : 0.2]	0.07 [0.05 : 0.15]	0.16 [0.09 : 0.33]	0.17 [0.11 : 0.3]	0.24 [0.13 : 0.46]	0.13 [0.06 : 0.26]
Median proportion PA [IQR]	0.69 [0.6 : 0.77]	0.7 [0.58 : 0.78]	0.64 [0.4 : 0.79]	0.56 [0.3 : 0.73]	0.59 [0.42 : 0.81]	0.63 [0.48 : 0.84]	0.63 [0.44 : 0.78]
Max skin [IQR]	7 [6 : 16]	14 [8 : 25]	15 [9 : 27]	56 [25 : 109]	68 [47 : 105]	131 [87 : 205]	29 [13 : 77]
Screening time [IQR]	8.3 [4.2 : 11.9]	11.4 [7.3 : 18.8]	7.4 [4.1 : 11.5]	9.3 [6.1 : 18.9]	8.7 [6.8 : 12.7]	12.4 [9.1 : 16.5]	9.3 [5.6 : 15.4]
n	11	43	58	48	44	22	226

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		0.3 [0.2 : 1.4]	1 [0.4 : 1.6]	1.8 [1 : 4.2]	4.9 [3 : 5.9]	81.9	1.4 [0.4 : 4]
Mean P <sub>KA</sub> [STD]		1.1 [1.6]	1.2 [1]	2.9 [2.6]	5 [3]	81.9	4.8 [14.1]
Median P <sub>KA</sub> /kg [IQR]		0.03 [0.02 : 0.12]	0.05 [0.03 : 0.08]	0.05 [0.03 : 0.12]	0.1 [0.05 : 0.1]	0.84	0.05 [0.03 : 0.1]
Median proportion PA [IQR]		1 [0.78 : 1]	1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1	1 [1 : 1]
Max skin [IQR]		6 [3 : 18]	17 [6 : 26]	24 [19 : 65]	51 [40 : 75]	668	21 [8 : 48]
Screening time [IQR]		8.3 [2.6 : 17.5]	9.4 [4.4 : 11.1]	7 [3.9 : 10]	8.8 [5.1 : 22]	13.6	8.1 [4.1 : 12.7]
n	0	6	11	9	6	1	33

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.4 [0.2 : 0.6]	0.6 [0.4 : 0.8]	1.3 [0.9 : 3.2]	3 [2.8 : 3]			0.7 [0.5 : 1.3]
Mean P <sub>KA</sub> [STD]	0.6 [0.6]	1.1 [2.8]	3.1 [6.6]	2.9 [0.2]			1.7 [4.2]
Median P <sub>KA</sub> /kg [IQR]	0.09 [0.06 : 0.13]	0.08 [0.05 : 0.1]	0.08 [0.05 : 0.15]	0.08 [0.07 : 0.08]			0.08 [0.05 : 0.12]
Median proportion PA [IQR]	0.47 [0.39 : 0.57]	0.39 [0.28 : 0.5]	0.37 [0.27 : 0.49]	0.37 [0.29 : 0.4]			0.4 [0.27 : 0.5]
Max skin [IQR]	9 [3 : 15]	10 [7 : 15]	21 [16 : 35]	39 [30 : 50]			14 [8 : 24]
Screening time [IQR]	6.8 [4.5 : 11.4]	6.5 [4.5 : 9]	7.5 [5.3 : 10.5]	6.3 [6.3 : 8]			6.6 [5 : 9.2]
n	6	35	18	3	0	0	62

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.7 [0.2 : 1]	0.7 [0.4 : 1]	1.3 [1 : 1.9]	11.2 [3.4 : 59]		37.4 [15.6 : 59.1]	0.8 [0.5 : 1.7]
Mean P <sub>KA</sub> [STD]	1.2 [1.6]	0.8 [0.5]	1.4 [0.6]	31.2 [47]		37.4 [30.7]	6.5 [19.4]
Median P <sub>KA</sub> /kg [IQR]	0.19 [0.05 : 0.72]	0.08 [0.06 : 0.11]	0.09 [0.06 : 0.1]	0.32 [0.09 : 1.74]		0.52 [0.23 : 0.8]	0.09 [0.06 : 0.21]
Median proportion PA [IQR]	0.52 [0.33 : 0.63]	0.55 [0.49 : 0.72]	0.61 [0.56 : 0.67]	0.74 [0.69 : 0.8]		0.73 [0.65 : 0.82]	0.61 [0.49 : 0.72]
Max skin [IQR]	17 [5 : 27]	13 [7 : 19]	19 [11 : 24]	68 [34 : 439]		312 [194 : 430]	16 [7 : 31]
Screening time [IQR]	13.9 [6.5 : 32]	10.3 [6.2 : 12.6]	9.2 [7 : 11.4]	14 [9.8 : 73.9]		33.8 [31.2 : 36.3]	10.5 [7.2 : 16.5]
n	6	18	5	4	0	2	35

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.3 [0.3 : 0.4]	1.1 [0.5 : 3.2]	3.5	5.9	12.5 [8.5 : 17.8]	24.4 [9.1 : 39]	4.9 [1.1 : 13.7]
Mean P <sub>KA</sub> [STD]	0.3 [0.1]	1.8 [1.9]	3.5	5.9	13.2 [6.7]	24.1 [20]	10 [12.5]
Median P <sub>KA</sub> /kg [IQR]	0.09 [0.06 : 0.12]	0.11 [0.07 : 0.37]	0.2	0.19	0.25 [0.16 : 0.34]	0.34 [0.12 : 0.55]	0.2 [0.1 : 0.34]
Median proportion PA [IQR]	0.66 [0.6 : 0.73]	0.69 [0.24 : 0.72]	0.84	0.77	0.62 [0.51 : 0.69]	0.75 [0.53 : 0.8]	0.71 [0.6 : 0.75]
Max skin [IQR]	10 [8 : 11]	18 [9 : 66]	41	66	113 [72 : 140]	186 [77 : 245]	54 [18 : 118]
Screening time [IQR]	6.9 [5.4 : 8.5]	7.3 [4.3 : 10.5]	12.2	11.2	8.7 [6.7 : 11.2]	10.5 [4.6 : 17]	8.8 [5.4 : 11.6]
n	2	3	1	1	4	3	14

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.4 [0.2 : 0.7]	1.5 [0.7 : 2.6]	5.6 [4.5 : 7.4]	20.3 [11.8 : 39.2]	25.8 [14.9 : 106.1]	27.2	4.7 [1.9 : 11.4]
Mean P <sub>KA</sub> [STD]	0.4 [0.4]	1.7 [1.3]	6.6 [3.1]	27.9 [23.9]	60.5 [83.4]	27.2	13.7 [31.2]
Median P <sub>KA</sub> /kg [IQR]	0.14 [0.07 : 0.22]	0.16 [0.08 : 0.28]	0.31 [0.25 : 0.34]	0.65 [0.36 : 1.09]	0.49 [0.29 : 2.1]	0.41	0.3 [0.19 : 0.46]
Median proportion PA [IQR]	0.55 [0.42 : 0.68]	0.69 [0.53 : 0.84]	0.65 [0.55 : 0.85]	0.63 [0.55 : 0.76]	0.75 [0.65 : 0.77]	0.68	0.68 [0.55 : 0.82]
Max skin [IQR]	14 [4 : 24]	22 [12 : 34]	56 [47 : 64]	126 [106 : 343]	197 [122 : 920]		54 [30 : 110]
Screening time [IQR]	10 [6.4 : 13.5]	12.5 [6.8 : 26.6]	15.4 [15.1 : 27.2]	22.5 [17.2 : 27.6]	14.3 [9.4 : 24.9]	15.5	15.4 [10.5 : 25.2]
n	2	12	14	5	4	1	38

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.4 [0.2 : 0.5]	0.5 [0.5 : 1.4]	1.8 [0.8 : 4.5]	4.8 [3.5 : 6.2]	13.7 [9.3 : 15.8]	10.1	3.7 [0.5 : 10.6]
Mean P <sub>KA</sub> [STD]	0.4 [0.2]	0.9 [0.7]	2.6 [2.5]	4.8 [1.9]	12.5 [5.6]	10.1	5.8 [6.1]
Median P <sub>KA</sub> /kg [IQR]	0.09 [0.08 : 0.11]	0.08 [0.08 : 0.15]	0.09 [0.05 : 0.2]	0.14 [0.08 : 0.19]	0.25 [0.2 : 0.29]	0.14	0.12 [0.08 : 0.24]
Median proportion PA [IQR]	0.49 [0.38 : 0.59]	0.62 [0.38 : 0.64]	0.7 [0.65 : 0.8]	0.5 [0.33 : 0.67]	0.46 [0.44 : 0.5]	0.61	0.55 [0.42 : 0.64]
Max skin [IQR]	11 [8 : 13]	8 [6 : 25]	23 [11 : 55]	50 [36 : 64]	148 [86 : 179]	58	38 [11 : 84]
Screening time [IQR]	10.9 [7.4 : 14.5]	7.1 [5.2 : 10.2]	9.4 [8.5 : 12.9]	9.1 [9.1 : 9.2]	8.1 [6.3 : 9.1]	8.4	8.7 [7.3 : 9.3]
n	2	3	3	2	5	1	16

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			1.5 [0.9 : 1.9]	3.5 [1.4 : 5.1]	5.4 [3.6 : 11.6]	14.6 [2.3 : 16.1]	4.3 [1.6 : 10.9]
Mean P <sub>KA</sub> [STD]			1.5 [0.8]	3.2 [2.2]	9.6 [8.9]	12.8 [11.8]	7.7 [8.8]
Median P <sub>KA</sub> /kg [IQR]			0.07 [0.04 : 0.09]	0.09 [0.04 : 0.15]	0.1 [0.06 : 0.23]	0.19 [0.03 : 0.22]	0.1 [0.05 : 0.19]
Median % PA [IQR]			0.32 [0.28 : 0.49]	0.28 [0.17 : 0.65]	0.34 [0.25 : 0.62]	0.45 [0.23 : 0.71]	0.35 [0.24 : 0.65]
Max skin [IQR]			19 [10 : 24]	23 [12 : 57]	48 [27 : 96]	119 [17 : 164]	38 [18 : 92]
Screening time [IQR]			15.5 [10.3 : 34.1]	14.3 [8.4 : 28.1]	22.3 [12.2 : 27.2]	16.6 [11.5 : 28.9]	18.7 [10.8 : 28.1]
n	0	0	7	9	19	9	44

Heart Biopsy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		0.5 [0.2 : 1]	0.7 [0.3 : 0.9]	1.3 [0.5 : 3.2]	2.3 [1.3 : 9.8]	4.7 [1.8 : 9]	1.2 [0.6 : 3.1]
Mean P <sub>KA</sub> [STD]		0.6 [0.6]	0.7 [0.4]	2.4 [3.5]	4.7 [4.6]	5.8 [4.5]	2.8 [3.7]
Median P <sub>KA</sub> /kg [IQR]		0.05 [0.03 : 0.11]	0.04 [0.02 : 0.05]	0.04 [0.02 : 0.08]	0.05 [0.03 : 0.17]	0.06 [0.02 : 0.11]	0.04 [0.02 : 0.07]
Median proportion PA [IQR]		0.73 [0.45 : 0.86]	0.84 [0.73 : 0.94]	0.83 [0.71 : 0.88]	0.77 [0.54 : 0.95]	0.68 [0.63 : 0.82]	0.81 [0.65 : 0.88]
Max skin [IQR]		11 [5 : 18]	10 [3 : 14]	9 [5 : 24]	20 [14 : 82]	50 [16 : 65]	13 [7 : 27]
Screening time [IQR]		8.7 [5.5 : 16.1]	5.1 [3.3 : 9.4]	4.4 [3.2 : 7.4]	5.3 [2.5 : 6.7]	4.1 [2.7 : 6.1]	5.2 [3.2 : 7.6]
n	0	4	14	16	12	7	53

Coronary angiography	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		1.4 [0.8 : 2.1]	1.5 [1 : 1.9]	5.5 [3.8 : 11.8]	10.1 [7.1 : 17.2]	25.9 [16.2 : 49.8]	6 [2 : 14.7]
Mean P <sub>KA</sub> [STD]		2.1 [2.3]	1.6 [0.8]	7.1 [4.4]	14.9 [13]	30.4 [21]	10.9 [14]
Median P <sub>KA</sub> /kg [IQR]		0.16 [0.08 : 0.18]	0.08 [0.06 : 0.1]	0.17 [0.1 : 0.31]	0.21 [0.13 : 0.37]	0.35 [0.23 : 0.52]	0.17 [0.09 : 0.3]
Median proportion PA [IQR]		0.46 [0.25 : 0.65]	0.35 [0.27 : 0.42]	0.31 [0.24 : 0.51]	0.48 [0.35 : 0.6]	0.6 [0.5 : 0.69]	0.42 [0.29 : 0.58]
Max skin [IQR]		23 [12 : 39]	19 [12 : 25]	64 [41 : 82]	75 [56 : 133]	154 [120 : 268]	58 [26 : 117]
Screening time [IQR]		10.9 [6.4 : 15.5]	4.1 [3.3 : 7]	7.5 [6.1 : 11.7]	8.4 [7.1 : 12]	12.6 [9.3 : 13.3]	8.4 [5.3 : 12.4]
n	0	8	17	17	25	10	77



PVR and pressure studies	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.2 [0.2 : 0.3]	0.6 [0.3 : 1.2]	1 [0.5 : 1.5]	4.4 [2 : 10.3]	5.7 [2.6 : 11.9]	14.5 [4 : 28.5]	1.3 [0.6 : 4.3]
Mean P <sub>KA</sub> [STD]	0.2 [0.1]	1 [1.1]	1.7 [2.3]	6.7 [6.2]	13.3 [23.4]	16.1 [16.4]	5.1 [11.5]
Median P <sub>KA</sub> /kg [IQR]	0.05 [0.03 : 0.06]	0.08 [0.04 : 0.21]	0.05 [0.02 : 0.08]	0.11 [0.05 : 0.26]	0.12 [0.05 : 0.22]	0.18 [0.05 : 0.38]	0.07 [0.04 : 0.18]
Median proportion PA [IQR]	0.68 [0.58 : 0.77]	0.74 [0.63 : 0.85]	0.79 [0.65 : 0.87]	0.72 [0.45 : 0.87]	0.92 [0.79 : 1]	0.84 [0.55 : 0.96]	0.78 [0.64 : 0.89]
Max skin [IQR]	5 [4 : 5]	11 [6 : 19]	12 [6 : 16]	43 [15 : 121]	37 [23 : 69]	87 [26 : 239]	15 [7 : 40]
Screening time [IQR]	10.4 [9.3 : 11.6]	14.2 [8.2 : 17.8]	9.4 [4.5 : 14.2]	10.9 [6.9 : 13.6]	9.2 [4.3 : 10.2]	11.5 [3.2 : 20.5]	9.4 [5.5 : 14.9]
n	2	13	23	11	11	3	63

Valve replacement	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			10 [5.3 : 14.7]	28.8 [26.5 : 44.7]	70.3 [31.1 : 111.2]	48.7 [34.5 : 87.5]	36 [26.7 : 76.3]
Mean P <sub>KA</sub> [STD]			10 [6.6]	38.5 [21.5]	73.9 [44.5]	61 [37.3]	53 [38]
Median P <sub>KA</sub> /kg [IQR]			0.45 [0.3 : 0.59]	1.01 [0.75 : 1.27]	1.56 [0.57 : 2.02]	0.7 [0.51 : 1.13]	0.9 [0.58 : 1.6]
Median proportion PA [IQR]			0.66 [0.54 : 0.78]	0.59 [0.51 : 0.65]	0.58 [0.45 : 0.62]	0.55 [0.52 : 0.6]	0.58 [0.51 : 0.63]
Max skin [IQR]			84 [42 : 125]	217 [178 : 350]	418 [203 : 792]	307 [197 : 571]	234 [179 : 448]
Screening time [IQR]			18.6 [9.6 : 27.7]	27 [21 : 43.1]	25.2 [18.9 : 46.2]	20.6 [19.1 : 24.8]	25.2 [19.1 : 39.4]
n	0	0	2	12	11	4	29

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			2.7 [1.2 : 4.1]	0.9	3.5 [1.6 : 6.4]		3.2 [1 : 4]
Mean P <sub>KA</sub> [STD]			2.7 [2]	0.9	4 [3.7]		3.2 [3]
Median P <sub>KA</sub> /kg [IQR]			0.16 [0.06 : 0.25]	0.03	0.06 [0.03 : 0.12]		0.06 [0.03 : 0.14]
Median proportion PA [IQR]			1 [1 : 1]	1	1 [1 : 1]		1 [1 : 1]
Max skin [IQR]			53 [23 : 83]	10	42 [18 : 80]		34 [13 : 75]
Screening time [IQR]			19.2 [14 : 24.3]	5.4	8 [2.9 : 12.8]		10.4 [5.4 : 14.9]
n	0	0	2	1	4	0	7

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		2.6 [1.2 : 4]	2.9 [1.9 : 4.3]	12.5		34.8 [15.7 : 53.9]	4 [2 : 14.9]
Mean P <sub>KA</sub> [STD]		2.6 [2]	4.9 [5.4]	12.5		34.8 [27]	10.6 [15.4]
Median P <sub>KA</sub> /kg [IQR]		0.4 [0.13 : 0.67]	0.17 [0.11 : 0.23]	0.32		0.46 [0.24 : 0.67]	0.23 [0.12 : 0.58]
Median proportion PA [IQR]		0.65 [0.6 : 0.71]	0.81 [0.71 : 0.85]	0.67		0.65 [0.47 : 0.83]	0.71 [0.62 : 0.84]
Max skin [IQR]		29 [14 : 43]	33 [29 : 44]	81		234 [154 : 314]	43 [29 : 105]
Screening time [IQR]		19.7 [18 : 21.4]	15.8 [10.5 : 22.6]	24.3		13 [10.6 : 15.5]	17.5 [11.5 : 22.3]
n	0	2	6	1	0	2	11

Hospital 1: 2007-2010 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.7 [0.4 : 1.2]	0.9 [0.5 : 1.2]	0.8 [0.4 : 1.7]	3.9 [1.4 : 10.5]	4.7 [1 : 10]	12 [12 : 12]	1.4 [0.7 : 4.8]
Mean P <sub>KA</sub> [STD]	0.8 [0.5]	1.6 [3]	1.3 [1.2]	6.5 [6.3]	7.6 [9.4]	12 [0]	4.1 [5.8]
Median P <sub>KA</sub> /kg [IQR]	0.21 [0.06 : 0.44]	0.07 [0.03 : 0.11]	0.04 [0.02 : 0.09]	0.08 [0.03 : 0.21]	0.09 [0.01 : 0.17]	0.21 [0.21 : 0.21]	0.07 [0.03 : 0.17]
Median proportion PA [IQR]	0.68 [0.56 : 0.7]	0.79 [0.62 : 0.84]	0.75 [0.56 : 0.9]	0.65 [0.45 : 0.84]	0.72 [0.59 : 0.85]	0.98 [0.98 : 0.98]	0.71 [0.55 : 0.85]
Max skin [IQR]	12 [6 : 23]	14 [8 : 18]	10 [5 : 23]	35 [14 : 103]	50 [8 : 89]	113 [113 : 113]	15 [8 : 50]
Screening time [IQR]	9.8 [4.4 : 26.2]	11.1 [6.6 : 13.9]	7.8 [4.2 : 13]	6.3 [4.1 : 10.6]	5.3 [4.4 : 8.5]	7.4 [7.4 : 7.4]	7.3 [4.4 : 12.5]
n	10	19	20	36	11	1	97

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.5 [0.4 : 0.9]	1.3 [0.6 : 2.4]	4 [1.7 : 8.5]	13.7 [5.3 : 35.4]	24 [8.3 : 32]	10.8 [6.1 : 48.2]	2.2 [0.7 : 9.7]
Mean P <sub>KA</sub> [STD]	1 [2]	1.9 [1.9]	10.7 [25.9]	26.3 [30.8]	31 [31.9]	25.3 [30.7]	11 [23.2]
Median P <sub>KA</sub> /kg [IQR]	0.09 [0.06 : 0.15]	0.1 [0.05 : 0.21]	0.2 [0.09 : 0.42]	0.28 [0.12 : 0.68]	0.37 [0.12 : 0.61]	0.21 [0.13 : 1.33]	0.13 [0.07 : 0.31]
Median proportion PA [IQR]	0.55 [0.41 : 0.66]	0.62 [0.44 : 0.83]	0.67 [0.49 : 0.81]	0.57 [0.45 : 0.71]	0.62 [0.5 : 0.72]	0.63 [0.57 : 0.8]	0.59 [0.44 : 0.74]
Max skin [IQR]	11 [7 : 18]	21 [11 : 35]	56 [24 : 92]	114 [44 : 247]	173 [77 : 227]	98 [56 : 298]	28 [12 : 91]
Screening time [IQR]	8 [5.5 : 13.2]	10.1 [5.5 : 17.3]	13.3 [9.2 : 20.5]	14.3 [8.4 : 24.3]	19.8 [12.9 : 30.2]	24.4 [14.1 : 41]	11.2 [7.1 : 19.2]
n	94	88	63	82	24	3	354

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.6 [0.3 : 1.1]	1.2 [0.6 : 2.5]	1.6 [1 : 4.5]	8.3 [5.3 : 15.7]	8.7 [3.2 : 19.6]		2.8 [1 : 8.3]
Mean P <sub>KA</sub> [STD]	1.1 [1.6]	1.9 [2.2]	3.6 [4.4]	13.8 [16.5]	13.5 [13.4]		7.4 [12.1]
Median P <sub>KA</sub> /kg [IQR]	0.13 [0.08 : 0.23]	0.08 [0.05 : 0.21]	0.07 [0.05 : 0.17]	0.18 [0.11 : 0.35]	0.13 [0.06 : 0.35]		0.13 [0.06 : 0.26]
Median proportion PA [IQR]	0.66 [0.59 : 0.76]	0.74 [0.55 : 0.83]	0.52 [0.3 : 0.67]	0.54 [0.4 : 0.78]	0.69 [0.57 : 0.85]		0.63 [0.44 : 0.78]
Max skin [IQR]	11 [7 : 17]	14 [8 : 30]	19 [11 : 39]	72 [44 : 133]	73 [24 : 147]		28 [12 : 77]
Screening time [IQR]	9.3 [6.7 : 17.3]	9.4 [5.4 : 18.8]	7.3 [4.4 : 14.7]	11.2 [7.2 : 15.7]	8.2 [4.1 : 13.1]		9.3 [5.4 : 15.4]
n	25	62	48	77	30	0	242

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		0.5 [0.2 : 1.3]	1.1 [0.7 : 2.8]	5.3 [3.1 : 9]	1.3	4.6	1.4 [0.4 : 4]
Mean P <sub>KA</sub> [STD]		1.1 [1.4]	2.1 [2.3]	15.9 [29.2]	1.3	4.6	4.8 [14.1]
Median P <sub>KA</sub> /kg [IQR]		0.04 [0.02 : 0.1]	0.05 [0.03 : 0.1]	0.09 [0.06 : 0.18]	0.02	0.1	0.05 [0.03 : 0.1]
Median proportion PA [IQR]		1 [1 : 1]	1 [1 : 1]	1 [1 : 1]	1	0.85	1 [1 : 1]
Max skin [IQR]		8 [3 : 20]	21 [10 : 49]	59 [43 : 74]	17	42	21 [8 : 48]
Screening time [IQR]		4.4 [3.4 : 16.2]	9 [4.1 : 11.6]	8.1 [5.9 : 12.8]	3.3	24.4	8.1 [4.1 : 12.7]
n	0	11	13	7	1	1	33

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.6 [0.3 : 0.8]	0.8 [0.5 : 1.2]	3.2 [1.6 : 3.9]	3 [3 : 3.3]			0.7 [0.5 : 1.2]
Mean P <sub>KA</sub> [STD]	1.1 [3.1]	0.9 [0.5]	6.3 [10.1]	3.1 [0.3]			1.7 [4.1]
Median P <sub>KA</sub> /kg [IQR]	0.09 [0.06 : 0.12]	0.06 [0.05 : 0.09]	0.19 [0.08 : 0.22]	0.08 [0.07 : 0.13]			0.08 [0.05 : 0.12]
Median proportion PA [IQR]	0.42 [0.29 : 0.54]	0.32 [0.21 : 0.48]	0.3 [0.27 : 0.59]	0.37 [0.22 : 0.4]			0.39 [0.27 : 0.5]
Max skin [IQR]	10 [7 : 15]	15 [10 : 23]	54 [25 : 66]	39 [30 : 56]			15 [8 : 25]
Screening time [IQR]	6.8 [4.5 : 9.2]	6.6 [4.3 : 8.7]	6.3 [5.4 : 21.1]	6.3 [5.3 : 8]			6.5 [4.9 : 9.3]
n	30	25	7	3	0	0	65

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.5 [0.4 : 0.8]	1.4 [1 : 1.8]	3.5 [2.5 : 5.9]	16.3 [10.5 : 59]	59.1		0.8 [0.5 : 2.2]
Mean P <sub>KA</sub> [STD]	0.7 [0.9]	1.4 [0.6]	4.1 [2.4]	34.8 [44.5]	59.1		5.9 [18]
Median P <sub>KA</sub> /kg [IQR]	0.07 [0.05 : 0.15]	0.09 [0.06 : 0.12]	0.1 [0.1 : 0.1]	0.37 [0.18 : 1.74]	0.8		0.09 [0.06 : 0.21]
Median proportion PA [IQR]	0.52 [0.47 : 0.65]	0.73 [0.61 : 0.83]	0.52 [0.41 : 0.59]	0.74 [0.69 : 0.79]	0.65		0.61 [0.49 : 0.72]
Max skin [IQR]	8 [6 : 18]	20 [13 : 35]	37 [33 : 57]	144 [68 : 489]	430		16 [7 : 35]
Screening time [IQR]	9.6 [5.6 : 14.2]	9.9 [9 : 12.2]	11.1 [9.6 : 17.4]	23.4 [9.8 : 83.3]	31.2		10.5 [7 : 15]
n	23	10	3	4	1	0	41

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.3 [0.3 : 0.4]	2.5 [1.1 : 4]	4.7 [3.5 : 5.9]	13.7 [9.9 : 27.5]	14.2 [4 : 24.4]		4 [0.6 : 13.1]
Mean P <sub>KA</sub> [STD]	0.3 [0.1]	2.5 [2]	4.7 [1.7]	19.3 [14.9]	14.2 [14.4]		9.4 [12.3]
Median P <sub>KA</sub> /kg [IQR]	0.06 [0.06 : 0.11]	0.28 [0.11 : 0.45]	0.2 [0.19 : 0.2]	0.29 [0.18 : 0.45]	0.19 [0.04 : 0.34]		0.2 [0.1 : 0.34]
Median proportion PA [IQR]	0.69 [0.64 : 0.71]	0.41 [0.09 : 0.73]	0.8 [0.77 : 0.84]	0.61 [0.44 : 0.66]	0.78 [0.75 : 0.82]		0.69 [0.6 : 0.75]
Max skin [IQR]	10 [7 : 11]	50 [18 : 82]	54 [41 : 66]	118 [90 : 188]	113 [40 : 186]		41 [13 : 116]
Screening time [IQR]	6.4 [5.4 : 7.9]	7.4 [3.3 : 11.6]	11.7 [11.2 : 12.2]	9.1 [7.5 : 14.9]	6.6 [2.6 : 10.5]		8.5 [5.4 : 11.5]
n	4	2	2	5	2	0	15

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.7 [0.4 : 1]	3.5 [2.4 : 4.6]	6.9 [5.1 : 10.3]	24.2 [8.8 : 29]	27.2		4.6 [1.9 : 8.9]
Mean P <sub>KA</sub> [STD]	0.8 [0.6]	3.8 [2.7]	21.6 [49.2]	25.1 [21.4]	27.2		12.5 [29.5]
Median P <sub>KA</sub> /kg [IQR]	0.08 [0.07 : 0.2]	0.27 [0.24 : 0.34]	0.31 [0.29 : 0.65]	0.46 [0.33 : 0.82]	0.41		0.3 [0.19 : 0.46]
Median proportion PA [IQR]	0.68 [0.45 : 0.86]	0.7 [0.57 : 0.86]	0.66 [0.55 : 0.8]	0.63 [0.55 : 0.74]	0.68		0.68 [0.56 : 0.82]
Max skin [IQR]	13 [8 : 25]	47 [29 : 57]	64 [54 : 109]	163 [92 : 281]	191		52 [28 : 106]
Screening time [IQR]	9.5 [6.2 : 13.9]	15.4 [12.2 : 27.4]	15.4 [14.6 : 24]	15.5 [11.6 : 20.9]	15.5		15.3 [10.3 : 24.5]
n	9	13	13	7	1	0	43

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.5 [0.5 : 1]	0.5	5.4 [2.7 : 6]	11.2 [5.4 : 14.5]			3.5 [0.5 : 10.4]
Mean P <sub>KA</sub> [STD]	0.7 [0.6]	0.5	4.5 [2.4]	10.9 [5.7]			5.6 [6]
Median P <sub>KA</sub> /kg [IQR]	0.08 [0.08 : 0.12]	0.03	0.19 [0.12 : 0.23]	0.25 [0.1 : 0.27]			0.12 [0.08 : 0.24]
Median proportion PA [IQR]	0.52 [0.38 : 0.62]	0.83	0.64 [0.41 : 0.68]	0.49 [0.46 : 0.58]			0.52 [0.43 : 0.64]
Max skin [IQR]	11 [8 : 16]	7	64 [33 : 66]	102 [44 : 167]			36 [12 : 75]
Screening time [IQR]	8.5 [7.1 : 11.2]	8.2	9.4 [9.2 : 12.9]	8.4 [7.4 : 9.2]			9.1 [7.4 : 9.4]
n	6	1	3	7	0	0	17

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2 [0.6 : 3.5]	2.2 [1.6 : 2.9]	1.4 [0.9 : 1.8]	5.9 [3.3 : 12.4]	3.8 [3.1 : 14]		3.6 [1.6 : 9.4]
Mean P <sub>KA</sub> [STD]	2 [2.1]	2.2 [1]	3.1 [5.7]	8.9 [8.4]	9.7 [11.3]		7.2 [8.4]
Median P <sub>KA</sub> /kg [IQR]	[ : ]	0.11 [0.07 : 0.16]	0.05 [0.04 : 0.1]	0.14 [0.08 : 0.21]	0.06 [0.06 : 0.15]		0.1 [0.05 : 0.19]
Median proportion PA [IQR]	0.3 [0.13 : 0.46]	0.6 [0.29 : 0.91]	0.28 [0.24 : 0.38]	0.37 [0.24 : 0.63]	0.35 [0.26 : 0.66]		0.34 [0.24 : 0.58]
Max skin [IQR]	22 [6 : 37]	28 [20 : 36]	17 [11 : 22]	59 [25 : 110]	39 [26 : 113]		31 [18 : 84]
Screening time [IQR]	20.6 [10.1 : 31]	30.1 [22.1 : 38.2]	11 [9.3 : 22.9]	20.1 [11.2 : 27.7]	19.2 [12.3 : 31.7]		16.6 [10 : 28.1]
n	2	2	12	29	8	0	53

Heart Biopsy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.1	0.7 [0.3 : 1.1]	0.6 [0.3 : 0.8]	1.6 [1.2 : 3.9]	4.7 [0.9 : 9.8]	12 [12 : 12]	1.2 [0.6 : 3.1]
Mean P <sub>KA</sub> [STD]	0.1	0.8 [0.6]	0.6 [0.4]	3.6 [3.8]	5.3 [4.9]	12 [0]	2.8 [3.8]
Median P <sub>KA</sub> /kg [IQR]		0.04 [0.02 : 0.07]	0.03 [0.02 : 0.05]	0.04 [0.03 : 0.08]	0.07 [0.01 : 0.14]	0.21 [0.21 : 0.21]	0.04 [0.02 : 0.07]
Median proportion PA [IQR]	0.9	0.79 [0.59 : 0.86]	0.84 [0.76 : 0.95]	0.76 [0.58 : 0.88]	0.73 [0.65 : 0.86]	0.98 [0.98 : 0.98]	0.81 [0.65 : 0.89]
Max skin [IQR]	3	13 [4 : 16]	5 [3 : 10]	15 [9 : 41]	50 [8 : 74]	113 [113 : 113]	13 [7 : 27]
Screening time [IQR]	4.4	7.4 [3.6 : 12]	4.2 [2.7 : 5.2]	4.8 [3.2 : 7.4]	5.2 [3.7 : 7.1]	7.4 [7.4 : 7.4]	5.2 [3.3 : 8.5]
n	1	11	11	24	9	1	57

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	4.3 [0.9 : 7.6]	1.6 [0.8 : 2.1]	1.6 [1.1 : 4.6]	9 [6 : 15.4]	18.1 [6.1 : 28.6]		6 [2 : 14.7]
Mean P <sub>KA</sub> [STD]	4.3 [4.8]	1.5 [0.8]	3.3 [3.6]	14.2 [16]	19.7 [13.8]		10.8 [13.9]
Median P <sub>KA</sub> /kg [IQR]	0.65 [0.15 : 1.16]	0.09 [0.07 : 0.17]	0.09 [0.07 : 0.17]	0.18 [0.13 : 0.32]	0.3 [0.11 : 0.46]		0.17 [0.09 : 0.3]
Median proportion PA [IQR]	0.65 [0.65 : 0.65]	0.35 [0.26 : 0.46]	0.33 [0.24 : 0.4]	0.45 [0.31 : 0.55]	0.56 [0.33 : 0.62]		0.42 [0.29 : 0.57]
Max skin [IQR]	69 [17 : 121]	19 [12 : 30]	25 [12 : 48]	74 [50 : 125]	134 [61 : 222]		58 [25 : 118]
Screening time [IQR]	21.2 [17.3 : 25.1]	6.5 [4.1 : 10]	4.5 [3.5 : 7.4]	8.4 [6.2 : 12.3]	9.7 [8.2 : 13.3]		8.2 [5.1 : 12.3]
n	2	13	15	36	14	0	80

PVR and pressure studies	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.4 [0.3 : 0.8]	0.6 [0.3 : 1.1]	1.1 [0.8 : 3.9]	6 [2 : 14.5]	2.8 [1.6 : 8.2]		1.4 [0.6 : 4.4]
Mean P <sub>KA</sub> [STD]	0.5 [0.4]	1.5 [2.4]	3.2 [4.7]	11.9 [19.2]	7.4 [11.2]		5.4 [11.7]
Median P <sub>KA</sub> /kg [IQR]	0.07 [0.04 : 0.13]	0.05 [0.03 : 0.11]	0.06 [0.03 : 0.18]	0.13 [0.06 : 0.23]	0.04 [0.03 : 0.2]		0.07 [0.04 : 0.18]
Median proportion PA [IQR]	0.7 [0.58 : 0.77]	0.83 [0.73 : 0.92]	0.69 [0.6 : 0.78]	0.81 [0.6 : 0.91]	0.94 [0.81 : 1]		0.78 [0.65 : 0.89]
Max skin [IQR]	10 [5 : 14]	10 [4 : 18]	14 [9 : 37]	44 [15 : 89]	24 [18 : 66]		16 [7 : 41]
Screening time [IQR]	10.4 [9.2 : 16.4]	9 [4.9 : 15.4]	10.5 [5.8 : 15.1]	10.7 [9.1 : 20.5]	4 [2.7 : 7.2]		9.4 [5.1 : 15.1]
n	6	17	17	18	8	0	66

Valve replacement	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]			22.8 [14.7 : 29.9]	45 [30.3 : 76.3]	32 [28.6 : 94.2]	60.6	37.9 [27 : 77.4]
Mean P <sub>KA</sub> [STD]			31.7 [32.2]	58.7 [36.8]	57.3 [40.8]	60.6	53.4 [36.8]
Median P <sub>KA</sub> /kg [IQR]			0.69 [0.59 : 1.11]	1.03 [0.67 : 1.46]	0.76 [0.51 : 1.91]	1.71	0.9 [0.58 : 1.6]
Median proportion PA [IQR]			0.6 [0.53 : 0.67]	0.57 [0.51 : 0.6]	0.6 [0.54 : 0.66]	0.63	0.58 [0.51 : 0.63]
Max skin [IQR]			162 [104 : 336]	314 [192 : 460]	208 [183 : 625]	364	262 [183 : 452]
Screening time [IQR]			30.5 [20.5 : 39.5]	25.2 [19.1 : 33.2]	21.8 [17.9 : 27.2]	46.6	25.2 [19.1 : 36.3]
n	0	0	6	17	8	1	32

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		1.9 [1.9 : 1.9]	2.7 [1 : 5.3]	9.0	3.5 [3.2 : 3.8]	0.1	3.2 [1.1 : 4.7]
Mean P <sub>KA</sub> [STD]		1.9 [0]	3.2 [2.7]	9.0	3.5 [0.4]	0.1	3.4 [2.9]
Median P <sub>KA</sub> /kg [IQR]		[ : ]	0.06 [0.04 : 0.2]	0.17	0.06 [0.05 : 0.07]	0	0.06 [0.03 : 0.14]
Median proportion PA [IQR]		0.32 [0.32 : 0.32]	1 [1 : 1]	1	1 [1 : 1]	1	1 [1 : 1]
Max skin [IQR]		45 [45 : 45]	53 [17 : 103]	110	42 [34 : 49]	1	45 [20 : 90]
Screening time [IQR]		10.5 [10.5 : 10.5]	19.2 [9.7 : 28.8]	10.4	10.4 [5.6 : 15.2]	0.3	10.5 [5.5 : 17.5]
n	0	1	4	1	2	1	9

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	4	2.5 [1.5 : 3.8]	2.5 [2 : 12.5]	33.2 [12.5 : 53.9]	15.7		4 [2 : 14.9]
Mean P <sub>KA</sub> [STD]	4	2.6 [1.4]	6.7 [7.9]	33.2 [29.3]	15.7		10.6 [15.4]
Median P <sub>KA</sub> /kg [IQR]	0.67	0.17 [0.12 : 0.22]	0.12 [0.1 : 0.57]	0.5 [0.32 : 0.67]	0.24		0.23 [0.12 : 0.58]
Median proportion PA [IQR]	0.6	0.77 [0.63 : 0.84]	0.77 [0.73 : 0.88]	0.57 [0.47 : 0.67]	0.83		0.71 [0.62 : 0.84]
Max skin [IQR]	43	33 [22 : 41]	29 [28 : 92]	198 [81 : 314]	154		43 [29 : 105]
Screening time [IQR]	21.4	17.8 [14 : 20.3]	14.2 [10.4 : 32]	17.4 [10.6 : 24.3]	15.5		17.5 [11.5 : 22.3]
n	1	4	3	2	1	0	11

Hospital 2: 2004-2008 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.9 [1.3 : 6.6]	5.2 [2.6 : 8.9]	8.9 [3.7 : 15.7]	13.3 [5.4 : 20.7]	14.8 [6.2 : 47.2]	16.3 [6.6 : 63]	6.7 [3.1 : 14.7]
<b>Mean P<sub>KA</sub> [STD]</b>	5.8 [8.2]	7.9 [9.5]	12.3 [12.4]	15.2 [12.2]	26.9 [29.9]	73.2 [119.9]	13.7 [28.2]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.42 [0.33 : 1.9]	0.59 [0.33 : 1.12]	0.46 [0.21 : 0.97]	0.42 [0.2 : 0.54]	0.29 [0.11 : 0.81]	0.23 [0.09 : 0.69]	0.49 [0.26 : 0.99]
<b>Screening time [IQR]</b>	7.4 [3.5 : 15.9]	9.3 [6.2 : 14.4]	9.1 [5.2 : 18.1]	6.3 [3.4 : 10.8]	7.9 [5 : 18.2]	6.3 [3.9 : 15.8]	8.5 [4.8 : 15.7]
<b>n</b>	29	120	84	41	25	11	310

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.4 [1.2 : 5.1]	5.5 [3.3 : 9.9]	7.2 [4.5 : 14.1]	15.7 [8.5 : 28.2]	17.4 [7.1 : 38.8]	38.6 [23.7 : 49.5]	7.1 [3.5 : 16.4]
<b>Mean P<sub>KA</sub> [STD]</b>	6.1 [14.2]	8.8 [11]	11.1 [10.9]	23.9 [25.5]	27.2 [29.9]	75.6 [221.5]	16.1 [51.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.66 [0.36 : 1.8]	0.6 [0.38 : 1.12]	0.44 [0.26 : 0.76]	0.46 [0.22 : 0.83]	0.34 [0.14 : 0.7]	0.54 [0.31 : 0.69]	0.51 [0.3 : 0.94]
<b>Screening time [IQR]</b>	10 [5.9 : 15.1]	10.1 [7.2 : 15.3]	10.1 [6.4 : 15.7]	12.9 [7.7 : 19.5]	11.3 [7.2 : 17.9]	14.4 [11.3 : 17.5]	10.5 [7 : 16.5]
<b>n</b>	110	274	236	95	107	39	861

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.5 [1.4 : 5.3]	4.1 [2.3 : 8.3]	4.5 [2.4 : 10]	19 [7.1 : 36.6]	23.1 [16.7 : 30.8]	41.2 [26.2 : 48.6]	5 [2.4 : 14.1]
<b>Mean P<sub>KA</sub> [STD]</b>	6.4 [14.7]	8 [10.3]	8.9 [12]	24.5 [20.6]	29.2 [21.7]	37.4 [15.8]	11.7 [15.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.85 [0.45 : 1.3]	0.56 [0.34 : 0.99]	0.26 [0.14 : 0.59]	0.7 [0.22 : 1.17]	0.47 [0.29 : 0.64]	0.58 [0.39 : 0.67]	0.53 [0.25 : 0.96]
<b>Screening time [IQR]</b>	9.7 [4.2 : 19.3]	9 [4.2 : 13.8]	5 [3.5 : 10.7]	14.8 [3.9 : 20.7]	10.4 [4.8 : 17.3]	8.7 [5.5 : 11.6]	8.4 [4.1 : 14.2]
<b>n</b>	30	73	40	17	12	4	176

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>		5.9 [4.4 : 10]	6.9 [4.6 : 11.9]	8.5 [5.3 : 19.4]	13.9 [7.1 : 20.1]	46.5 [24.2 : 60.8]	7.4 [5.1 : 14.3]
<b>Mean P<sub>KA</sub> [STD]</b>		6.6 [3.7]	9.2 [6.7]	12 [9.4]	16.6 [14.1]	45.5 [22.8]	11.5 [11.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		0.51 [0.39 : 1.04]	0.4 [0.25 : 0.68]	0.22 [0.18 : 0.51]	0.25 [0.13 : 0.38]	0.54 [0.34 : 0.67]	0.39 [0.21 : 0.67]
<b>Screening time [IQR]</b>		11.4 [6.1 : 16.6]	10.2 [6.9 : 14.7]	8.7 [6.2 : 16.2]	9.2 [5.2 : 14.1]	13.2 [11 : 15.2]	9.7 [6.3 : 15]
<b>n</b>	0	24	61	23	15	5	128

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	5.2	4.8 [3.2 : 8.1]	6.3 [4.2 : 10.7]	13.4 [6.5 : 25.3]	17.2 [12.5 : 18.8]	48.7	6.2 [3.7 : 11.2]
<b>Mean P<sub>KA</sub> [STD]</b>	5.2	8.1 [10.2]	8.7 [8.6]	26.2 [33.1]	22.6 [23.7]	48.7	10.6 [14.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	1.21	0.53 [0.34 : 0.87]	0.38 [0.24 : 0.65]	0.43 [0.22 : 0.94]	0.34 [0.25 : 0.4]	0.67	0.44 [0.3 : 0.72]
<b>Screening time [IQR]</b>	13.6	8.3 [6.4 : 11.5]	7.2 [5.7 : 11.7]	10.1 [6.4 : 18.2]	8.4 [5.7 : 13.2]	13.1	8.1 [6.1 : 12]
<b>n</b>	1	108	88	19	8	1	225

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.1 [2.2 : 5]	4.5 [3.1 : 7.3]	11 [6.4 : 14.8]	18.4 [8.2 : 45.9]	15.4 [10 : 36]	21.7 [2.4 : 41]	4.5 [2.5 : 8.6]
<b>Mean P<sub>KA</sub> [STD]</b>	7.5 [16.8]	8.6 [14.1]	14.7 [16.4]	27 [29.7]	22.1 [18.3]	21.7 [27.3]	10.1 [16.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.92 [0.57 : 1.75]	0.6 [0.44 : 0.97]	0.59 [0.47 : 0.84]	0.52 [0.27 : 1.28]	0.34 [0.18 : 0.58]	0.26 [0.03 : 0.48]	0.68 [0.49 : 1.13]
<b>Screening time [IQR]</b>	12.5 [9.3 : 20.4]	10.5 [8.8 : 15.2]	12.7 [8.5 : 14.6]	13.8 [11 : 15.7]	12.3 [9.1 : 16.9]	12.6 [9 : 16.1]	11.3 [8.9 : 16.1]
<b>n</b>	43	46	12	4	3	2	110

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.3 [1.7 : 7.4]	3.9 [3.2 : 14.5]	5.2 [3.5 : 9.1]	19.3 [14.1 : 44.2]	38.3 [27 : 42.4]	47 [47 : 48]	9 [3.3 : 28.2]
<b>Mean P<sub>KA</sub> [STD]</b>	6.8 [11]	7.9 [6.9]	8.4 [8.4]	30.7 [25.7]	33.9 [15]	47.4 [0.8]	17.6 [18.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.75 [0.49 : 2.11]	0.65 [0.37 : 2.14]	0.42 [0.25 : 0.52]	0.53 [0.41 : 1.21]	0.65 [0.45 : 0.77]	0.68 [0.59 : 0.69]	0.6 [0.42 : 1.15]
<b>Screening time [IQR]</b>	7.8 [6.6 : 10.6]	7.9 [6.1 : 9.9]	8.4 [6.1 : 13.6]	15.5 [11.8 : 33.4]	14.3 [11.3 : 18.4]	15 [14.6 : 15.7]	10.5 [7.1 : 16.1]
<b>n</b>	12	11	7	6	8	3	47

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.5 [0.8 : 2.1]	13.4 [7 : 23.7]	17.1 [6.8 : 26.3]	28.1 [14 : 48.6]	37.5 [3.2 : 87.6]	83.7 [36 : 131.3]	17 [6.9 : 29.2]
<b>Mean P<sub>KA</sub> [STD]</b>	1.5 [0.9]	17.2 [16]	19.6 [17]	33.4 [26.5]	47.3 [52.6]	83.7 [67.4]	24.7 [27.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.44 [0.24 : 0.64]	1.35 [0.86 : 2.5]	0.97 [0.45 : 1.66]	0.78 [0.47 : 1.29]	0.77 [0.07 : 1.86]	1.24 [0.54 : 1.93]	1 [0.48 : 1.79]
<b>Screening time [IQR]</b>	10 [3.3 : 16.6]	22.6 [14.9 : 36.5]	21.3 [9.8 : 30.2]	19.7 [14.2 : 26.2]	20.1 [12.6 : 39]	18.8 [13.5 : 24]	20.4 [13.2 : 32.9]
<b>n</b>	2	29	30	16	7	2	86

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.9 [1.1 : 4.4]	4.3 [2.7 : 5.6]	4.6 [1.6 : 9.2]	15.6 [7.9 : 26.1]	24.5 [14.4 : 59.4]	38 [22.7 : 57.4]	6.6 [2.8 : 17.9]
<b>Mean P<sub>KA</sub> [STD]</b>	3.4 [3.7]	4.8 [4.6]	6.9 [6.7]	22.1 [19.9]	39.3 [32.7]	39.6 [20.8]	15.8 [21.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.45 [0.28 : 1.7]	0.57 [0.32 : 0.69]	0.3 [0.1 : 0.51]	0.4 [0.25 : 0.75]	0.53 [0.28 : 1.22]	0.55 [0.34 : 0.78]	0.42 [0.27 : 0.81]
<b>Screening time [IQR]</b>	7 [5.6 : 16.6]	9.3 [6 : 11.4]	9.7 [6 : 10.8]	8.5 [6.7 : 24.6]	13.5 [9.7 : 21.6]	15.7 [11.9 : 19.1]	10.1 [6.7 : 14.5]
<b>n</b>	13	26	13	11	13	8	84

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>			11.7 [7.6 : 15.8]	17.6 [10.5 : 28.6]	13.2 [3.4 : 24.7]	36.8 [15.9 : 49]	15.7 [6.3 : 29.8]
<b>Mean P<sub>KA</sub> [STD]</b>			11.7 [5.8]	29.7 [38]	18.4 [19.2]	115.6 [335.6]	41.1 [160.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>			0.54 [0.31 : 0.77]	0.5 [0.32 : 0.65]	0.26 [0.07 : 0.41]	0.42 [0.2 : 0.69]	0.31 [0.12 : 0.55]
<b>Screening time [IQR]</b>			11.2 [6.2 : 16.2]	17.2 [7.8 : 19.6]	7.9 [5.8 : 12.9]	15.3 [8.2 : 18.7]	9.7 [6.4 : 16.7]
<b>n</b>	0	0	2	10	48	17	77

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.5		5.1 [3 : 7.2]	7.2 [3.6 : 29.2]	5.1 [3.2 : 29.5]	2.4 [2.4 : 2.4]	5.6 [2.5 : 18.6]
Mean P <sub>KA</sub> [STD]	0.5		5.1 [3]	25.8 [41.4]	15.8 [18.4]	2.4 [0]	16.9 [27.8]
Median P <sub>KA</sub> /kg [IQR]	0.14		0.27 [0.2 : 0.34]	0.26 [0.1 : 1.13]	0.09 [0.05 : 0.56]	0.04 [0.04 : 0.04]	0.2 [0.07 : 0.4]
Screening time [IQR]	1.9		6.2 [5.4 : 7]	3.3 [1.4 : 7.2]	3.4 [2.5 : 9.4]	0.6 [0.6 : 0.6]	3.4 [1.9 : 7.2]
n	1	0	2	7	8	1	19

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	1.1 [0.6 : 3.1]	8.3 [7.2 : 9.3]					1.2 [0.6 : 4.8]
Mean P <sub>KA</sub> [STD]	5.3 [15.8]	8.3 [1.5]					5.5 [15.3]
Median P <sub>KA</sub> /kg [IQR]	0.35 [0.19 : 1]	0.95 [0.68 : 1.22]					0.38 [0.2 : 1.11]
Screening time [IQR]	5.1 [3.1 : 10.3]	19.6 [19.1 : 20]					5.4 [3.1 : 10.7]
n	34	2	0	0	0	0	36

Hospital 2: 2004-2008 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	4.1 [1.7 : 8.1]	5.8 [3.1 : 12.1]	9.5 [4.4 : 16.6]	13.8 [6.7 : 30.9]	19.2 [5 : 45.5]	5.4 [2.3 : 20.6]	6.6 [3.1 : 14.6]
Mean P <sub>KA</sub> [STD]	6.7 [8.2]	9.5 [11.7]	12.6 [10.1]	25 [40]	47.1 [83.8]	10.7 [13]	13.5 [27.2]
Median P <sub>KA</sub> /kg [IQR]	0.66 [0.33 : 1.43]	0.52 [0.29 : 1.01]	0.45 [0.2 : 0.89]	0.39 [0.17 : 0.75]	0.35 [0.08 : 0.66]	0.06 [0.02 : 0.1]	0.49 [0.26 : 0.99]
Screening time [IQR]	8.5 [4.7 : 13.7]	8.9 [5.2 : 15.3]	6.8 [3.7 : 18.1]	6.8 [4.1 : 15.8]	9.3 [4.9 : 17.9]	1.6 [0.7 : 2.4]	8.3 [4.7 : 15.5]
n	92	116	65	52	17	3	345

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	3.4 [1.9 : 6.6]	6.6 [4.2 : 11.7]	9.6 [4.9 : 17.1]	18.8 [8.9 : 34.1]	28.4 [13.5 : 50.4]	45.7 [38.6 : 52.7]	7.2 [3.6 : 16.7]
Mean P <sub>KA</sub> [STD]	6.8 [12.4]	9.8 [10.8]	14.9 [17]	25.7 [26]	65.4 [203.4]	45.7 [10]	16 [50]
Median P <sub>KA</sub> /kg [IQR]	0.64 [0.38 : 1.38]	0.52 [0.33 : 0.92]	0.43 [0.21 : 0.82]	0.4 [0.19 : 0.68]	0.49 [0.3 : 0.86]	0.72 [0.71 : 0.73]	0.51 [0.3 : 0.94]
Screening time [IQR]	9.5 [6.2 : 14.4]	9.4 [6.8 : 14.5]	12.6 [6.8 : 19]	11.8 [7.4 : 18]	14 [10.3 : 18]	15.8 [15.6 : 15.9]	10.4 [6.9 : 16.2]
n	234	302	154	186	47	2	925

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	3.6 [2 : 5.6]	5 [2.8 : 10.9]	7.5 [3.4 : 11.6]	21 [8.5 : 39.2]	30.8 [20.8 : 48.6]		5 [2.4 : 14]
Mean P <sub>KA</sub> [STD]	6.6 [11.3]	9.8 [11.7]	11.5 [14.3]	25.7 [21.2]	37 [20.6]		11.6 [15.7]
Median P <sub>KA</sub> /kg [IQR]	0.57 [0.36 : 1.17]	0.44 [0.2 : 1.11]	0.38 [0.17 : 0.57]	0.5 [0.21 : 0.92]	0.59 [0.5 : 0.72]		0.53 [0.25 : 0.96]
Screening time [IQR]	9.3 [4.2 : 14.2]	5.4 [3.6 : 14.3]	6.5 [3.2 : 12.3]	9.9 [4.3 : 19]	11.5 [6.1 : 13.3]		8.4 [4.1 : 14.2]
n	80	49	21	20	8	0	178



ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	6.8 [3.3 : 9.9]	6.1 [4.4 : 10.5]	6.2 [4.2 : 11.6]	10.9 [6.9 : 19.4]	48 [35 : 66.6]		6.9 [4.8 : 14]
<b>Mean P<sub>KA</sub> [STD]</b>	6.5 [3.8]	8.1 [6.3]	9.3 [7.6]	14.4 [11.3]	50.8 [21.1]		11.1 [11.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.96 [0.49 : 1.3]	0.48 [0.36 : 0.86]	0.32 [0.18 : 0.61]	0.26 [0.15 : 0.42]	0.63 [0.55 : 0.83]		0.39 [0.21 : 0.67]
<b>Screening time [IQR]</b>	15.9 [8.5 : 23.5]	9.2 [6.6 : 12.1]	9.2 [5.6 : 16.2]	9.1 [6 : 13]	14 [13.2 : 16.6]		9.3 [6.3 : 14.2]
<b>n</b>	5	53	52	34	4	0	148

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.6 [2.9 : 8.3]	5.9 [3.9 : 9.1]	7.7 [4 : 12.3]	16.1 [7.9 : 18.8]	32 [15.2 : 48.7]		6.2 [3.8 : 11.2]
<b>Mean P<sub>KA</sub> [STD]</b>	7.6 [10.4]	8.8 [9.9]	13.4 [19.9]	22.4 [29.2]	32 [23.7]		10.6 [14.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.51 [0.33 : 1.21]	0.46 [0.31 : 0.73]	0.33 [0.19 : 0.56]	0.39 [0.22 : 0.54]	0.5 [0.33 : 0.67]		0.44 [0.3 : 0.72]
<b>Screening time [IQR]</b>	7.5 [6 : 10.5]	8.1 [6.2 : 11.6]	9.1 [5.9 : 15.9]	9.2 [5.7 : 13.2]	10.2 [7.2 : 13.1]		8.1 [6.1 : 12.2]
<b>n</b>	24	151	39	16	2	0	232

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.4 [2.4 : 5.4]	8 [5.7 : 11.6]	12.1 [8.2 : 14.8]	15.4 [3.9 : 23.7]	41.9 [41 : 42.8]		4.5 [2.5 : 8.6]
<b>Mean P<sub>KA</sub> [STD]</b>	7.7 [16.1]	10 [7.3]	18.7 [22.1]	20.5 [23.5]	41.9 [1.3]		10.1 [16.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.69 [0.51 : 1.19]	0.7 [0.49 : 0.9]	0.59 [0.55 : 0.6]	0.34 [0.07 : 1.07]	0.57 [0.48 : 0.66]		0.68 [0.49 : 1.13]
<b>Screening time [IQR]</b>	10.5 [8.8 : 15.4]	12.1 [8.8 : 16.5]	13 [12.6 : 14]	12.3 [8.6 : 14]	17.3 [16.1 : 18.4]		11.1 [8.8 : 16]
<b>n</b>	78	18	6	7	2	0	111

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.8 [1.9 : 7.9]	3.9 [3.4 : 8.1]	9	41.7 [24.1 : 47]	3.3		9 [3.3 : 28.2]
<b>Mean P<sub>KA</sub> [STD]</b>	7.5 [9.3]	7.7 [8.6]	9	37.1 [17.1]	3.3		17.6 [18.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.76 [0.53 : 2.14]	0.3 [0.25 : 0.52]	0.43	0.65 [0.47 : 0.77]	0.05		0.6 [0.42 : 1.15]
<b>Screening time [IQR]</b>	8.2 [6.5 : 10.5]	7.3 [5.9 : 10.8]	14.2	15.5 [12.1 : 18.4]	11.2		10.5 [7.1 : 16.1]
<b>n</b>	22	7	1	16	1	0	47

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	8.8 [4.7 : 14]	14.5 [6.8 : 24.3]	18.7 [8.5 : 38.9]	30.9 [11.2 : 45.7]	36.4 [28.4 : 43.5]		17.1 [7 : 29]
<b>Mean P<sub>KA</sub> [STD]</b>	10.2 [8.1]	18.9 [18.7]	26.4 [25]	37.8 [37.5]	48 [44.7]		24.7 [27]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.97 [0.68 : 2.26]	1.35 [0.46 : 1.97]	0.94 [0.43 : 1.57]	0.77 [0.24 : 1.46]	0.77 [0.54 : 0.98]		1 [0.48 : 1.79]
<b>Screening time [IQR]</b>	18.1 [6.9 : 35]	21.3 [11.7 : 32.8]	22 [12.9 : 34.6]	20.1 [17.1 : 28.3]	15.5 [11.3 : 24.4]		20.3 [12.9 : 32.7]
<b>n</b>	11	35	21	14	6	0	87

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2.9 [1.4 : 5.5]	4.2 [2.5 : 6.1]	9.1 [6.9 : 24.2]	22.3 [13.1 : 41.8]	25.3 [13.8 : 74.7]	52.7	6.5 [2.9 : 17.1]
Mean P <sub>KA</sub> [STD]	4.2 [4.6]	4.8 [3.7]	19 [19.6]	29.6 [22.2]	46.2 [46]	52.7	15.7 [21.7]
Median P <sub>KA</sub> /kg [IQR]	0.49 [0.3 : 0.9]	0.32 [0.19 : 0.57]	0.39 [0.26 : 1.22]	0.53 [0.28 : 0.82]	0.38 [0.26 : 1.42]	0.73	0.42 [0.27 : 0.81]
Screening time [IQR]	8.2 [5.9 : 12.2]	8.7 [6 : 10.6]	9.3 [7.1 : 14.4]	12.4 [7.4 : 21]	17.3 [14.2 : 31.6]	15.9	10.1 [6.8 : 14.6]
n	34	13	10	22	5	1	85

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		11.5	14.5 [5.5 : 15.8]	18.2 [6.7 : 30.5]	19.9 [10.9 : 40.6]		16.7 [9 : 30.5]
Mean P <sub>KA</sub> [STD]		11.5	11.2 [6.1]	24.4 [23.9]	87.4 [290.3]		36.8 [136.4]
Median P <sub>KA</sub> /kg [IQR]			0.29 [0.07 : 0.61]	0.31 [0.09 : 0.54]	0.35 [0.19 : 0.57]		0.31 [0.12 : 0.55]
Screening time [IQR]		7	13 [6.7 : 17.9]	9.3 [6.2 : 16.5]	11.3 [9.2 : 16.3]		10.3 [6.5 : 16.5]
n	0	1	8	75	23	0	107

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.5	2.1 [1.2 : 2.9]	3 [1.1 : 9.1]	6.4 [2.4 : 19.9]	2.3 [2.1 : 2.4]	2.9 [2.5 : 5.1]	3 [2.2 : 11.7]
Mean P <sub>KA</sub> [STD]	0.5	2.1 [1.2]	6.7 [8]	18.8 [28.3]	2.2 [0.3]	3.7 [1.8]	11.9 [21.9]
Median P <sub>KA</sub> /kg [IQR]	0.14		0.34 [0.23 : 0.4]	0.3 [0.07 : 0.83]	0.04 [0.04 : 0.04]	0.07 [0.04 : 0.09]	0.2 [0.07 : 0.4]
Screening time [IQR]	1.9	4.2 [4.2 : 4.2]	5.4 [4.3 : 10.3]	4.1 [2.2 : 8.7]	2.4 [0.6 : 5.8]	2.1 [1 : 2.6]	4.1 [2.1 : 7.2]
n	1	2	9	22	5	3	42

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	1.2 [0.6 : 4.6]	7.2					1.2 [0.6 : 4.6]
Mean P <sub>KA</sub> [STD]	5 [14.4]	7.2					5.0 [14.2]
Median P <sub>KA</sub> /kg [IQR]	0.36 [0.2 : 1.17]	0.68					0.38 [0.2 : 1.11]
Screening time [IQR]	5.0 [2.8 : 10.2]	20 .0					5.0 [2.9 : 10.3]
n	41	1	0	0	0	0	42

Hospital 2: 2008-2013 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.9 [0.9 : 3.3]	4 [2.3 : 6.1]	6.5 [4.9 : 11]	15.3 [4.7 : 21.9]	9.9 [4.3 : 22.8]	59.9 [22.2 : 119.7]	5.5 [2.6 : 10.9]
<b>Mean P<sub>KA</sub> [STD]</b>	3.5 [5.7]	4.4 [3.2]	8.8 [7.8]	16.4 [14.5]	17.8 [19.3]	71 [61]	10.5 [17.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.55 [0.22 : 0.93]	0.5 [0.25 : 0.74]	0.35 [0.28 : 0.57]	0.48 [0.12 : 0.66]	0.2 [0.07 : 0.47]	0.7 [0.3 : 1.32]	0.41 [0.21 : 0.7]
<b>Screening time [IQR]</b>	7.1 [3.8 : 10.7]	10 [6 : 15.2]	7.5 [4.8 : 13.3]	9.3 [5 : 12.9]	7 [4.3 : 9.7]	6.4 [5.1 : 7.6]	7.7 [4.9 : 12.9]
<b>n</b>	37	67	59	31	30	6	230

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.4 [0.5 : 3.2]	3 [2 : 5]	4.4 [2.9 : 8]	9.4 [5.1 : 15.6]	18.7 [8.7 : 36.4]	15.5 [9.8 : 36.3]	4.3 [2.3 : 10.9]
<b>Mean P<sub>KA</sub> [STD]</b>	2.7 [3.9]	4.4 [4.3]	6.8 [7.2]	12 [9.8]	27.7 [25.6]	24.9 [20.1]	9.9 [14.9]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.37 [0.15 : 0.89]	0.35 [0.24 : 0.54]	0.26 [0.17 : 0.48]	0.3 [0.15 : 0.43]	0.37 [0.16 : 0.71]	0.23 [0.12 : 0.54]	0.33 [0.18 : 0.56]
<b>Screening time [IQR]</b>	7.7 [3.3 : 17.5]	7.6 [5.5 : 11.9]	7.6 [5 : 12.6]	9.3 [6.2 : 14.6]	15 [8.5 : 22.2]	11 [6.3 : 17.2]	8.6 [5.6 : 15]
<b>n</b>	185	354	270	128	166	63	1166

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.2 [1.1 : 3.2]	4.5 [2.6 : 7.5]	6.5 [4.1 : 10]	14.2 [6.7 : 21]	21.5 [13.9 : 37.2]	11.7 [8.3 : 22.1]	5.8 [3.1 : 10.3]
<b>Mean P<sub>KA</sub> [STD]</b>	2.5 [1.9]	5.6 [4.7]	8.7 [8.4]	15.6 [10.8]	26.2 [15.8]	14.7 [8.1]	8.8 [9.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.55 [0.3 : 0.83]	0.54 [0.32 : 0.83]	0.41 [0.27 : 0.57]	0.43 [0.23 : 0.73]	0.43 [0.26 : 0.65]	0.17 [0.12 : 0.3]	0.46 [0.28 : 0.7]
<b>Screening time [IQR]</b>	7.9 [5.9 : 13.3]	8.6 [5.2 : 15]	5.8 [4 : 9.5]	7.2 [4.1 : 12.3]	9.1 [7.5 : 15.4]	4.1 [2.6 : 9.6]	7.5 [4.4 : 12.2]
<b>n</b>	37	101	95	35	16	7	291

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>		3 [1.7 : 5.5]	3.3 [2.4 : 5.2]	7.7 [3.4 : 11.3]	10.9 [9.3 : 29.4]	14.5 [12.9 : 19.3]	4.3 [2.6 : 8.8]
<b>Mean P<sub>KA</sub> [STD]</b>		4 [3.5]	4.8 [5.3]	9.7 [9]	19 [16.2]	16.9 [7.9]	7.2 [8.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		0.28 [0.16 : 0.5]	0.19 [0.14 : 0.29]	0.22 [0.12 : 0.37]	0.21 [0.15 : 0.55]	0.19 [0.16 : 0.26]	0.21 [0.14 : 0.35]
<b>Screening time [IQR]</b>		9.2 [4.4 : 13.5]	7.4 [6 : 10.5]	8.4 [4.5 : 11.6]	9.3 [4.4 : 15]	7.4 [5.4 : 11.8]	7.7 [5.3 : 11.5]
<b>n</b>	0	18	47	20	6	5	96

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.2 [2.1 : 3]	3 [2.1 : 3.9]	3.5 [2.7 : 5.1]	9 [3.5 : 10.7]	14.7 [7.4 : 15.8]	3.2	3.2 [2.4 : 4.8]
<b>Mean P<sub>KA</sub> [STD]</b>	3.6 [3.7]	3.5 [2.3]	4 [2.3]	8.1 [5.1]	12.9 [6.8]	3.2	4.1 [3.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.69 [0.52 : 2.01]	0.32 [0.23 : 0.44]	0.22 [0.16 : 0.32]	0.27 [0.14 : 0.36]	0.26 [0.16 : 0.28]	0.04	0.28 [0.19 : 0.39]
<b>Screening time [IQR]</b>	10.7 [5.7 : 15.8]	6.5 [4.9 : 8.8]	5.8 [4.4 : 8.7]	6.5 [4.6 : 8.4]	6.1 [6 : 10.6]	11	6.3 [4.7 : 8.8]
<b>n</b>	6	172	115	18	6	1	318

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.4 [1.4 : 4]	2.6 [1.9 : 3.4]	4.8 [3.1 : 7.9]	14.9 [11.8 : 17.9]	20.7 [1.8 : 39.5]	34.6	2.7 [1.7 : 4.7]
<b>Mean P<sub>KA</sub> [STD]</b>	3.7 [4.1]	3.2 [2.4]	5.2 [2.7]	14.9 [4.3]	20.7 [26.7]	34.6	4.4 [5.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.6 [0.37 : 1.24]	0.38 [0.27 : 0.48]	0.31 [0.19 : 0.44]	0.5 [0.43 : 0.57]	0.44 [0.03 : 0.85]	0.52	0.42 [0.31 : 0.62]
<b>Screening time [IQR]</b>	13.3 [10 : 25.5]	9.1 [6.6 : 12.7]	8.3 [5.4 : 13.9]	19 [16.9 : 21]	9.3 [1.9 : 16.7]	10.6	10.9 [7.2 : 16.8]
<b>n</b>	44	52	13	2	2	1	114

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.1 [0.7 : 1.9]	2 [1.6 : 3.7]	3.4 [2.1 : 6.2]	4.7 [2.8 : 22.5]	69.4 [14.9 : 70.5]		2.1 [1.1 : 5]
<b>Mean P<sub>KA</sub> [STD]</b>	1.4 [1]	3.6 [4.3]	4.2 [2.8]	11.8 [14.5]	50.2 [34.6]		9.5 [20.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.33 [0.22 : 0.44]	0.29 [0.23 : 0.51]	0.25 [0.13 : 0.41]	0.11 [0.09 : 0.56]	1.14 [0.29 : 1.28]		0.32 [0.22 : 0.52]
<b>Screening time [IQR]</b>	5.8 [4 : 7.9]	7.1 [5.5 : 13.7]	7.7 [4.3 : 11.9]	4.7 [3.1 : 16.6]	24.9 [7 : 33.2]		6.8 [4.6 : 12.9]
<b>n</b>	20	18	4	3	7	0	52

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	4.7 [1.3 : 6.1]	6.6 [3.6 : 8.7]	12.9 [7 : 18.5]	17.9 [13.8 : 39]	33.3 [28.5 : 58.1]	21.2 [13.2 : 46.5]	11.5 [5.9 : 21.8]
<b>Mean P<sub>KA</sub> [STD]</b>	4.1 [3.4]	8.7 [7.5]	14.5 [11.5]	23.4 [13.8]	44.8 [29.2]	29.8 [25.8]	16.9 [17.9]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	1.18 [0.38 : 1.43]	0.7 [0.37 : 1.27]	0.74 [0.47 : 1.08]	0.67 [0.47 : 0.94]	0.69 [0.52 : 1.04]	0.31 [0.17 : 0.6]	0.71 [0.44 : 1.1]
<b>Screening time [IQR]</b>	13.2 [1.8 : 23]	11.6 [5.9 : 17.8]	14.3 [8 : 20.8]	15.9 [10.7 : 26.4]	15.8 [8.7 : 23.1]	16.9 [10.7 : 27.8]	13.6 [8.1 : 21]
<b>n</b>	5	46	43	15	14	4	127

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.3 [1.6 : 2.6]	2.7 [2 : 3.3]	3.5 [3.1 : 6.1]	6.2 [5.4 : 11.8]	29.9 [9.5 : 35.8]	14.6	3.4 [2.6 : 6.2]
<b>Mean P<sub>KA</sub> [STD]</b>	2.2 [0.6]	2.9 [1.4]	4.4 [1.9]	8.1 [3.5]	24.8 [15.1]	14.6	6.2 [7.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.5 [0.37 : 0.58]	0.35 [0.21 : 0.42]	0.23 [0.17 : 0.3]	0.23 [0.2 : 0.3]	0.48 [0.2 : 0.6]	0.16	0.29 [0.19 : 0.42]
<b>Screening time [IQR]</b>	6.7 [5.5 : 10]	7.6 [5.5 : 10.4]	6.9 [5.4 : 9.1]	8.2 [6.6 : 11.8]	9 [8.5 : 12.1]	2.7	8.2 [5.6 : 9.9]
<b>n</b>	6	21	13	9	5	1	55

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	16.4 [3.3 : 29.4]	1.9	6.8 [2.7 : 9.1]	6.4 [4.2 : 13.3]	14.1 [6.3 : 29.7]	17.2 [9.5 : 38.1]	12 [5.5 : 27.5]
<b>Mean P<sub>KA</sub> [STD]</b>	16.4 [18.4]	1.9	6.6 [4.6]	9.2 [7.3]	21.8 [22.1]	25.2 [20.8]	19.3 [20.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	3.64 [0.86 : 6.42]	0.15	0.32 [0.13 : 0.55]	0.19 [0.11 : 0.37]	0.25 [0.12 : 0.53]	0.25 [0.11 : 0.55]	0.24 [0.12 : 0.52]
<b>Screening time [IQR]</b>	31.4 [17.7 : 45]	17.7	10.7 [6.1 : 13.4]	8.6 [6.1 : 15.4]	15 [8.2 : 21.4]	11 [6.5 : 19.2]	13.1 [7 : 19.4]
<b>n</b>	2	1	8	49	129	51	240

PVR and pressure studies	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2.6	4.2 [0.8 : 8.8]	10		23.8 [11.8 : 35.7]		7.8 [2 : 10.4]
Mean P <sub>KA</sub> [STD]	2.6	5.4 [4.8]	10		23.8 [16.8]		8.3 [9.4]
Median P <sub>KA</sub> /kg [IQR]	0.55	0.44 [0.09 : 1.14]	0.5		0.45 [0.25 : 0.66]		0.5 [0.21 : 1.02]
Screening time [IQR]	9.5	8.1 [5 : 18.8]	7.6		11.5 [7.8 : 15.1]		8.1 [6.1 : 16]
n	1	9	1	0	2	0	13

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.4 [0.4 : 0.4]	0.5 [0.2 : 1.2]	1.4 [1 : 1.6]	2.6 [1.4 : 4.4]	7.3 [2.9 : 14.8]	62.5	2.2 [0.9 : 5.6]
Mean P <sub>KA</sub> [STD]	0.4 [0]	2.1 [4.1]	1.8 [1.6]	5.3 [10.5]	9.2 [8.4]	62.5	6.2 [11.3]
Median P <sub>KA</sub> /kg [IQR]	0.12 [0.1 : 0.14]	0.07 [0.02 : 0.1]	0.07 [0.05 : 0.1]	0.08 [0.04 : 0.15]	0.13 [0.06 : 0.24]	0.74	0.09 [0.05 : 0.16]
Screening time [IQR]	6.4 [6.4 : 6.4]	3.1 [1.2 : 3.6]	2.9 [2 : 5.1]	4.3 [3.5 : 7.9]	5.9 [4.1 : 9.2]	19.5	4.3 [2.8 : 6.6]
n	2	7	10	19	15	1	54

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.4 [0.2 : 1]	1.7 [1.5 : 1.9]					0.4 [0.2 : 1]
Mean P <sub>KA</sub> [STD]	1.1 [1.9]	1.7 [0.3]					1.1 [1.9]
Median P <sub>KA</sub> /kg [IQR]	0.11 [0.05 : 0.29]	0.32 [0.18 : 0.33]					0.11 [0.05 : 0.31]
Median % PA [IQR]	0.5 [0.5 : 0.5]	0.5 [0.5 : 0.5]					0.5 [0.5 : 0.5]
Screening time [IQR]	2.8 [1.3 : 7.7]	5.1 [4.1 : 9.2]					3 [1.3 : 7.9]
n	71	3	0	0	0	0	74

#### Hospital 2: 2008-2013 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2.6 [1.1 : 4.6]	5 [2.7 : 7.7]	6.6 [4.9 : 11.2]	15.3 [4.6 : 28.1]	19.7 [5.4 : 52.3]	7.9 [3.9 : 41.1]	5.5 [2.5 : 10.8]
Mean P <sub>KA</sub> [STD]	3.7 [4.6]	5.7 [4]	9.4 [9.1]	20 [19.1]	39.9 [53.3]	20.8 [27.2]	10.3 [17.3]
Median P <sub>KA</sub> /kg [IQR]	0.56 [0.29 : 0.8]	0.39 [0.24 : 0.7]	0.32 [0.27 : 0.55]	0.47 [0.12 : 0.65]	0.3 [0.1 : 0.89]	0.13 [0.06 : 0.67]	0.41 [0.21 : 0.7]
Screening time [IQR]	8.3 [4.6 : 14.1]	7.4 [4.6 : 13.4]	8.3 [5 : 13.1]	8.3 [4.8 : 11.8]	7 [5.4 : 9.2]	5.2 [3.9 : 5.4]	7.7 [4.8 : 12.7]
n	64	71	43	45	11	3	237

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2 [1 : 3.6]	3.4 [2.5 : 6]	6.6 [3.5 : 11.8]	14.9 [8 : 32.1]	15.2 [8 : 29.5]	7.4 [2.4 : 10.3]	4.3 [2.3 : 10.9]
Mean P <sub>KA</sub> [STD]	3.2 [4.2]	5 [4.7]	9.3 [9]	23.4 [22.6]	21.8 [20.8]	6.6 [4.4]	9.9 [14.8]
Median P <sub>KA</sub> /kg [IQR]	0.38 [0.23 : 0.73]	0.3 [0.2 : 0.5]	0.3 [0.16 : 0.48]	0.33 [0.16 : 0.62]	0.24 [0.12 : 0.52]	0.09 [0.04 : 0.14]	0.33 [0.18 : 0.56]
Screening time [IQR]	8 [4.5 : 14.7]	7.1 [5.1 : 11.8]	8.5 [5.8 : 13.1]	12.9 [7.3 : 18.9]	11 [8.1 : 19.7]	15.5 [3.9 : 35]	8.6 [5.6 : 15]
n	319	412	150	259	59	5	1204

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.8 [1.5 : 5.1]	5.8 [3.6 : 8.5]	7.6 [4.7 : 13.9]	16.2 [9.9 : 25.2]	30.6 [9.3 : 35.2]	23.2 [14.7 : 24]	5.8 [3 : 10.5]
<b>Mean P<sub>KA</sub> [STD]</b>	3.6 [2.8]	7.9 [8]	9.1 [6]	18.9 [13.1]	26.4 [16.3]	19.8 [6.9]	8.8 [9.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.51 [0.29 : 0.8]	0.49 [0.3 : 0.78]	0.44 [0.26 : 0.55]	0.4 [0.23 : 0.69]	0.51 [0.17 : 0.94]	0.28 [0.25 : 0.31]	0.46 [0.28 : 0.7]
<b>Screening time [IQR]</b>	8.1 [5.3 : 13.7]	7.2 [4.6 : 13.5]	5.4 [3.5 : 8.9]	7.7 [4.1 : 11]	9.6 [7.3 : 15.6]	7.8 [7.8 : 9.5]	7.5 [4.4 : 12.3]
<b>n</b>	91	112	45	43	6	3	300

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	6.9	3.1 [2.2 : 5.1]	3.8 [3 : 7.8]	9.3 [6 : 15.4]	21.7 [14 : 29.4]	9.8	4.4 [2.7 : 8.6]
<b>Mean P<sub>KA</sub> [STD]</b>	6.9	4.7 [5.5]	6 [7]	12.8 [11]	21.7 [10.9]	9.8	7.2 [8.2]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		0.22 [0.15 : 0.37]	0.2 [0.12 : 0.34]	0.21 [0.15 : 0.32]	0.37 [0.19 : 0.55]	0.14	0.21 [0.14 : 0.35]
<b>Screening time [IQR]</b>	11.3	7.9 [5.4 : 12.1]	8 [6 : 10.7]	8.4 [4.9 : 11.8]	15.8 [7.4 : 24.2]	4.9	7.9 [5.4 : 11.5]
<b>n</b>	1	49	24	21	2	1	98

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3 [2.2 : 4]	3.1 [2.2 : 4.2]	4.4 [2.9 : 6.4]	15.8 [12.7 : 16.7]	13.9	2.7	3.2 [2.4 : 4.8]
<b>Mean P<sub>KA</sub> [STD]</b>	3.6 [2.8]	3.6 [2.3]	5.2 [3.2]	15.3 [4.1]	13.9	2.7	4.1 [3.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.46 [0.32 : 0.62]	0.27 [0.19 : 0.37]	0.22 [0.14 : 0.31]	0.3 [0.25 : 0.4]	0.28	0.05	0.28 [0.19 : 0.39]
<b>Screening time [IQR]</b>	6.4 [4.7 : 10.1]	6.3 [4.7 : 8.9]	6 [3.6 : 8.3]	7.9 [6 : 10]	11.1	0.8	6.3 [4.7 : 8.8]
<b>n</b>	33	237	42	7	1	1	321

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.4 [1.6 : 3.4]	4.8 [2.9 : 8]	6.9 [3.1 : 13.3]	34.6 [10 : 38.3]			2.7 [1.7 : 4.7]
<b>Mean P<sub>KA</sub> [STD]</b>	3.2 [3.1]	5.4 [3.5]	8.4 [6.5]	25.3 [20.5]			4.4 [5.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.43 [0.32 : 0.72]	0.41 [0.23 : 0.61]	0.4 [0.17 : 0.46]	0.52 [0.15 : 0.77]			0.42 [0.31 : 0.62]
<b>Screening time [IQR]</b>	11 [7.7 : 17.8]	10.4 [6.7 : 13.5]	16.9 [4.9 : 22.3]	10.6 [4.1 : 15.2]			10.9 [7.2 : 16.8]
<b>n</b>	87	19	5	3	0	0	114

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.6 [0.9 : 2.4]	4.9 [3.4 : 6.3]	2.1 [2 : 6.5]	15.1 [12 : 69.8]	69.4		2.1 [1.1 : 5]
<b>Mean P<sub>KA</sub> [STD]</b>	2.3 [3.2]	4.9 [2.1]	4 [3.5]	35.1 [34.8]	69.4		9.5 [20.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.31 [0.22 : 0.47]	0.43 [0.25 : 0.57]	0.12 [0.09 : 0.39]	0.32 [0.27 : 1.17]	1.29		0.32 [0.22 : 0.52]
<b>Screening time [IQR]</b>	6.3 [4.6 : 8.4]	9.2 [7.3 : 16.7]	2.7 [2.6 : 11.3]	7.6 [4.6 : 27]	33		6.8 [4.6 : 12.9]
<b>n</b>	35	4	3	9	1	0	52

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	5.9 [2.2 : 7.9]	7.5 [3.7 : 14.3]	14.6 [9.8 : 20.3]	32.6 [18.3 : 48.8]	26.4 [19 : 28]		11.5 [5.9 : 21.8]
Mean P <sub>KA</sub> [STD]	6.7 [5.6]	10 [7.7]	17.5 [13.4]	37.2 [26.5]	23.8 [6.4]		16.9 [17.9]
Median P <sub>KA</sub> /kg [IQR]	1.09 [0.36 : 1.32]	0.66 [0.37 : 1.1]	0.74 [0.45 : 1.07]	0.72 [0.53 : 0.96]	0.51 [0.3 : 0.6]		0.71 [0.44 : 1.1]
Screening time [IQR]	13.2 [5.7 : 19.1]	13.6 [5.9 : 19.9]	12.7 [9.2 : 18.3]	15.9 [9.2 : 23.2]	13.5 [10.9 : 31.1]		13.6 [8.1 : 21]
n	17	54	28	25	3	0	127

  

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2.6 [2 : 3]	3.1 [2.3 : 3.6]	5.6 [3.4 : 8.3]	12 [7.2 : 22.3]			3.2 [2.5 : 6.2]
Mean P <sub>KA</sub> [STD]	2.8 [1.4]	3.2 [1.3]	5.8 [2.5]	16 [12.4]			6.1 [7.7]
Median P <sub>KA</sub> /kg [IQR]	0.38 [0.31 : 0.56]	0.22 [0.17 : 0.31]	0.29 [0.17 : 0.39]	0.26 [0.19 : 0.41]			0.29 [0.19 : 0.42]
Screening time [IQR]	8 [6.2 : 11.3]	6.2 [4.9 : 8.9]	7.1 [4.6 : 9.1]	9.2 [8 : 11.8]			8.2 [5.6 : 10.1]
n	18	20	7	12	0	0	57

  

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	16.4 [3.3 : 29.4]	4.3 [2.3 : 14]	5.7 [3 : 9.2]	13.4 [6.3 : 29.4]	11.2 [6.2 : 27.4]	4.5 [1.6 : 7.4]	12 [5.3 : 26.7]
Mean P <sub>KA</sub> [STD]	16.4 [18.4]	7.7 [8.3]	7.4 [6.5]	21.4 [21.8]	17.4 [15.6]	4.5 [4.1]	19.1 [20]
Median P <sub>KA</sub> /kg [IQR]	3.64 [0.86 : 6.42]	0.14 [0.04 : 0.25]	0.2 [0.13 : 0.4]	0.26 [0.12 : 0.56]	0.19 [0.1 : 0.39]	0.08 [0.03 : 0.14]	0.24 [0.12 : 0.52]
Screening time [IQR]	31.4 [17.7 : 45]	5 [4 : 11.5]	10.7 [6.4 : 13.4]	14 [7.3 : 19.8]	9.7 [7 : 19.4]	18.9 [15.5 : 22.2]	13 [7 : 19.2]
n	2	3	20	172	54	2	253

  

PVR and pressure studies	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	5.2 [2.3 : 8.7]	2.4 [0.6 : 9.2]	10.0	35.7		11.8	7.8 [2 : 10.4]
Mean P <sub>KA</sub> [STD]	5.2 [3.6]	4.9 [6.4]	10.0	35.7		11.8	8.3 [9.4]
Median P <sub>KA</sub> /kg [IQR]	0.78 [0.29 : 1.05]	0.25 [0.06 : 0.92]	0.5	0.66		0.25	0.5 [0.21 : 1.02]
Screening time [IQR]	9.6 [8.1 : 19.8]	4.5 [2.8 : 12.1]	7.6	15.1		7.8	8.1 [6.1 : 16]
n	6	4	1	1	0	1	13

  

Valve replacement	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]				60.2	62.3		61.3 [60.2 : 62.3]
Mean P <sub>KA</sub> [STD]				60.2	62.3 [		61.3 [1.5]
Median P <sub>KA</sub> /kg [IQR]				1.21	1.06		1.13 [1.06 : 1.21]
Screening time [IQR]				32.5	24.6		28.6 [24.6 : 32.5]
n	0	0	0	1	1	0	2

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.4 [0.4 : 0.4]	1 [0.4 : 1.5]	2.1 [1 : 3.6]	5 [1.6 : 14.8]	2.8 [1 : 4.9]	4.2 [1 : 6.8]	2.2 [1 : 6.1]
Mean P <sub>KA</sub> [STD]	0.4 [0]	1.9 [3.1]	2.9 [2.9]	10.8 [15.1]	3 [2.2]	3.9 [3.5]	6.1 [10.9]
Median P <sub>KA</sub> /kg [IQR]	0.12 [0.1 : 0.14]	0.08 [0.04 : 0.11]	0.08 [0.05 : 0.13]	0.12 [0.04 : 0.27]	0.09 [0.04 : 0.15]	0.07 [0.02 : 0.12]	0.09 [0.05 : 0.16]
Screening time [IQR]	6.4 [6.4 : 6.4]	3.1 [2.4 : 4.4]	3.6 [1.8 : 6.1]	6.1 [3.9 : 9.5]	3.9 [0.9 : 7.1]	4.3 [1.9 : 8.4]	4.3 [2.8 : 7.8]
n	2	12	12	27	5	4	62

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.4 [0.2 : 1]	2.4 [1.5 : 3.2]		0.4			0.4 [0.2 : 1]
Mean P <sub>KA</sub> [STD]	1 [1.8]	2.4 [1.2]		0.4			1 [1.8]
Median P <sub>KA</sub> /kg [IQR]	0.11 [0.05 : 0.3]	0.47 [0.14 : 0.81]		0.1			0.11 [0.05 : 0.31]
Screening time [IQR]	3.1 [1.3 : 7.3]	7.6 [3.7 : 11.4]		2.7			3.2 [1.3 : 7.4]
n	80	2	0	1	0	0	83

Hospital 3: 2004-2008 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.1	13.4 [0.1 : 26.8]		0.4	4.1		0.4 [0.1 : 9.8]
Mean P <sub>KA</sub> [STD]	0.1	13.4 [18.8]		0.4	4.1		6.3 [11.6]
Median P <sub>KA</sub> /kg [IQR]	0.04	1.4 [0.01 : 2.79]		0.01	0.06		0.04 [0.01 : 0.74]
Screening time [IQR]	2.5	16.4 [2.8 : 30]		1.8	1.2		2.5 [1.7 : 9.6]
n	1	2	0	1	1	0	5

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	3.1 [1.5 : 6.4]	3.3 [2.2 : 6]	5.5 [3.3 : 9.3]	11.1 [3.7 : 21.5]	29 [15.7 : 57.4]	20.8 [11.2 : 34]	4.8 [2.5 : 9.8]
Mean P <sub>KA</sub> [STD]	5.1 [6.3]	4.7 [4.4]	8.1 [7.8]	13.7 [10.5]	37 [26]	31.4 [35.4]	9.7 [14.7]
Median P <sub>KA</sub> /kg [IQR]	0.81 [0.41 : 1.6]	0.39 [0.27 : 0.69]	0.33 [0.19 : 0.6]	0.36 [0.12 : 0.66]	0.55 [0.31 : 1.04]	0.29 [0.15 : 0.48]	0.41 [0.25 : 0.8]
Screening time [IQR]	15.8 [9.2 : 25.7]	12 [7.3 : 16.7]	12.4 [8.4 : 24.3]	19.8 [12.7 : 32]	23.3 [12.5 : 40.2]	10.6 [6.3 : 20]	13.6 [8.1 : 23.6]
n	58	119	81	30	22	13	323

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2 [1.2 : 4.8]	4 [2.4 : 6.3]	6.5 [3.2 : 10.4]	11.8 [6.6 : 18.6]	18.3 [8.1 : 30.6]	28.4 [14.6 : 56]	5.2 [2.7 : 10.1]
Mean P <sub>KA</sub> [STD]	3.7 [4.5]	5 [3.7]	8.4 [7.8]	14.3 [10.9]	20 [15.2]	33.9 [24.1]	9.1 [11.1]
Median P <sub>KA</sub> /kg [IQR]	0.47 [0.37 : 1.09]	0.56 [0.35 : 0.82]	0.36 [0.19 : 0.62]	0.38 [0.22 : 0.56]	0.32 [0.15 : 0.53]	0.31 [0.2 : 0.66]	0.45 [0.25 : 0.74]
Screening time [IQR]	10.9 [5.4 : 17.7]	12.6 [7.9 : 18.9]	11.3 [7.1 : 18.3]	13.7 [7.5 : 18.8]	9.8 [6.6 : 18.5]	14.2 [9.4 : 22]	12.5 [7.2 : 18.9]
n	36	123	59	32	27	11	288



ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.1 [2.1 : 2.1]	3 [1.1 : 5.5]	3.3 [1.7 : 5.8]	4.2 [1.7 : 7.9]	11.8 [6.9 : 46.5]	7.7 [5.1 : 16.9]	5.2 [2.1 : 7.9]
<b>Mean P<sub>KA</sub> [STD]</b>	2.1 [0]	3.3 [3]	4 [2.5]	6.2 [6.3]	23.7 [24.8]	11.8 [11]	8.2 [12.4]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.49 [0.49 : 0.49]	0.26 [0.1 : 0.61]	0.17 [0.1 : 0.34]	0.15 [0.05 : 0.3]	0.2 [0.14 : 0.76]	0.12 [0.07 : 0.23]	0.19 [0.08 : 0.34]
<b>Screening time [IQR]</b>	19.2	11 [7.2 : 15.4]	10.9 [6.2 : 20.8]	12.4 [5 : 22.9]	10 [7.6 : 34.1]	9 [5.4 : 14.9]	10.5 [6.4 : 19.9]
<b>n</b>	1	3	20	10	7	5	46

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.2	2.8 [2.2 : 4.2]	4.1 [3.1 : 6.7]	2.7 [2.5 : 12.3]		20.7 [20.6 : 20.8]	3.4 [2.5 : 5.3]
<b>Mean P<sub>KA</sub> [STD]</b>	2.2	3.4 [1.9]	5.1 [2.7]	6.9 [7.4]		20.7 [0.2]	4.6 [3.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.66	0.33 [0.24 : 0.47]	0.26 [0.2 : 0.36]	0.09 [0.08 : 0.42]		0.28 [0.26 : 0.29]	0.29 [0.23 : 0.43]
<b>Screening time [IQR]</b>	7.4	8.9 [6.7 : 13.7]	9 [7 : 13]	14.2 [6.3 : 18.9]		7.2 [6 : 8.3]	8.9 [6.8 : 13.9]
<b>n</b>	1	46	32	3	0	2	84

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	5.2 [1.9 : 9.3]	2.8 [2.1 : 5.2]	0.8	6.3		29.4	3.4 [2.1 : 7.1]
<b>Mean P<sub>KA</sub> [STD]</b>	7 [7.1]	4.3 [3.3]	0.8	6.3		29.4	5.9 [6.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	1.49 [0.54 : 2.11]	0.4 [0.28 : 0.67]	0.06	0.2		0.41	0.54 [0.36 : 1.33]
<b>Screening time [IQR]</b>	23.7 [14.5 : 41.4]	11.3 [8.6 : 15.2]	6.3	12.7		13.6	13.6 [9.2 : 22.9]
<b>n</b>	18	24	1	1	0	1	45

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	1.6 [1.3 : 4.9]	5.2 [2.9 : 5.6]	6	12.4 [7.8 : 17]	21.3 [18.7 : 23.8]	45	5.3 [1.5 : 8.2]
<b>Mean P<sub>KA</sub> [STD]</b>	3 [2.7]	4.2 [1.8]	6	12.4 [6.5]	21.3 [3.6]	45	8.3 [10.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.58 [0.4 : 1.26]	0.53 [0.43 : 0.91]	0.36	0.42 [0.21 : 0.63]	0.4 [0.31 : 0.49]	0.68	0.51 [0.35 : 0.77]
<b>Screening time [IQR]</b>	12 [10.4 : 24.9]	12.3 [8.6 : 17.4]	13.4	20.8 [14.6 : 27]	18.1 [15.2 : 21]	25.9	14 [11.2 : 24.6]
<b>n</b>	9	5	1	2	2	1	20

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	33.4	7.4 [5.7 : 9.3]	11.3 [9.6 : 22.1]	26.4 [18.3 : 30.5]	51.5 [26.3 : 75.6]	95.8 [53.2 : 138.4]	11.9 [8.3 : 26.4]
<b>Mean P<sub>KA</sub> [STD]</b>	33.4	7.4 [3.3]	15.2 [7.7]	25.5 [6.5]	52.3 [29.3]	95.8 [60.2]	22.5 [25.9]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	7.95	0.83 [0.61 : 0.99]	0.75 [0.6 : 1]	0.74 [0.48 : 1.06]	0.97 [0.51 : 1.33]	1.35 [0.77 : 1.92]	0.82 [0.61 : 1.05]
<b>Screening time [IQR]</b>	65.2	20.4 [14.8 : 31.6]	26.6 [16.7 : 34.8]	37.1 [24.2 : 48.6]	31.8 [20.3 : 41]	167.7 [70.4 : 265]	26.1 [17.3 : 39.3]
<b>n</b>	1	20	15	6	8	2	52

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	2.8 [1.6 : 4]	2.3 [1.5 : 3.5]	4.6 [3.6 : 5.7]	10.1 [5.3 : 11.4]	24.8 [21.7 : 47.8]	20.9 [14.1 : 27.7]	3.5 [2 : 10.1]
Mean P <sub>KA</sub> [STD]	3 [1.8]	3.2 [2.9]	4.6 [1.4]	8.6 [4.3]	33.6 [19]	20.9 [9.6]	8.1 [11.4]
Median P <sub>KA</sub> /kg [IQR]	0.58 [0.34 : 0.86]	0.38 [0.21 : 0.61]	0.2 [0.18 : 0.25]	0.28 [0.16 : 0.33]	0.41 [0.4 : 0.75]	0.23 [0.16 : 0.31]	0.35 [0.21 : 0.58]
Screening time [IQR]	11.1 [8.9 : 15.8]	8.1 [5.5 : 12.8]	10 [8.8 : 11.5]	12.9 [9.2 : 15.4]	17.7 [10.1 : 186.7]	8 [5.3 : 10.6]	10.3 [7.5 : 13]
n	5	14	3	3	3	2	30

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.4 [0.3 : 0.5]		6.9 [4 : 10.2]	3 [1.6 : 4.4]	3.6 [1.6 : 5.9]	10.2 [6.4 : 19.2]	4.3 [2 : 9.2]
Mean P <sub>KA</sub> [STD]	0.4 [0.1]		7.1 [4.1]	3.4 [2.3]	5.3 [5.2]	17.5 [17.7]	7.7 [11]
Median P <sub>KA</sub> /kg [IQR]	0.11 [0.07 : 0.11]		0.31 [0.26 : 0.5]	0.09 [0.05 : 0.13]	0.07 [0.03 : 0.11]	0.14 [0.09 : 0.27]	0.09 [0.05 : 0.18]
Screening time [IQR]	10.6 [9.3 : 10.9]		19.3 [14 : 36.7]	18.3 [13.6 : 29.6]	18.5 [10.2 : 34.5]	27 [18.5 : 59.3]	19.2 [12.7 : 41.3]
n	3	0	3	21	37	21	85

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			2.4 [0.2 : 6.9]	1.9 [1.2 : 4.2]	1.8 [0.6 : 9.6]	15.2 [3.4 : 19.2]	2.6 [1.4 : 11.8]
Mean P <sub>KA</sub> [STD]			4 [4.9]	3.9 [5]	4.3 [4.7]	13.2 [10.1]	7.1 [8]
Median P <sub>KA</sub> /kg [IQR]			0.11 [0.01 : 0.4]	0.06 [0.04 : 0.13]	0.03 [0.01 : 0.16]	0.15 [0.04 : 0.27]	0.09 [0.02 : 0.2]
Screening time [IQR]			11.3 [3.5 : 29.8]	12 [7.8 : 12.8]	8.2 [2 : 18]	11.2 [6.1 : 18.7]	11.3 [4.5 : 18.7]
n	0	0	5	6	11	11	33

Atrial septostomy	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.7 [0.2 : 1.5]	3.2					0.9 [0.3 : 1.6]
Mean P <sub>KA</sub> [STD]	1.6 [2.7]	3.2					1.7 [2.6]
Median P <sub>KA</sub> /kg [IQR]	0.2 [0.05 : 0.4]	0.36					0.23 [0.08 : 0.4]
Screening time [IQR]	5.1 [3.4 : 17.8]	17.9					5.4 [3.6 : 17.9]
n	10	1	0	0	0	0	11

### Hospital 3: 2004-2008 (mass stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.1 [0.1 : 20.1]			0.4	4.1		0.4 [0.1 : 9.8]
Mean P <sub>KA</sub> [STD]	9 [15.4]			0.4	4.1		6.3 [11.6]
Median P <sub>KA</sub> /kg [IQR]	0.04 [0.02 : 2.1]			0.01	0.06		0.04 [0.01 : 0.74]
Screening time [IQR]	2.8 [2.6 : 23.2]			1.8	1.2		2.5 [1.7 : 9.6]
n	3	0	0	1	1	0	5

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.8 [1.7 : 5.6]	4.5 [2.8 : 8.2]	6 [2.7 : 16.4]	24 [10.9 : 44.4]	17.2 [11.1 : 20.7]	21.2 [7.7 : 40.4]	4.7 [2.5 : 9.8]
<b>Mean P<sub>KA</sub> [STD]</b>	4.5 [4.9]	6.3 [5.5]	11.2 [11.2]	32.8 [31.9]	16.3 [8.4]	26.2 [21.2]	9.7 [14.6]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.55 [0.34 : 1.17]	0.37 [0.24 : 0.65]	0.29 [0.13 : 0.73]	0.48 [0.25 : 0.85]	0.29 [0.19 : 0.34]	0.3 [0.12 : 0.9]	0.41 [0.25 : 0.8]
<b>Screening time [IQR]</b>	13.2 [7.9 : 21.3]	11.9 [8 : 19.6]	18.2 [8.4 : 27.4]	23.3 [14.4 : 46.5]	13.2 [7.8 : 16.5]	9.5 [6.4 : 39]	13.6 [8.1 : 23.5]
<b>n</b>	122	108	45	28	8	14	325

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.3 [1.9 : 5]	5.3 [3.1 : 9.3]	8 [4 : 14.5]	17.4 [8.8 : 31.5]	8.7 [6.7 : 19.8]	27.9 [18.8 : 48.8]	5.1 [2.8 : 10]
<b>Mean P<sub>KA</sub> [STD]</b>	4 [3.3]	7 [5.6]	10.7 [8.6]	21.2 [15.9]	12.3 [8.9]	33.2 [21.2]	9.1 [11.1]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.52 [0.36 : 0.84]	0.42 [0.24 : 0.77]	0.35 [0.2 : 0.54]	0.37 [0.2 : 0.58]	0.14 [0.12 : 0.32]	0.49 [0.26 : 0.72]	0.45 [0.25 : 0.74]
<b>Screening time [IQR]</b>	11.4 [7 : 16.5]	13.1 [8.2 : 21.7]	11.2 [6.8 : 17.7]	13.8 [7.8 : 19.6]	9.9 [7.2 : 16.7]	14.6 [9 : 20.7]	12.5 [7.2 : 18.9]
<b>n</b>	117	83	36	27	12	14	289

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.1 [2.1 : 2.1]	5.4 [3 : 6.4]	2.6 [1.6 : 6]	4.9 [2.2 : 10.1]	11.1 [6 : 21.4]	10.8 [6 : 39.5]	5.2 [2.1 : 7.9]
<b>Mean P<sub>KA</sub> [STD]</b>	2.1 [0]	4.8 [2.5]	3.9 [2.9]	6 [5.3]	13.7 [11.9]	22.1 [24]	8.2 [12.4]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.49 [0.49 : 0.49]	0.33 [0.26 : 0.43]	0.13 [0.07 : 0.26]	0.08 [0.06 : 0.16]	0.19 [0.12 : 0.27]	0.19 [0.1 : 0.71]	0.19 [0.08 : 0.34]
<b>Screening time [IQR]</b>	19.2 [19.2 : 19.2]	14.3 [11 : 20.6]	9.4 [5 : 20.5]	6.8 [6 : 13.5]	10.6 [5.4 : 16]	9.5 [7.4 : 38.6]	10.5 [6.4 : 19.9]
<b>n</b>	1	10	20	3	4	8	46

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	2.2 [1.7 : 2.6]	3.6 [2.7 : 5.3]	5.5	2.4	20.6	20.8	3.4 [2.5 : 5.3]
<b>Mean P<sub>KA</sub> [STD]</b>	2.3 [0.8]	4.4 [2.5]	6.6	2.4	20.6	20.8	4.5 [3.7]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.29 [0.25 : 0.37]	0.3 [0.23 : 0.46]	0.29	0.08	0.26	0.29	0.29 [0.23 : 0.43]
<b>Screening time [IQR]</b>	6.9 [6.1 : 8.5]	9.6 [7.3 : 14.1]	9.5	14.2	8.3	6	8.9 [6.8 : 13.8]
<b>n</b>	15	60	7	1	1	1	85

Pulmonary valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	3.4 [2.3 : 6.7]	2.5 [1.7 : 8.4]		17.9 [6.3 : 29.4]			3.4 [2.1 : 7.1]
<b>Mean P<sub>KA</sub> [STD]</b>	5.5 [5.5]	4.9 [4.5]		17.9 [16.3]			5.9 [6.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.65 [0.39 : 1.62]	0.24 [0.17 : 0.69]		0.31 [0.2 : 0.41]			0.54 [0.36 : 1.33]
<b>Screening time [IQR]</b>	14.5 [10.3 : 25.1]	8.6 [6.8 : 15.7]		13.2 [12.7 : 13.6]			13.6 [9.2 : 22.9]
<b>n</b>	35	8	0	2	0	0	45

Aortic valvuloplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2.2 [1.4 : 5.3]	5.6 [5.2 : 6]	17.0	23.8 [11.8 : 39.7]	18.7 [18.7 : 18.7]		5.3 [1.5 : 8.2]
Mean P <sub>KA</sub> [STD]	3.3 [2.4]	5.6 [0.5]	17.0	25.5 [18.7]	18.7 [0]		8.3 [10.7]
Median P <sub>KA</sub> /kg [IQR]	0.58 [0.4 : 1.1]	0.45 [0.36 : 0.53]	0.63	0.49 [0.28 : 0.63]	0.31 [0.31 : 0.31]		0.51 [0.35 : 0.77]
Screening time [IQR]	12.3 [10.4 : 24.6]	11.7 [9.9 : 13.4]	27	21 [16.2 : 24.7]	15.2 [15.2 : 15.2]		14 [11.2 : 24.6]
n	13	2	1	3	1	0	20

Pulmonary artery angioplasty	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	6.7 [4.6 : 9]	9.5 [8.2 : 10.8]	24.2 [19 : 32]	33.1 [20.6 : 76.3]	15.7	51.5 [40.4 : 62.6]	11.9 [8.3 : 26.4]
Mean P <sub>KA</sub> [STD]	8.8 [8.3]	9.7 [3.3]	24.2 [8.7]	52.7 [39.4]	15.7	51.5 [15.7]	22.5 [25.9]
Median P <sub>KA</sub> /kg [IQR]	0.9 [0.61 : 1.21]	0.73 [0.61 : 0.98]	1.12 [0.87 : 1.39]	0.77 [0.52 : 1.34]	0.34	0.97 [0.9 : 1.04]	0.82 [0.61 : 1.05]
Screening time [IQR]	24.4 [17.2 : 33]	21.4 [14.8 : 33.2]	40.3 [25.4 : 57.2]	38 [25.6 : 73.3]	12.5	41 [39 : 43]	26.1 [17.3 : 39.3]
n	12	18	8	11	1	2	52

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	2.5 [1.6 : 3.5]	3.3 [3.3 : 3.3]	5.3 [4.6 : 6]	11 [6.9 : 33.7]	20.7	24.8 [16.8 : 27]	3.5 [2 : 10.1]
Mean P <sub>KA</sub> [STD]	3.2 [2.6]	3.3 [0]	5.3 [1]	20.3 [23.7]	20.7	22.2 [7.1]	8.1 [11.4]
Median P <sub>KA</sub> /kg [IQR]	0.39 [0.26 : 0.67]	0.17 [0.17 : 0.17]	0.23 [0.2 : 0.26]	0.32 [0.2 : 0.61]	0.41	0.31 [0.19 : 0.38]	0.35 [0.21 : 0.58]
Screening time [IQR]	9.2 [5.9 : 13]	10 [10 : 10]	10.2 [8.4 : 12]	14.6 [10.4 : 129.6]	17.7	7.5 [5.9 : 9.8]	10.3 [7.5 : 13]
n	19	1	2	4	1	3	30

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.4 [0.3 : 0.5]	3.1	3.1 [1.4 : 6.7]	4.3 [2.4 : 8.7]	9.4 [2.3 : 14.9]	4 [1.5 : 4.5]	4.3 [2 : 9.2]
Mean P <sub>KA</sub> [STD]	0.4 [0.1]	3.1	3.9 [3.4]	7.5 [9]	13.9 [18.7]	3.1 [2.1]	7.7 [11]
Median P <sub>KA</sub> /kg [IQR]	0.11 [0.07 : 0.11]	0.24	0.11 [0.05 : 0.26]	0.08 [0.05 : 0.15]	0.14 [0.04 : 0.21]	0.08 [0.03 : 0.09]	0.09 [0.05 : 0.18]
Screening time [IQR]	10.6 [9.3 : 10.9]	42.5	14.5 [10 : 20.3]	22.3 [14.4 : 42]	21 [7.8 : 48.9]	13.5 [5.2 : 15.8]	19.2 [12.7 : 41.3]
n	3	1	10	53	15	3	85

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		5.2	1.4 [0.2 : 4.2]	7.2 [1.6 : 14]	5.7 [1.8 : 12.7]	2.6 [1.2 : 13.4]	2.6 [1.4 : 11.8]
Mean P <sub>KA</sub> [STD]		5.2	3.2 [4.6]	8.3 [7.8]	7.2 [6.9]	8.3 [11]	7.1 [8]
Median P <sub>KA</sub> /kg [IQR]		0.33	0.06 [0.01 : 0.13]	0.11 [0.03 : 0.2]	0.09 [0.03 : 0.19]	0.04 [0.02 : 0.2]	0.09 [0.02 : 0.2]
Screening time [IQR]		27.2	6.2 [1.6 : 11.3]	12.8 [8.4 : 19.1]	8.9 [4.2 : 15.6]	11.2 [3.5 : 19.4]	11.3 [4.5 : 18.7]
n	0	1	6	13	4	9	33

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.9 [0.3 : 1.6]						0.9 [0.3 : 1.6]
Mean P <sub>KA</sub> [STD]	1.7 [2.6]						1.7 [2.6]
Median P <sub>KA</sub> /kg [IQR]	0.23 [0.08 : 0.4]						0.23 [0.08 : 0.4]
Screening time [IQR]	5.4 [3.6 : 17.9]						5.4 [3.6 : 17.9]
n	11	0	0	0	0	0	11

Hospital 3: 2008-2013 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		1.1	0.4 [0.2 : 2.6]	1.9 [1.7 : 2]	0.9	2.6	1.4 [0.6 : 2.3]
Mean P <sub>KA</sub> [STD]		1.1	1.3 [1.7]	1.9 [0.2]	0.9	2.6	1.5 [1.1]
Median P <sub>KA</sub> /kg [IQR]		0.1	0.02 [0.01 : 0.14]	0.06 [0.05 : 0.07]	0.01	0.03	0.04 [0.02 : 0.08]
Screening time [IQR]		8.1	2.8 [2.1 : 4.8]	6.8 [2.1 : 11.4]	1.4	3.5	3.2 [2 : 6.8]
n	0	1	3	2	1	1	8

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.5 [0.3 : 0.8]	1.1 [0.5 : 1.9]	2.4 [1.3 : 5.3]	7.7 [3.2 : 16.1]	13.9 [8.1 : 24.9]	31.3 [21.1 : 50.6]	2.3 [0.8 : 8.4]
Mean P <sub>KA</sub> [STD]	0.7 [0.7]	1.8 [2.2]	4.2 [4.6]	14.4 [24.9]	24.1 [29.6]	46.8 [52.6]	9.7 [23.4]
Median P <sub>KA</sub> /kg [IQR]	0.14 [0.08 : 0.24]	0.11 [0.07 : 0.23]	0.13 [0.07 : 0.3]	0.22 [0.1 : 0.42]	0.24 [0.15 : 0.49]	0.39 [0.23 : 0.63]	0.16 [0.08 : 0.36]
Screening time [IQR]	12.7 [9.5 : 20.3]	10.6 [7 : 17.7]	12.5 [7.3 : 21.3]	17.4 [9.4 : 24.5]	13.5 [8.7 : 23.6]	14.8 [9.7 : 22.7]	12.4 [8.1 : 21.1]
n	66	203	148	75	69	45	606

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.6 [0.4 : 0.9]	1.2 [0.7 : 2]	2.8 [1.8 : 5.2]	7.1 [3.7 : 10.2]	16.9 [6.5 : 22.5]	19.1 [12.4 : 29.4]	1.9 [0.8 : 5]
Mean P <sub>KA</sub> [STD]	0.9 [1.1]	1.7 [2.1]	5.6 [13.8]	9.8 [11.2]	18.6 [16]	28.9 [34]	5.6 [12.3]
Median P <sub>KA</sub> /kg [IQR]	0.15 [0.09 : 0.27]	0.16 [0.09 : 0.25]	0.17 [0.11 : 0.32]	0.21 [0.1 : 0.3]	0.29 [0.12 : 0.46]	0.25 [0.14 : 0.41]	0.17 [0.1 : 0.29]
Screening time [IQR]	9.4 [6.3 : 16.8]	10.7 [6.4 : 17]	10.8 [7 : 16.6]	10.7 [5.1 : 17.8]	12.3 [6.8 : 19.2]	9.9 [6.4 : 11.3]	10.6 [6.4 : 16.9]
n	51	209	101	50	40	14	465

ASD occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		2	1.5 [1 : 2.3]	3.4 [1.2 : 7.1]	8 [4.6 : 10.7]	16.9 [9 : 29.9]	3.2 [1.4 : 8.9]
Mean P <sub>KA</sub> [STD]		2	2.1 [2.1]	5.1 [5.4]	9.1 [6]	21.3 [14.7]	7.1 [9.7]
Median P <sub>KA</sub> /kg [IQR]		0.21	0.07 [0.05 : 0.12]	0.1 [0.04 : 0.23]	0.15 [0.08 : 0.2]	0.22 [0.12 : 0.33]	0.11 [0.07 : 0.21]
Screening time [IQR]		23.2	9.6 [6.8 : 13.6]	11.1 [5.7 : 19]	9.4 [8.2 : 14.5]	10.2 [8.7 : 13.8]	10.1 [7.3 : 15]
n	0	1	43	20	16	16	96

PDA occlusion	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>		0.8 [0.5 : 1.2]	1.4 [1 : 3.1]	4.2 [2.5 : 5.8]	11.5 [5.6 : 16.1]	22 [22 : 22]	1.1 [0.7 : 2.3]
<b>Mean P<sub>KA</sub> [STD]</b>		0.9 [0.7]	2.3 [2]	5.2 [4.8]	13.1 [9.7]	22 [0]	2.7 [4.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		0.1 [0.06 : 0.13]	0.1 [0.06 : 0.16]	0.13 [0.06 : 0.2]	0.21 [0.12 : 0.27]	0.34 [0.34 : 0.34]	0.1 [0.06 : 0.15]
<b>Screening time [IQR]</b>		8.1 [5.7 : 10.6]	7.3 [5.5 : 11.7]	8.5 [6.1 : 13.1]	10.5 [5.8 : 23.9]	5.8 [5.8 : 5.8]	7.8 [5.7 : 11.2]
<b>n</b>	0	91	39	10	12	1	153

Pulmonary valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.5 [0.2 : 0.8]	0.6 [0.5 : 0.8]	2.4 [1.5 : 5.4]	4.1 [1.9 : 6.7]	18.6 [10.2 : 30.1]	25.2 [17.8 : 44]	0.7 [0.4 : 1.2]
<b>Mean P<sub>KA</sub> [STD]</b>	0.6 [0.4]	0.7 [0.4]	3.3 [2.7]	4.3 [2.9]	19.9 [13.3]	30.3 [18]	3.4 [8.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.16 [0.07 : 0.21]	0.08 [0.06 : 0.11]	0.19 [0.09 : 0.24]	0.13 [0.06 : 0.2]	0.38 [0.19 : 0.51]	0.35 [0.25 : 0.57]	0.1 [0.07 : 0.19]
<b>Screening time [IQR]</b>	14 [10.9 : 19.9]	10.7 [6.9 : 13.1]	12.8 [6.6 : 18.6]	10.3 [7.7 : 13.8]	13.7 [10.6 : 21.2]	19.5 [15.6 : 24.4]	11.8 [8.3 : 16.8]
<b>n</b>	23	26	3	4	3	3	62

Aortic valvuloplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.4 [0.3 : 0.6]	0.8 [0.4 : 1.1]	3 [2.2 : 4.2]	6.5 [3.3 : 7.3]	13 [8.4 : 35.7]	24.1	2 [0.6 : 6.2]
<b>Mean P<sub>KA</sub> [STD]</b>	0.5 [0.3]	0.8 [0.5]	3.5 [1.8]	5.6 [2.4]	24.4 [26.2]	24.1	6.2 [13.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.13 [0.08 : 0.15]	0.09 [0.06 : 0.13]	0.17 [0.13 : 0.24]	0.16 [0.13 : 0.2]	0.24 [0.15 : 0.7]	0.34	0.15 [0.09 : 0.2]
<b>Screening time [IQR]</b>	10.5 [9.6 : 15.3]	9.7 [7 : 11.4]	15.8 [13.5 : 16.4]	15.1 [10.1 : 23.2]	15.5 [9.3 : 38.2]	18.9	11.9 [9.5 : 18.9]
<b>n</b>	15	9	10	7	8	1	50

Pulmonary artery angioplasty	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.9 [0.3 : 2.2]	2.5 [1.8 : 5.6]	7.6 [4.1 : 10.3]	10.7 [8.3 : 29]	20 [12.8 : 85]	41.1 [32.8 : 52.3]	7.2 [3.2 : 12.3]
<b>Mean P<sub>KA</sub> [STD]</b>	1.2 [1.2]	4.1 [3.3]	8.6 [5.7]	18 [14]	44.1 [42.8]	45.4 [23.5]	12.9 [18.3]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.23 [0.09 : 0.51]	0.32 [0.19 : 0.59]	0.39 [0.27 : 0.66]	0.34 [0.27 : 0.94]	0.4 [0.24 : 1.52]	0.54 [0.37 : 0.68]	0.38 [0.24 : 0.61]
<b>Screening time [IQR]</b>	36.8 [18.2 : 55.4]	21.1 [14.9 : 41.5]	25.6 [16.2 : 36]	22.3 [18 : 35.8]	22 [15.2 : 36.6]	15.9 [14.7 : 26]	22.7 [15.9 : 36.2]
<b>n</b>	4	26	27	15	5	5	82

Coarctation repair	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.4 [0.2 : 0.9]	1.2 [0.5 : 2.3]	2 [1.3 : 2.7]	26.8 [14.8 : 80.8]	20.2 [14.5 : 23.9]	34.6 [29 : 49.5]	7 [1.3 : 24.1]
<b>Mean P<sub>KA</sub> [STD]</b>	0.6 [0.5]	1.8 [1.9]	2.1 [0.8]	57.1 [71.2]	18.7 [6.3]	38.3 [13.6]	17.9 [30.4]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	0.09 [0.06 : 0.2]	0.16 [0.08 : 0.33]	0.11 [0.09 : 0.13]	0.64 [0.36 : 2.88]	0.36 [0.26 : 0.43]	0.48 [0.39 : 0.64]	0.3 [0.11 : 0.43]
<b>Screening time [IQR]</b>	8.6 [5.3 : 16.6]	12.8 [8.4 : 20.5]	8.7 [7.4 : 15.7]	19.4 [10.7 : 23.8]	11.4 [9 : 14.5]	10 [8.8 : 15.4]	10.7 [8.3 : 17.4]
<b>n</b>	4	15	6	6	12	8	51

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	0.6	0.7	1 [0.7 : 1.6]	1.7 [0.8 : 4.2]	3.3 [2.1 : 6.8]	6.5 [3.6 : 10]	3.5 [1.7 : 7.2]
Mean P <sub>KA</sub> [STD]	0.6	0.7	2 [3]	2.5 [2.2]	5.2 [4.5]	9.2 [9.5]	5.7 [6.7]
Median P <sub>KA</sub> /kg [IQR]	0.23	0.06	0.05 [0.03 : 0.09]	0.06 [0.03 : 0.11]	0.06 [0.04 : 0.14]	0.08 [0.05 : 0.13]	0.07 [0.04 : 0.12]
Screening time [IQR]	21.6	17.6	16.7 [11.6 : 29.6]	12.1 [8.9 : 23.6]	19 [12.4 : 30.7]	15.6 [9.7 : 25.9]	16.6 [10.7 : 27.8]
n	1	1	9	22	60	41	134

Pacemaker procedures	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		0.2	0.4 [0.2 : 1.9]	0.9 [0.6 : 3.2]	1.1 [0.5 : 2.4]	0.9 [0.4 : 2.6]	0.7 [0.4 : 2.6]
Mean P <sub>KA</sub> [STD]		0.2	1.3 [1.9]	3.3 [7.9]	4.1 [8.5]	2.8 [4.5]	2.9 [6.4]
Median P <sub>KA</sub> /kg [IQR]		0.01	0.02 [0.01 : 0.12]	0.02 [0.02 : 0.08]	0.02 [0.01 : 0.04]	0.01 [0 : 0.04]	0.02 [0.01 : 0.06]
Screening time [IQR]		3.5	11 [5.8 : 17.3]	17.5 [12.9 : 30.5]	9.5 [4.9 : 16.2]	8.4 [3.5 : 15.8]	11.5 [4.9 : 18.1]
n	0	1	15	18	18	16	68

#### Hospital 4: 1993-2003 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	23.4 [11.8 : 39]	49.9 [28.6 : 81.3]	71.3 [37.2 : 123.7]	149.8 [75.6 : 247.2]	254 [164.8 : 482.3]	218.4 [97.4 : 426.4]	66.9 [32.6 : 140.2]
Mean P <sub>KA</sub> [STD]	36.6 [73.4]	72.6 [88.8]	105.8 [128.5]	210.2 [244.2]	341.6 [275.3]	293.1 [236]	125.9 [178.8]
Median P <sub>KA</sub> /kg [IQR]	6.99 [3.76 : 10.56]	5.79 [3.43 : 10.05]	4.11 [2.13 : 6.77]	4.4 [2.29 : 7.18]	5.24 [2.72 : 8.79]	3.32 [1.31 : 6.17]	5.07 [2.69 : 8.74]
Median % PA [IQR]	0.76 [0.63 : 2]	0.71 [0.6 : 0.88]	0.68 [0.49 : 2]	0.67 [0.48 : 0.89]	0.69 [0.53 : 0.91]	0.57 [0.37 : 0.99]	0.7 [0.56 : 0.97]
Screening time [IQR]	7.3 [3 : 14.9]	10.7 [6 : 18]	9.3 [5 : 15.5]	14.7 [7.6 : 26.8]	15.9 [7 : 26.5]	11.4 [8.8 : 17.9]	10.3 [5.8 : 19]
n	108	322	279	158	77	15	959

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]	19.5 [10.1 : 31.2]	30.9 [20.9 : 46.3]	60 [29.8 : 106.5]	96.8 [54.6 : 201.4]	130.6 [72 : 426.8]	572.2 [313.6 : 745.3]	68.9 [30.6 : 160.2]
Mean P <sub>KA</sub> [STD]	20 [12.9]	33.3 [20.2]	91.6 [107.9]	145.9 [139.9]	265.7 [281.1]	520.4 [286.7]	155.5 [212]
Median P <sub>KA</sub> /kg [IQR]	4.71 [2.51 : 7.11]	3.21 [1.99 : 5.41]	3.08 [1.86 : 6.71]	3.08 [1.55 : 4.91]	2.49 [1.36 : 8.22]	8.11 [4.19 : 10.46]	3.29 [1.73 : 6.63]
Median % PA [IQR]	0.76 [0.56 : 0.8]	0.59 [0.27 : 0.82]	0.72 [0.44 : 2]	0.55 [0.36 : 0.76]	0.67 [0.5 : 0.93]	0.52 [0.29 : 1.09]	0.61 [0.41 : 0.84]
Screening time [IQR]	8.3 [2.4 : 15.3]	11.7 [7 : 16.4]	13.8 [6.6 : 27.6]	18.4 [11.7 : 29.5]	18.7 [9.3 : 32.7]	26 [15.3 : 38.8]	15 [8.4 : 26.3]
n	8	22	29	31	24	9	123

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		46.6 [22.6 : 217.2]	98.2 [74.2 : 227.2]	76.8 [64.6 : 173.1]	10.2	594	81.4 [63.3 : 223.8]
Mean P <sub>KA</sub> [STD]		111.8 [141.5]	155.4 [118.5]	151 [158]	10.2	594	162.1 [167.3]
Median P <sub>KA</sub> /kg [IQR]		4.28 [1.99 : 33.7]	5.23 [4.65 : 17.64]	2.38 [1.68 : 5.3]	0.16	6.56	4.28 [1.82 : 6.81]
Median % PA [IQR]		0.84 [0.62 : 0.95]	0.68 [0.35 : 2]	0.52 [0.48 : 1.37]	2	0.43	0.6 [0.48 : 1.75]
Screening time [IQR]		7 [2.4 : 43.8]	16 [9.9 : 20]	6.8 [5.2 : 14.7]	3.8	11	9.9 [4.6 : 17.4]
n	0	3	6	8	1	1	19

EPS/RFA	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]			81 [50.2 : 121.5]	135.5 [63.9 : 246.5]	259.1 [87.4 : 647.1]	572.2 [313.6 : 745.3]	175.1 [76.3 : 427.6]
Mean P <sub>KA</sub> [STD]			125.5 [127.5]	170.7 [142.8]	357.9 [304.2]	520.4 [286.7]	285.5 [265.9]
Median P <sub>KA</sub> /kg [IQR]			3.77 [2.33 : 6.86]	3.45 [1.56 : 7.44]	5.08 [1.62 : 12.38]	8.11 [4.19 : 10.46]	4.85 [1.9 : 8.59]
Median % PA [IQR]			0.51 [0.42 : 1.69]	0.48 [0.37 : 0.59]	0.67 [0.5 : 0.82]	0.52 [0.29 : 1.09]	0.56 [0.41 : 0.74]
Screening time [IQR]			16.7 [9 : 25]	19.3 [12.2 : 32.7]	20.7 [15.1 : 40]	26 [15.3 : 38.8]	20 [12.6 : 33]
n	0	0	7	20	18	9	54

Coronary angiography	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
Median P <sub>KA</sub> [IQR]		160.4 [46.6 : 274.1]	98.2 [75.6 : 240]	76.8 [64.6 : 173.1]	10.2	594	82.2 [64.6 : 243.8]
Mean P <sub>KA</sub> [STD]		160.4 [160.9]	157.8 [139.5]	151 [158]	10.2	594	172.7 [176.6]
Median P <sub>KA</sub> /kg [IQR]		23.89 [4.28 : 43.51]	5.23 [4.94 : 11.44]	2.38 [1.68 : 5.3]	0.16	6.56	4.46 [1.92 : 6.72]
Median % PA [IQR]		0.69 [0.55 : 0.84]	0.68 [0.48 : 1.38]	0.52 [0.48 : 1.37]	2	0.43	0.58 [0.48 : 1.42]
Screening time [IQR]		31.5 [7 : 56]	15 [6.2 : 22]	6.8 [5.2 : 14.7]	3.8	11	8.5 [5.2 : 18.9]
n	0	2	4	8	1	1	16

#### Hospital 4: 1993-2003 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	32.3 [18.5 : 55.4]	52.1 [29.4 : 88.6]	86.3 [46.2 : 149.1]	168.7 [87.5 : 347.9]	215.1 [147.4 : 332.3]		62.6 [31.7 : 135]
Mean P <sub>KA</sub> [STD]	53.6 [86.7]	74.2 [78.1]	132.2 [158.6]	261.5 [275.3]	244.4 [172.2]		121.4 [175.4]
Median P <sub>KA</sub> /kg [IQR]	6.52 [3.93 : 10.9]	4.84 [2.44 : 8.06]	4.2 [2.26 : 6.99]	4.56 [2.53 : 7.96]	4.7 [3.11 : 6.06]		5.07 [2.69 : 8.74]
Median % PA [IQR]	0.71 [0.6 : 0.86]	0.69 [0.56 : 0.89]	0.69 [0.48 : 2]	0.67 [0.51 : 0.96]	0.73 [0.52 : 2]		0.7 [0.55 : 0.94]
Screening time [IQR]	9.9 [5 : 16.3]	9.3 [5.4 : 16]	11 [5.7 : 19]	13.8 [6.9 : 26.1]	10.6 [4.7 : 24.2]		10.5 [5.8 : 19]
n	259	359	209	215	17	0	1059



Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	20.9 [11.4 : 32.7]	31 [22.2 : 47.9]	77.8 [40.2 : 133.2]	158.9 [78 : 512.1]	168.7 [61.7 : 279.7]		68 [25.7 : 161]
<b>Mean P<sub>KA</sub> [STD]</b>	23 [13.5]	40.5 [29.5]	106.9 [102.1]	299.3 [286.1]	215 [217.5]		153.9 [212]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	4.5 [2.65 : 5.98]	3.12 [1.87 : 5.47]	3.08 [1.49 : 6.7]	3.8 [1.64 : 8.36]	1.66 [0.97 : 6.17]		3.29 [1.73 : 6.63]
<b>Median % PA [IQR]</b>	0.79 [0.71 : 0.89]	0.56 [0.34 : 0.83]	0.56 [0.39 : 0.92]	0.58 [0.41 : 0.77]	0.64 [0.41 : 0.89]		0.61 [0.41 : 0.85]
<b>Screening time [IQR]</b>	10.8 [7.2 : 16]	11.5 [6.3 : 16.2]	13.9 [8.3 : 30]	18.7 [10.7 : 33]	19.2 [12 : 26.2]		14.5 [8.4 : 25]
<b>n</b>	15	30	38	45	10	0	138

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	274.1	64 [30.6 : 154.3]	72 [63 : 123.3]	97.9 [66.3 : 173.1]	363.4 [132.7 : 594]		82.9 [63.3 : 193.3]
<b>Mean P<sub>KA</sub> [STD]</b>	274.1	92.5 [93.9]	111.1 [109.2]	150.6 [160.6]	363.4 [326.2]		150.6 [155]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	43.51	4.75 [2.75 : 11.55]	4.04 [2.11 : 5.24]	2.65 [1.57 : 6.09]	6.56 [6.56 : 6.56]		4.28 [1.82 : 6.81]
<b>Median % PA [IQR]</b>	0.84	0.77 [0.45 : 1.5]	0.56 [0.34 : 1.38]	0.63 [0.48 : 2]	0.49 [0.43 : 0.55]		0.55 [0.44 : 1.75]
<b>Screening time [IQR]</b>	56	8.5 [3.9 : 13.1]	10.4 [3.2 : 22]	6.7 [5.2 : 9.3]	7.5 [3.9 : 11]		7 [3.9 : 16.1]
<b>n</b>	1	4	8	8	2	0	23

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>		121.3 [121.3 : 121.3]	108.6 [58.4 : 231.6]	248.2 [84.7 : 588.3]	176.3 [71.2 : 389.4]		173.8 [77.5 : 427.2]
<b>Mean P<sub>KA</sub> [STD]</b>		121.3 [0]	153.7 [127.2]	354.8 [303]	261.6 [246.2]		285.2 [269.2]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		7.4 [7.4 : 7.4]	4.41 [2.93 : 8.59]	4.85 [1.75 : 9.02]	2.07 [0.63 : 8.95]		4.85 [1.9 : 8.59]
<b>Median % PA [IQR]</b>		0.4	0.46 [0.37 : 0.67]	0.6 [0.44 : 0.75]	0.52 [0.3 : 0.68]		0.53 [0.4 : 0.74]
<b>Screening time [IQR]</b>		26.4	19.5 [9.7 : 32.5]	20 [13.3 : 34.2]	16 [12.3 : 25.3]		20 [12.6 : 32.9]
<b>n</b>	0	1	16	35	7	0	59

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	274.1	64 [46.6 : 81.4]	69.7 [61 : 127.4]	97.9 [66.3 : 173.1]	363.4 [132.7 : 594]		97.9 [64.6 : 173.1]
<b>Mean P<sub>KA</sub> [STD]</b>	274.1	64 [24.6]	116.4 [116.9]	150.6 [160.6]	363.4 [326.2]		157.4 [161.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	43.51	4.75 [4.28 : 5.22]	4.65 [2.02 : 8.34]	2.65 [1.57 : 6.09]	6.56 [6.56 : 6.56]		4.46 [1.92 : 6.72]
<b>Median % PA [IQR]</b>	0.84	0.45 [0.35 : 0.55]	0.6 [0.38 : 1.69]	0.63 [0.48 : 2]	0.49 [0.43 : 0.55]		0.55 [0.45 : 1.42]
<b>Screening time [IQR]</b>	56	8.5 [7 : 9.9]	5 [3.1 : 23]	6.7 [5.2 : 9.3]	7.5 [3.9 : 11]		6.9 [4 : 14.7]
<b>n</b>	1	2	7	8	2	0	20

Hospital 4: 2003-2014 (mass stratification)

Other	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	4.5 [1 : 7.5]	9.9 [4.9 : 16.4]	19.7 [10 : 33]	36.9 [22 : 66.1]	115.7 [67.2 : 177.3]	54.8 [54.3 : 93.3]	13.2 [5.7 : 31.7]
<b>Mean P<sub>KA</sub> [STD]</b>	5.4 [5]	16.1 [41.6]	28.3 [28.5]	62.2 [93.2]	119 [63.6]	71.7 [29.8]	30.9 [53.8]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	1.15 [0.29 : 2.04]	1.08 [0.68 : 1.99]	1.1 [0.61 : 1.94]	1.06 [0.72 : 1.67]	2.1 [1.21 : 3.5]	0.76 [0.55 : 1.38]	1.13 [0.66 : 2.05]
<b>Median % PA [IQR]</b>	0.57 [0.45 : 0.81]	0.57 [0.47 : 0.66]	0.57 [0.48 : 0.71]	0.55 [0.42 : 0.62]	0.5 [0.4 : 1]	0.55 [0.55 : 0.55]	0.56 [0.46 : 0.69]
<b>Screening time [IQR]</b>	7 [2.4 : 16.4]	11.3 [6.7 : 18.5]	10.1 [6.4 : 14.1]	10 [7.6 : 14.5]	12.3 [8 : 16]	19 [7 : 21.2]	10.4 [6.4 : 17]
<b>n</b>	37	99	80	29	18	3	266

Interventional	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>	4 [1.9 : 7.7]	6.6 [3.6 : 15]	13.7 [7.6 : 24.8]	95.2 [25.3 : 104.4]	139.7 [99.4 : 254.1]	83.5 [82 : 84.9]	11 [4.6 : 25.2]
<b>Mean P<sub>KA</sub> [STD]</b>	7.3 [10]	13.8 [18.8]	23.7 [28.1]	131.7 [171.5]	242.6 [287]	83.5 [2]	38.3 [96.5]
<b>Median P<sub>KA</sub>/kg [IQR]</b>	1.07 [0.61 : 1.87]	0.88 [0.45 : 1.58]	0.79 [0.37 : 1.36]	2.33 [0.76 : 3.09]	2.78 [1.99 : 5.52]	1.22 [1.2 : 1.24]	0.98 [0.55 : 2]
<b>Median % PA [IQR]</b>	0.44 [0.42 : 0.54]	0.37 [0.19 : 0.53]	0.53 [0.19 : 0.65]	0.47 [0.33 : 0.55]	0.68 [0.35 : 0.69]	0.5 [0.5 : 0.5]	0.44 [0.3 : 0.63]
<b>Screening time [IQR]</b>	13.2 [6.3 : 25.4]	10.1 [4.8 : 18.3]	12.4 [7.4 : 16.4]	16.2 [12 : 37.4]	13 [9.5 : 32.6]	22.2 [20 : 24.3]	12.6 [6.3 : 20.4]
<b>n</b>	22	56	39	14	6	2	139

Diagnostic	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>		27.6 [22.1 : 42.2]	19.2 [9.9 : 27.6]	45.6 [32.3 : 62.1]	100.2 [65.9 : 126]	148.8 [100.9 : 297.1]	48.1 [27.6 : 92.3]
<b>Mean P<sub>KA</sub> [STD]</b>		31.6 [13.8]	20.2 [10.7]	49.2 [28.4]	112.9 [77.9]	194 [110.6]	74.6 [77.9]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		2.55 [1.9 : 3.62]	0.87 [0.6 : 1.36]	1.26 [1.01 : 1.64]	1.77 [1.18 : 2.33]	1.75 [1.35 : 3.27]	1.36 [1.04 : 1.89]
<b>Median % PA [IQR]</b>		0.79 [0.79 : 0.79]	0.78 [0.78 : 0.78]	1 [0.86 : 1]	0.98 [0.95 : 1]		0.98 [0.78 : 1]
<b>Screening time [IQR]</b>		12.4 [7.6 : 20]	7.3 [6 : 11.5]	7.8 [5.1 : 10.5]	8.2 [4.5 : 14]	8.5 [7.1 : 15]	8.1 [5.4 : 11.6]
<b>n</b>	0	3	23	32	26	10	94

Coronary angiography	<5 kg	5-12.5 kg	12.5-25 kg	25-45 kg	45-65 kg	>65 kg	All
<b>Median P<sub>KA</sub> [IQR]</b>		27.6 [22.1 : 42.2]	19.2 [9.9 : 27.6]	45.6 [32.3 : 62.1]	100.2 [65.9 : 126]	148.8 [100.9 : 297.1]	48.1 [27.6 : 92.3]
<b>Mean P<sub>KA</sub> [STD]</b>		31.6 [13.8]	20.2 [10.7]	49.2 [28.4]	112.9 [77.9]	194 [110.6]	74.6 [77.9]
<b>Median P<sub>KA</sub>/kg [IQR]</b>		2.55 [1.9 : 3.62]	0.87 [0.6 : 1.36]	1.26 [1.01 : 1.64]	1.77 [1.18 : 2.33]	1.75 [1.35 : 3.27]	1.36 [1.04 : 1.89]
<b>Median % PA [IQR]</b>		0.79 [0.79 : 0.79]	0.78 [0.78 : 0.78]	1 [0.86 : 1]	0.98 [0.95 : 1]		0.98 [0.78 : 1]
<b>Screening time [IQR]</b>		12.4 [7.6 : 20]	7.3 [6 : 11.5]	7.8 [5.1 : 10.5]	8.2 [4.5 : 14]	8.5 [7.1 : 15]	8.1 [5.4 : 11.6]
<b>n</b>	0	3	23	32	26	10	94

Hospital 4: 2003-2014 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	5.2 [3.3 : 10.2]	14.7 [7.4 : 24.5]	24.5 [10 : 48.9]	67.2 [36.4 : 146.8]	84.1 [56.6 : 103.7]		13.4 [5.6 : 32.2]
Mean P <sub>KA</sub> [STD]	7.3 [6.1]	25.1 [45.5]	31.6 [26.1]	114 [135.1]	80.2 [33]		32.5 [65.1]
Median P <sub>KA</sub> /kg [IQR]	1.05 [0.55 : 1.74]	1.24 [0.7 : 2.09]	1.1 [0.51 : 1.69]	1.57 [0.88 : 3.05]	1.55 [1.21 : 1.89]		1.13 [0.66 : 2.05]
Median % PA [IQR]	0.55 [0.47 : 0.7]	0.58 [0.46 : 0.7]	0.51 [0.45 : 0.63]	0.52 [0.4 : 0.7]	1 [1 : 1]		0.56 [0.46 : 0.7]
Screening time [IQR]	11 [5.5 : 18.3]	10.4 [6.3 : 17.4]	8.2 [5.3 : 13.2]	12 [8 : 16]	7.7 [5.1 : 13.7]		10.3 [6.3 : 17.1]
n	95	103	53	37	4	0	292

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	4.1 [2.8 : 7.9]	11.3 [6.1 : 23.6]	18.2 [8.9 : 54.2]	95.2 [68.3 : 121.5]			11.3 [4.7 : 25.9]
Mean P <sub>KA</sub> [STD]	7.6 [9.4]	19.4 [22.4]	52.7 [93]	158.1 [209.3]			40.3 [98.8]
Median P <sub>KA</sub> /kg [IQR]	0.93 [0.5 : 1.77]	0.97 [0.61 : 1.64]	0.77 [0.39 : 3.04]	2.09 [1.2 : 3.09]			0.98 [0.55 : 2]
Median % PA [IQR]	0.44 [0.35 : 0.5]	0.44 [0.17 : 0.56]	0.52 [0.26 : 0.75]	0.56 [0.47 : 0.68]			0.46 [0.31 : 0.63]
Screening time [IQR]	9.8 [5.3 : 21.4]	10.3 [5.5 : 18.2]	14.5 [10 : 21.3]	18.5 [13.6 : 30.1]			12.6 [6.4 : 20.9]
n	45	57	25	20	0	0	147

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	150.7 [109.3 : 339.8]	23.9 [15.1 : 37.3]	25 [11.9 : 37.1]	67.2 [45.6 : 105.7]	63.9 [43.3 : 84.4]		48.3 [26.9 : 93.1]
Mean P <sub>KA</sub> [STD]	213.2 [130.6]	26.2 [15.7]	43.3 [58.1]	86.2 [68.2]	63.1 [34.7]		73.3 [75.4]
Median P <sub>KA</sub> /kg [IQR]	3.71 [3.62 : 3.8]	2.12 [1.15 : 3.26]	1.26 [0.79 : 1.7]	1.5 [1.11 : 1.88]	1.6 [1.34 : 1.97]		1.36 [1.04 : 1.89]
Median % PA [IQR]		0.79 [0.79 : 0.79]	0.78 [0.78 : 0.78]	1 [0.96 : 1]	1 [1 : 1]		1 [0.79 : 1]
Screening time [IQR]	5 [2.7 : 16]	9.2 [6 : 17.5]	6.8 [5.5 : 11]	8.3 [5.1 : 11.9]	7.1 [5.3 : 13.7]		7.6 [5.1 : 11.8]
n	5	4	38	53	5	0	105

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	150.7 [109.3 : 339.8]	23.9 [15.1 : 37.3]	25 [11.9 : 37.1]	67.2 [45.6 : 105.7]	63.9 [43.3 : 84.4]		48.3 [26.9 : 93.1]
Mean P <sub>KA</sub> [STD]	213.2 [130.6]	26.2 [15.7]	43.3 [58.1]	86.2 [68.2]	63.1 [34.7]		73.3 [75.4]
Median P <sub>KA</sub> /kg [IQR]	3.71 [3.62 : 3.8]	2.12 [1.15 : 3.26]	1.26 [0.79 : 1.7]	1.5 [1.11 : 1.88]	1.6 [1.34 : 1.97]		1.36 [1.04 : 1.89]
Median % PA [IQR]		0.79 [0.79 : 0.79]	0.78 [0.78 : 0.78]	1 [0.96 : 1]	1 [1 : 1]		1 [0.79 : 1]
Screening time [IQR]	5 [2.7 : 16]	9.2 [6 : 17.5]	6.8 [5.5 : 11]	8.3 [5.1 : 11.9]	7.1 [5.3 : 13.7]		7.6 [5.1 : 11.8]
n	5	4	38	53	5	0	105

Hospital 5: 2005-2013

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.4 [0.2 : 0.7]	0.5 [0.2 : 23.9]	2.1 [0.4 : 3.8]	1.4 [0.5 : 2.3]	3.2 [2.3 : 4.1]	1.3	0.6 [0.2 : 2]
<b>Mean P<sub>KA</sub> [STD]</b>	0.8 [1.3]	10.8 [18.1]	2.1 [2.5]	1.9 [2.7]	3.2 [1.3]	1.3	2 [4.7]
<b>Screening time [IQR]</b>	4.3 [2.6 : 12.6]	12.4 [9 : 34.5]	13 [12.9 : 13]	13.9 [7.2 : 25.1]	34.1 [25.9 : 42.3]	10.9	9.3 [4 : 20.5]
<b>n</b>	25	3	2	16	2	1	49

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.8 [0.4 : 1.5]	1.2 [0.6 : 2.9]	1.5 [0.5 : 3.9]	2.2 [0.7 : 12.3]	2.7 [1.2 : 12.2]	28.7 [1.8 : 51]	1.3 [0.6 : 3.9]
<b>Mean P<sub>KA</sub> [STD]</b>	1.6 [3.3]	2.5 [3.2]	6.3 [16.8]	12.3 [24.3]	11.2 [20.1]	34.1 [39.5]	6.5 [16.8]
<b>Screening time [IQR]</b>	14.1 [8.3 : 23.4]	8 [4.3 : 16.6]	10.2 [5.8 : 24.5]	16.9 [10.4 : 25.3]	17 [9.5 : 29.4]	12.6 [5.6 : 21.6]	12.4 [6.8 : 23]
<b>n</b>	125	134	80	99	38	14	490

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.9 [0.5 : 2.1]	2.7 [1.1 : 7.7]	6.1 [4.1 : 11.7]	19.1 [6.7 : 27.9]	43.7	53.1 [15.2 : 129.8]	2.6 [0.9 : 8.5]
<b>Mean P<sub>KA</sub> [STD]</b>	1.5 [1.6]	6 [8]	9 [8.4]	46.3 [111.7]	43.7	70.3 [77.9]	12.6 [46.9]
<b>Screening time [IQR]</b>	10.8 [4.1 : 25.1]	11.2 [5 : 21.1]	14.2 [7.4 : 23.3]	9.6 [7.4 : 16.6]	10.2	36.8 [21.3 : 40.2]	11.2 [6.4 : 21.5]
<b>n</b>	42	41	12	17	1	3	116

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.3	1 [0.6 : 3.5]	1.5 [0.9 : 3.7]	24.2	3 [2.7 : 7.4]	5.1	1.5 [0.7 : 3.8]
<b>Mean P<sub>KA</sub> [STD]</b>	0.3	2.8 [3.7]	3.3 [5]	24.2	5.8 [5.9]	5.1	3.6 [5.2]
<b>Screening time [IQR]</b>	7.2	8.9 [6.6 : 16]	5.9 [4.3 : 10.6]	19.4	8.6 [5.2 : 9.7]	4.7	7.5 [5.2 : 13]
<b>n</b>	1	25	26	1	5	1	59

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.9 [0.6 : 1.3]	1 [0.5 : 1.7]	1.4 [0.6 : 2.6]	7.2 [3.8 : 13.9]	8.8 [7.5 : 10.2]	59.7 [51 : 68.3]	1.1 [0.6 : 2.2]
<b>Mean P<sub>KA</sub> [STD]</b>	1.1 [0.8]	1.5 [1.9]	1.8 [1.6]	9 [6.2]	8.8 [1.9]	59.7 [12.2]	3 [8]
<b>Screening time [IQR]</b>	10.4 [4.8 : 14.1]	4.8 [3.1 : 7.5]	5.2 [3.2 : 7.9]	6.3 [3.9 : 18.5]	6.3 [3.1 : 9.5]	8 [5.6 : 10.3]	6.2 [3.5 : 9.4]
<b>n</b>	26	67	17	7	2	2	121

Coarctation repair	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.9 [0.5 : 1.5]	3.6 [2.2 : 6.4]	28.6 [1.2 : 56.1]	15.1 [9 : 47.6]	28.7	31.6 [28.7 : 53.3]	6.1 [1 : 27.7]
<b>Mean P<sub>KA</sub> [STD]</b>	1.5 [1.9]	4.2 [2.8]	28.6 [38.8]	28.1 [26.4]	28.7	41 [21.6]	16.1 [22.5]
<b>Screening time [IQR]</b>	16.9 [9.6 : 22.7]	13.8 [12.8 : 110]	12.1 [6.8 : 17.4]	14.4 [11.9 : 20.1]	12.2	18 [15.9 : 23.2]	16.6 [11.9 : 21.2]
<b>n</b>	16	3	2	11	1	4	37

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	10.2 [1.4 : 18.9]	0.3 [0.1 : 1.5]	0.3 [0.1 : 0.5]	1.3 [0.5 : 2.3]	1.2 [0.9 : 2.8]	1 [0.6 : 1.8]	1.1 [0.5 : 2.2]
<b>Mean P<sub>KA</sub> [STD]</b>	10.2 [12.4]	1.1 [1.7]	1.4 [3.8]	3.4 [8.3]	3.5 [5]	1.2 [1]	3 [7]
<b>Screening time [IQR]</b>	61.9 [44.5 : 79.2]	16.9 [12.1 : 41]	17 [10.2 : 29.3]	16.5 [10.9 : 23.4]	21.1 [11 : 35.9]	10.2 [4.8 : 10.9]	16.9 [10.4 : 29.3]
<b>n</b>	2	5	20	77	25	6	135

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.5 [0.2 : 0.9]	1.4 [1.1 : 4.5]	15.7 [6.6 : 27.8]	16 [6.7 : 19.3]		78.9 [2.5 : 155.4]	2.3 [0.6 : 14.3]
<b>Mean P<sub>KA</sub> [STD]</b>	0.7 [0.6]	4.8 [7.5]	17 [14.2]	21.2 [22.5]		78.9 [108.1]	13.4 [31.1]
<b>Screening time [IQR]</b>	10.3 [4.9 : 23.9]	11.9 [7.4 : 15.1]	35.7 [15.1 : 43]	10.6 [7.8 : 14]		26.5 [16.1 : 36.8]	11.9 [7.4 : 21]
<b>n</b>	10	7	3	6	0	2	28

Pacemaker procedures	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>		0.1 [0.1 : 0.1]	0.2 [0.1 : 0.3]	0.4 [0.2 : 0.5]	0.4 [0.3 : 0.5]	0.4 [0.3 : 2.1]	0.3 [0.2 : 0.5]
<b>Mean P<sub>KA</sub> [STD]</b>		0.1 [0]	0.2 [0.1]	0.6 [0.9]	0.7 [0.9]	1.1 [1.4]	0.6 [0.8]
<b>Screening time [IQR]</b>		9.8 [9.8 : 9.8]	7.8 [5.2 : 15.1]	11.9 [5.8 : 21]	5.3 [4.2 : 10.9]	6 [3.6 : 24.9]	7.7 [5 : 18.5]
<b>n</b>	0	1	7	14	7	3	32

Atrial septostomy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.3 [0.1 : 0.9]	1.3 [0.8 : 3.2]					0.3 [0.2 : 1.5]
<b>Mean P<sub>KA</sub> [STD]</b>	0.6 [0.8]	1.9 [1.7]					0.9 [1.1]
<b>Screening time [IQR]</b>	13.6 [8.1 : 18.4]	15.4 [10.2 : 16.8]					14.5 [8.6 : 16.6]
<b>n</b>	10	3	0	0	0	0	13

#### Hospital 6: 2005-2013 (age stratification)

Other	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
<b>Median P<sub>KA</sub> [IQR]</b>	0.7 [0.5 : 1]	0.8 [0.6 : 1.8]	1.2 [0.7 : 2.9]	1.7 [0.6 : 7]	0.4 [0.2 : 3.3]	4.2 [1.3 : 8.5]	0.9 [0.5 : 2.4]
<b>Mean P<sub>KA</sub> [STD]</b>	1 [1.2]	1.4 [1.2]	1.8 [1.4]	13.1 [26.5]	1.7 [2.4]	6.4 [7.4]	2.9 [9]
<b>Screening time [IQR]</b>	9.9 [5.7 : 17.1]	9.1 [7.2 : 17]	12.3 [6 : 20.7]	6.9 [2.5 : 16.2]	4 [3.2 : 8.3]	8.6 [4.3 : 10.3]	9.1 [5.4 : 15.7]
<b>n</b>	39	54	18	14	11	12	148

Interventional	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.7 [0.4 : 1.1]	0.6 [0.5 : 1.5]	1.3 [0.6 : 2.1]	2.6 [0.8 : 5.3]	1.1 [0.5 : 2]	3 [1.2 : 4.8]	1.2 [0.6 : 2.7]
Mean P <sub>KA</sub> [STD]	0.9 [0.8]	1.3 [1.7]	1.6 [1.3]	2.9 [2.5]	1.4 [1.3]	8.6 [23]	3.6 [13]
Screening time [IQR]	11.4 [6.9 : 46]	7.5 [4.7 : 11.9]	15.1 [11.4 : 15.8]	12 [8 : 14]	8 [3.8 : 9.5]	10.9 [8.2 : 16.2]	10.5 [7.5 : 15.2]
n	17	15	11	6	8	25	82

Diagnostic	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.8 [0.5 : 1.2]	1 [0.6 : 2.1]	2.6 [1.3 : 4]	4.1 [3 : 11.3]	3.5 [1.5 : 6.9]	3.5 [3.5 : 5.5]	1.5 [0.7 : 3.4]
Mean P <sub>KA</sub> [STD]	0.9 [0.5]	1.6 [1.5]	3.2 [2.8]	9.5 [13.4]	23.2 [52.8]	5.6 [4.5]	4.2 [13.7]
Screening time [IQR]	10.1 [7.4 : 17.1]	10.2 [8.3 : 22.2]	13.2 [8.4 : 15.9]	16.2 [2.7 : 21.5]	10.4 [4.1 : 17.2]	11.6 [6.4 : 13.4]	10.3 [6.5 : 18.1]
n	35	47	12	19	7	10	130

ASD occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]		0.5	0.5 [0.4 : 0.8]	0.8 [0.5 : 1]	0.1	3.7 [0.9 : 6.4]	0.5 [0.5 : 1]
Mean P <sub>KA</sub> [STD]		0.5	0.6 [0.4]	0.8 [0.3]	0.1	3.7 [3.9]	1.2 [1.8]
Screening time [IQR]		12.2	11.3 [11.1 : 11.5]	12 [12 : 12]	1	6.6 [5.1 : 8.2]	11.1 [5.8 : 11.9]
n	0	1	5	2	1	2	11

PDA occlusion	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.4 [0.4 : 0.9]	0.4 [0.3 : 0.5]				2	0.4 [0.4 : 0.8]
Mean P <sub>KA</sub> [STD]	0.6 [0.4]	0.4 [0.1]				2	0.6 [0.5]
Screening time [IQR]	9.3 [6.6 : 10.9]	4 [3.6 : 5.9]				3.5	5.8 [3.7 : 9.3]
n	7	5	0	0	0	1	13

EPS/RFA	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	3.3 [3.3 : 3.3]			0.8	1.2 [0.8 : 2.2]	2 [1 : 4.2]	1.6 [0.9 : 3.5]
Mean P <sub>KA</sub> [STD]	3.3 [0]			0.8	1.6 [1.3]	2.4 [1.7]	2.2 [1.6]
Screening time [IQR]	61.5 [61.5 : 61.5]			8.3	8.6 [7.5 : 9.6]	10.5 [8.4 : 16.1]	10.1 [8.2 : 15.2]
n	1	0	0	1	7	16	25

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	>18 years	All
Median P <sub>KA</sub> [IQR]	0.8 [0.5 : 1.1]	1.5 [0.6 : 2.1]	2.1 [1.3 : 3.9]	10.2 [6.2 : 24.2]	142.7	3.5 [3.1 : 4.5]	2.1 [0.9 : 4.2]
Mean P <sub>KA</sub> [STD]	0.8 [0.4]	1.4 [0.7]	2.5 [1.8]	14.6 [12.6]	142.7	3.8 [1.2]	9.2 [28.4]
Screening time [IQR]	6.3 [6.2 : 6.5]	10 [6.6 : 13]	15.5 [13.2 : 15.8]	1.1 [1.1 : 1.1]	53	13.3 [9.8 : 14]	13.2 [6.5 : 15.5]
n	5	6	6	3	1	4	25

Appendix 3: Organ doses

Hospital 1 1994-2000:

<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
<b>Effective dose</b>	26 [17.5 : 41.7]	26 [16.6 : 39.6]	22.6 [14 : 38]	19.9 [10.6 : 33.9]	22.6 [10.2 : 32.2]	14.5 [4.8 : 22.4]	23.6 [14.4 : 38.1]
<b>Bone marrow</b>	10.2 [6.9 : 16.7]	9.9 [6.5 : 15.2]	9.2 [5.8 : 14.7]	10.9 [5.3 : 18.5]	15.4 [7.5 : 21]	10.1 [4.8 : 15]	10.2 [6.3 : 16.4]
<b>Breasts</b>	65.9 [43.2 : 105.6]	69.3 [44.2 : 105.8]	63.8 [37.2 : 107]	51.7 [11.1 : 102.6]	47.9 [18 : 89.2]	41.2 [8.9 : 72]	63.8 [37.1 : 102.6]
<b>Heart</b>	57.5 [37.9 : 90.9]	51.4 [33.3 : 77.8]	43.8 [27.1 : 72.2]	41.1 [20.1 : 66.6]	42.8 [20.7 : 56.2]	24.8 [11.5 : 42.5]	47.4 [29.2 : 76.2]
<b>Lungs</b>	79.7 [53.4 : 128.4]	80.4 [52.5 : 125.3]	69.3 [43.5 : 115.9]	67.5 [32 : 107.8]	72.7 [38.6 : 101.4]	45.9 [16.3 : 74.2]	75.1 [45.6 : 117.8]
<b>Lymph</b>	14.8 [10 : 23.8]	14.4 [9.4 : 22.1]	12 [7.2 : 19.3]	10.2 [5 : 16.5]	10.5 [5.5 : 14.6]	6.8 [2.7 : 10.4]	12.6 [7.8 : 20.4]
<b>Oesophagus</b>	53.4 [34.7 : 84]	45.7 [30 : 70.7]	38 [22.4 : 59.2]	30 [14.5 : 49.7]	31.6 [16.7 : 45.2]	20.6 [9.2 : 31.6]	41.1 [24.7 : 67.2]
<b>Thyroid</b>	4.3 [2.8 : 6.9]	2.9 [1.9 : 4.9]	1.9 [1 : 2.8]	1 [0.5 : 1.8]	0.9 [0.4 : 1.3]	0.5 [0.2 : 1]	2.4 [1.1 : 4.4]
<b>Liver</b>	21.3 [14.2 : 34.9]	23.6 [14.9 : 36.4]	19.2 [11.5 : 31.8]	14.8 [7.3 : 27.5]	17.3 [8.2 : 24.7]	12.1 [2.6 : 19.5]	19.9 [12.1 : 32.5]
<b>Stomach</b>	10.8 [7.2 : 17.3]	10.3 [6.6 : 15.8]	7.8 [4.6 : 12]	4.9 [2.5 : 8.7]	4.8 [2.3 : 6.9]	3 [1.4 : 5.4]	8.3 [4.7 : 13.9]
<b>n</b>	361	337	166	214	55	62	1195

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
<b>Effective dose</b>	24.2 [13.1 : 37.5]	23.1 [15.9 : 37.3]	22.5 [14.2 : 33.7]	21.2 [11.7 : 29]	28.5 [15.6 : 39.7]	26.6 [15.4 : 32.7]	22.8 [14.5 : 35.9]
<b>Bone marrow</b>	9.4 [5.1 : 14.8]	8.2 [5.2 : 12.7]	9.3 [5.6 : 13.7]	11.1 [7.4 : 19.6]	16 [8.9 : 30]	17.1 [15.1 : 20.8]	9.5 [5.6 : 15.1]
<b>Breasts</b>	61.2 [32.2 : 99.6]	66 [47.2 : 112.6]	66.2 [40.4 : 103.6]	56.9 [18.8 : 93.7]	60.1 [33.1 : 114.3]	55.7 [18.7 : 100.5]	63.9 [37.4 : 102.2]
<b>Heart</b>	48.5 [28.5 : 84.6]	45.8 [31.5 : 77.2]	44.2 [29.1 : 62.9]	40.4 [23.1 : 59.5]	47.5 [24.9 : 64.7]	46.3 [31.4 : 52.9]	45 [29.5 : 72.6]
<b>Lungs</b>	70.9 [40.3 : 118.8]	70.9 [46.8 : 109.5]	68.7 [43.5 : 97.7]	66.2 [41.6 : 102.5]	83.1 [43.9 : 116.4]	82.9 [49.2 : 102.2]	69.6 [44.3 : 108.4]
<b>Lymph</b>	13.2 [7.4 : 21.8]	12.8 [8.4 : 20.2]	11.4 [7.3 : 16]	10 [6.2 : 14.9]	12.1 [6.2 : 16.9]	12.1 [8.4 : 14.2]	12 [7.6 : 19.3]
<b>Oesophagus</b>	45.6 [26.3 : 78.8]	41.2 [27.5 : 66.9]	36 [22.6 : 51.2]	28.9 [18.6 : 43.9]	35 [18 : 55.6]	35.6 [27.8 : 42]	37.8 [24.8 : 63.4]
<b>Thyroid</b>	3.6 [2.1 : 6.4]	2.6 [1.6 : 4.2]	1.7 [1 : 2.4]	1.1 [0.5 : 1.6]	1.1 [0.5 : 1.5]	1.1 [0.6 : 1.2]	2.1 [1.2 : 3.8]
<b>Liver</b>	20.1 [10.8 : 32.6]	22 [15 : 36.3]	19 [12.7 : 28.3]	16.4 [8.6 : 22.3]	19.6 [12.3 : 28.7]	20.5 [10.5 : 28.2]	19.9 [12.5 : 31.4]
<b>Stomach</b>	9.6 [5.5 : 16.1]	8.9 [5.5 : 13.9]	6.8 [4.2 : 10.3]	5.1 [3 : 8]	6.4 [2.6 : 9.3]	5.1 [4.5 : 6.2]	7.5 [4.7 : 12.5]
<b>n</b>	127	185	98	79	14	13	516

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	24.1 [13.9 : 35.1]	24 [14.3 : 39.1]	17.3 [11.8 : 26.3]	12.4 [6.9 : 18.3]	24.9 [10.2 : 30.1]	15.4 [10.8 : 25.2]	17.4 [10.6 : 30.2]
Bone marrow	9.8 [6.2 : 16.1]	10.7 [6.2 : 16]	11.7 [7.3 : 20.3]	11.5 [6.6 : 20.9]	18.4 [10.3 : 32.9]	17.5 [11.5 : 30.3]	12.2 [7.2 : 20.2]
Breasts	49.4 [12 : 89.8]	47.3 [12.4 : 98.9]	12.8 [8 : 28.2]	6.3 [3.5 : 17.6]	8.6 [4 : 38]	5.1 [3.7 : 10]	12.7 [5.7 : 46.9]
Heart	52.5 [36.2 : 84.6]	54.3 [31.6 : 81.3]	46.3 [29 : 73]	33.2 [17.6 : 48]	45.2 [25.7 : 70]	44.1 [30.5 : 66]	43.5 [26.6 : 70]
Lungs	76 [45.3 : 113.3]	78.7 [48.7 : 125.9]	63 [39.3 : 98.5]	47.1 [25.4 : 67.3]	82.8 [37.9 : 103.7]	56.9 [41 : 86]	62.3 [37.7 : 99.9]
Lymph	14.5 [9.5 : 22.5]	15.3 [9.3 : 22.7]	13.3 [8.3 : 20.5]	9 [4.7 : 12.6]	12.4 [6.9 : 19]	11.1 [8.5 : 16.8]	11.8 [7 : 19.8]
Oesophagus	48.1 [33.7 : 78.1]	46.6 [28.6 : 73.4]	38.7 [23.7 : 58.6]	25.4 [14.1 : 40]	37.9 [19.9 : 60.8]	34.5 [24.4 : 52.9]	37.9 [20.9 : 62.1]
Thyroid	3.9 [2.7 : 6.9]	2.7 [1.7 : 4.4]	2 [1.2 : 3.1]	0.8 [0.4 : 1.4]	1 [0.6 : 1.5]	0.8 [0.5 : 1.1]	1.7 [0.7 : 3.4]
Liver	16.9 [10.2 : 28.7]	19.9 [11.1 : 33.9]	12 [8.9 : 21.3]	7.8 [4.4 : 12.2]	12.6 [6 : 22.7]	9 [6.5 : 16.6]	12.4 [7 : 23.3]
Stomach	10.8 [6.8 : 18.2]	10.8 [6.8 : 16.2]	10.6 [5.5 : 16.5]	6 [2.8 : 8.5]	6.6 [4.5 : 11.4]	6.9 [5.5 : 13.6]	8.8 [4.9 : 14.3]
n	36	52	83	60	19	23	273

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		15 [6 : 17.9]	16 [9.4 : 26.3]	10.1 [8.2 : 14.5]	23.3 [18.3 : 28.4]	15.7 [14.4 : 17]	14.3 [9.7 : 20.9]
Bone marrow		7.9 [2.5 : 9.5]	10.4 [5 : 14.8]	8.3 [6.8 : 10.6]	23.4 [16.8 : 30]	18.9 [18.1 : 19.6]	9.4 [5.6 : 16]
Breasts		26.8 [13 : 30.9]	36.5 [15.2 : 45.4]	17.4 [12.9 : 23.9]	30.2 [27.2 : 33.1]	18.5 [17.5 : 19.4]	26.4 [16.2 : 36.5]
Heart		29.1 [11.7 : 35.1]	33.2 [19.2 : 53.4]	21.3 [17.4 : 31]	47.9 [38.1 : 57.6]	34.1 [33.7 : 34.4]	30.7 [20.1 : 43.4]
Lungs		55.1 [19.6 : 66.1]	57.9 [35.5 : 99.1]	38.9 [31.2 : 53.7]	94.1 [71.7 : 116.4]	59.5 [49.4 : 69.7]	49.6 [34.1 : 79.1]
Lymph		9.6 [3.5 : 11.4]	9.3 [6 : 17]	5.9 [4.8 : 8.8]	13.9 [10.8 : 16.9]	9.3 [8.5 : 10.1]	8.5 [5.6 : 13.1]
Oesophagus		28 [10.7 : 33.6]	27.1 [17.9 : 50.2]	17.7 [14 : 29.1]	44.3 [33 : 55.6]	31.9 [30.4 : 33.4]	27.5 [16.1 : 38.4]
Thyroid		1.7 [0.7 : 2.2]	1.2 [0.8 : 2.1]	0.6 [0.5 : 1.2]	1.2 [1 : 1.5]	0.6 [0.3 : 0.9]	1 [0.6 : 1.9]
Liver		11 [5.3 : 13.1]	12.6 [6.7 : 18.8]	6.3 [5.1 : 9.3]	14.4 [11.4 : 17.5]	10.5 [10.4 : 10.5]	10.5 [6.1 : 14.8]
Stomach		7.7 [2.6 : 9.2]	6.9 [4.1 : 12.4]	3.7 [3.1 : 6.3]	7.9 [6.6 : 9.3]	5.6 [5.5 : 5.6]	5.6 [3.7 : 9.5]
n	0	8	12	8	2	2	32

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	43 [19.5 : 52.5]	24.5 [15.8 : 38.4]	22.8 [16.3 : 38]	23.9 [15.2 : 31.5]	30.3 [20.3 : 169.5]		24.4 [16.1 : 38.5]
Bone marrow	13.6 [6 : 16.3]	7.7 [4.8 : 12.3]	7.2 [5.1 : 11.9]	10.4 [6.1 : 14.2]	18.7 [12.3 : 100.7]		7.9 [4.9 : 12.6]
Breasts	128.4 [59.1 : 159.4]	75.2 [49.2 : 119]	81.3 [56.8 : 129.9]	89.7 [47.6 : 115.3]	114.3 [75.2 : 618.6]		80.1 [50.9 : 123.3]
Heart	99 [42.8 : 116]	49.3 [31.2 : 79]	41.9 [29.2 : 71.1]	40.6 [28.6 : 55.1]	44.9 [30.5 : 259.4]		46 [31.2 : 78.8]
Lungs	119.9 [54.6 : 147.2]	70.1 [44.7 : 109.9]	61.8 [42.8 : 105.1]	63 [45.5 : 89.9]	80.1 [55 : 470.1]		69.1 [45.2 : 111]
Lymph	23.4 [10.5 : 28.4]	12.7 [8 : 20.3]	10.3 [7.2 : 17.6]	9.5 [7 : 13.4]	11.4 [7.8 : 66.4]		12 [8 : 20.1]
Oesophagus	87 [37.1 : 99.8]	42.4 [26.7 : 68.7]	33.4 [21.7 : 57]	27.7 [20.4 : 39.1]	32.8 [22.4 : 191.1]		38.6 [26.1 : 67.4]
Thyroid	6.4 [2.7 : 7.6]	2.5 [1.5 : 4.5]	1.6 [1 : 2.7]	1.1 [0.8 : 1.6]	0.7 [0.5 : 4.5]		2.2 [1.3 : 4]
Liver	39.6 [19.1 : 51.3]	24.7 [15.9 : 39.2]	20.8 [14.4 : 35.4]	18.9 [11.5 : 25.7]	28.7 [18.9 : 156.3]		22.4 [15.6 : 39.2]
Stomach	16.6 [7.3 : 19.9]	8.6 [5.2 : 14.1]	5.9 [3.8 : 10.2]	4.7 [3.6 : 6.9]	4.6 [3.1 : 26.3]		7.3 [4.8 : 13.5]
n	9	108	35	12	3	0	167



<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	29.1 [25.2 : 40.6]	22.3 [17.3 : 27.3]	19.2 [11.2 : 28]	19.8 [13.5 : 30.5]		39.8 [32.2 : 47.3]	26.2 [18.2 : 36.1]
Bone marrow	11.5 [9.6 : 15.7]	8.1 [6.9 : 10.2]	6.8 [4.2 : 10.6]	9.6 [7.1 : 21.8]		28.2 [17.8 : 38.5]	10 [7 : 14.9]
Breasts	77.7 [64.7 : 104.2]	54.9 [49.2 : 74.5]	58.2 [33 : 82.3]	67.7 [37.7 : 83.4]		127.3 [108.4 : 146.2]	70.9 [53.1 : 99.6]
Heart	64.5 [53.8 : 90.5]	43.6 [33.7 : 54.6]	36.7 [21.2 : 52.7]	34.6 [23 : 52.5]		64.7 [51.2 : 78.3]	51.8 [34.8 : 72.6]
Lungs	91.3 [76.6 : 121.2]	68.3 [54.4 : 83.8]	57.3 [34.5 : 85.9]	60.2 [43.7 : 101.7]		117.3 [99.1 : 135.5]	80.2 [55.3 : 110.6]
Lymph	16.7 [14.4 : 22.9]	12.2 [9.7 : 15.1]	10 [5.8 : 14.5]	8.9 [6.3 : 14.4]		17 [13.6 : 20.4]	14.2 [9.6 : 20]
Oesophagus	59.9 [49.4 : 84]	38.9 [30.7 : 48.6]	32.1 [18.5 : 45.9]	25.9 [19.2 : 44.2]		51.9 [39.8 : 64]	45.9 [31.6 : 63.5]
Thyroid	4.9 [3.9 : 7.1]	2.4 [1.9 : 3.1]	1.7 [0.9 : 2.2]	1 [0.5 : 1.6]		1.1 [1.1 : 1.2]	2.7 [1.7 : 4.7]
Liver	26.1 [21.1 : 34.7]	20.2 [16 : 24.8]	18.4 [10.1 : 25.1]	15.1 [11 : 24.7]		35.5 [28.3 : 42.6]	23.2 [15.6 : 30.9]
Stomach	12.3 [10.4 : 16.5]	8.5 [7.2 : 10.7]	6.4 [3.7 : 9.2]	4.6 [2.7 : 7.2]		7.4 [5.1 : 9.8]	9.8 [6.4 : 12.8]
n	36	24	7	14	0	2	83

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	26.3 [21.4 : 30.1]	18.2 [13.6 : 42.2]	22.1 [16.9 : 25.9]	21.2 [15.9 : 28.3]	29.6 [28.7 : 30.6]	26.6	24.1 [16.9 : 29]
Bone marrow	11.1 [9.1 : 12.1]	6.6 [5.1 : 15.3]	11 [6.4 : 13.7]	10.1 [9.5 : 13.3]	18.3 [15.1 : 21.5]	15.3	11.1 [7.6 : 13.9]
Breasts	62.2 [47.9 : 77.4]	50.7 [36.9 : 118.2]	74.7 [49.4 : 83.6]	73 [48.8 : 91.8]	89.7 [85.6 : 93.8]	82.9	73 [49.4 : 88.9]
Heart	55.3 [44.3 : 68]	35.8 [26.4 : 82.3]	38.8 [31.8 : 45.2]	37.4 [27.1 : 48.8]	51.2 [50.1 : 52.2]	46.3	43 [31.8 : 51.2]
Lungs	84.4 [69.9 : 92.7]	55.9 [42.2 : 129.6]	64.6 [51.8 : 78.3]	60.5 [50 : 80.7]	93.5 [86 : 101.1]	82.9	71.5 [51.8 : 86]
Lymph	15.4 [12.8 : 17.2]	10.1 [7.5 : 23.1]	9.7 [8.7 : 11.5]	9.2 [7.2 : 12.3]	13.5 [12.7 : 14.3]	12.1	11 [8.7 : 14.3]
Oesophagus	52 [42.2 : 63.3]	31.9 [23.7 : 73.3]	28 [27.8 : 33.7]	26.2 [21.4 : 35]	40.4 [37 : 43.7]	35.6	34 [26.7 : 43.7]
Thyroid	4.2 [3.3 : 5.4]	2 [1.5 : 4.5]	1.3 [1.2 : 1.4]	1.1 [0.7 : 1.3]	1.3 [1.2 : 1.4]	1.2	1.3 [1.2 : 2.3]
Liver	21.5 [17.2 : 24.5]	17.5 [12.7 : 40.1]	16.6 [15.6 : 19.7]	15.6 [12.7 : 21]	23.4 [21.8 : 25]	20.5	18.6 [15.1 : 22.5]
Stomach	11.6 [9.5 : 12.8]	7.1 [5.3 : 16]	5.6 [5.6 : 5.9]	5.1 [3.3 : 6.1]	6.4 [6.2 : 6.6]	5.9	5.9 [5.2 : 7.7]
n	4	5	6	8	2	1	26

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	14.3 [11 : 24.5]	27.2 [22.3 : 36.9]	15.9 [11.9 : 38.6]	21.3 [8.1 : 35.5]	14.8 [13.9 : 15.6]	23.8 [15.8 : 31.8]	19.8 [12.9 : 30.9]
Bone marrow	4.3 [3.4 : 9.7]	8 [6.6 : 11]	4.9 [3.9 : 11.5]	7.4 [2.9 : 14.7]	7.2 [6.9 : 7.4]	11.9 [7.8 : 16]	7.4 [4 : 11.4]
Breasts	44.5 [33.7 : 62.7]	87.1 [72 : 114.8]	55.7 [38.7 : 129.8]	84.7 [33.7 : 129.7]	52.9 [47.8 : 58]	83.4 [55.7 : 111.1]	68.8 [44.3 : 113.7]
Heart	30.1 [24.3 : 53.7]	54.4 [44.1 : 78.1]	28.5 [22 : 72.4]	33.7 [13 : 61.9]	23.4 [21.9 : 24.9]	37.9 [25.1 : 50.7]	34.5 [22.4 : 60.1]
Lungs	40.2 [30.9 : 75.7]	76.7 [62.8 : 103.8]	43.9 [34.6 : 108.4]	56.1 [20.2 : 96.6]	43.2 [42.5 : 43.9]	71.4 [47.1 : 95.8]	52.9 [35.9 : 93.7]
Lymph	7.6 [5.9 : 14]	14.1 [11.4 : 19.6]	7.3 [5.8 : 18.7]	8.1 [3 : 15.2]	6 [5.8 : 6.2]	9.9 [6.5 : 13.2]	8.8 [5.8 : 15.7]
Oesophagus	26.2 [21.4 : 49.9]	46.7 [37.9 : 68.1]	24 [18.6 : 62.2]	23.5 [8.7 : 44.3]	17.5 [16.9 : 18]	28.6 [18.9 : 38.4]	27.4 [18.7 : 54.8]
Thyroid	1.9 [1.7 : 4.1]	2.9 [2.3 : 4.9]	1.1 [0.9 : 3.2]	0.9 [0.4 : 2]	0.6 [0.5 : 0.6]	0.9 [0.6 : 1.2]	1.3 [0.8 : 2.9]
Liver	14.5 [10.6 : 20.6]	28.7 [23.4 : 37.2]	15.1 [11.4 : 38.9]	17.4 [6.4 : 27.8]	12.7 [12.3 : 13]	20.6 [13.6 : 27.5]	18.5 [11.9 : 29]
Stomach	5.1 [4 : 10.2]	9.2 [7.4 : 13.2]	4.2 [3.2 : 11]	3.5 [1.4 : 8.6]	2.3 [2.1 : 2.6]	3.7 [2.5 : 5]	4.9 [2.9 : 10.6]
n	3	6	6	8	2	2	27

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	21.6 [17 : 30.3]	23.7 [22.8 : 25.4]	14.9 [6.1 : 24]	14.3 [6.1 : 22.5]	29.9 [12.4 : 47.3]	18	21.6 [12.9 : 24.7]
Bone marrow	8.7 [6.9 : 11.8]	9.1 [8.2 : 10.8]	6 [2.7 : 9.4]	7.5 [4.1 : 11.8]	26.5 [8.9 : 44.2]	14.8	9 [5.5 : 11.6]
Breasts	57.9 [40.4 : 89.6]	61.4 [59.5 : 64.2]	43.8 [21.5 : 71]	47.1 [18.5 : 73.4]	75.7 [35.1 : 116.3]	45.9	58.6 [34.6 : 77.6]
Heart	44.3 [36.1 : 65.4]	46.5 [45.6 : 49.2]	27.9 [10.9 : 45.1]	25 [10.4 : 39.6]	54.2 [21.1 : 87.2]	32	41.8 [26.5 : 48.6]
Lungs	65.9 [54.2 : 92.3]	74.8 [69.8 : 83.8]	45.8 [17.3 : 73.6]	42.8 [18.7 : 65.4]	95.5 [40.4 : 150.6]	59.7	65.9 [40 : 76.2]
Lymph	11.9 [9.8 : 17.1]	13.5 [12.8 : 14.8]	7.4 [2.7 : 12.3]	6.3 [2.7 : 9.9]	14.4 [5.7 : 23]	8.7	11.2 [6.8 : 14]
Oesophagus	40.8 [31.2 : 60.1]	42.3 [40.7 : 45.3]	22.6 [7.6 : 38.5]	18.4 [8.3 : 29.8]	46.3 [17.6 : 75]	27.5	36.2 [22.5 : 44.7]
Thyroid	3.3 [2.3 : 4.8]	2.8 [2.6 : 3]	1 [0.3 : 1.8]	0.5 [0.2 : 1]	0.9 [0.5 : 1.4]	0.6	2.1 [0.8 : 3.3]
Liver	18.5 [13.7 : 26.3]	21.9 [21.8 : 22.3]	12.8 [4.6 : 20.9]	10.8 [5 : 17.7]	24.6 [10.2 : 38.9]	14.5	18.3 [10.9 : 21.9]
Stomach	8.7 [6.3 : 12.4]	9.9 [9.1 : 11]	4.5 [1.5 : 7.9]	3.3 [1.3 : 5.3]	7.3 [2.5 : 12.1]	4.2	7.9 [4.2 : 10.3]
n	16	6	4	7	2	1	36

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		7.2	15.6 [12.3 : 25.1]	19.6 [11.4 : 35.5]	14 [8.6 : 35.5]	33.5 [5.1 : 61.9]	17.7 [10.7 : 32.6]
Bone marrow		4.7	12.6 [8.8 : 18.3]	19.6 [11 : 34]	14.4 [8.2 : 40.4]	32.6 [4.6 : 60.6]	16.7 [9.1 : 31]
Breasts		3.6	6.6 [3.8 : 10.5]	6.6 [4.1 : 11.5]	4.4 [2.8 : 11.1]	10.4 [1.7 : 19.1]	6.1 [3.6 : 11.5]
Heart		26.7	60.2 [43 : 101.1]	72.9 [44.4 : 129.2]	55 [31.3 : 140.7]	120.4 [20.8 : 220]	63.6 [38.8 : 124]
Lungs		30.6	74.9 [60.7 : 117.2]	97 [55.6 : 175.1]	67.8 [42.5 : 166.8]	167.1 [25 : 309.1]	86.7 [51.2 : 159.8]
Lymph		5.8	12.1 [8.9 : 20]	14.7 [8.8 : 26.2]	10.4 [6.3 : 25.9]	24.4 [3.9 : 44.8]	12.9 [7.8 : 24.5]
Oesophagus		20.8	38.2 [27.4 : 61.5]	43.9 [25.6 : 79.4]	31.3 [19.1 : 77.8]	74.3 [11.7 : 136.9]	38.5 [23.8 : 76.7]
Thyroid		1.2	1.8 [0.7 : 2.7]	1 [0.5 : 2]	0.5 [0.3 : 1.1]	1.3 [0.3 : 2.4]	1 [0.5 : 2]
Liver		5.9	11.3 [6.9 : 17.3]	14.2 [7.7 : 22.7]	10.2 [5.3 : 21.7]	17.7 [1.6 : 33.8]	11.5 [6.2 : 22.6]
Stomach		4.1	6.5 [3.3 : 11.3]	6 [4 : 11.7]	3.3 [2.3 : 11.5]	9.6 [2.1 : 17.2]	5.6 [3 : 11.7]
n	0	1	14	41	11	2	69

<b>Heart biopsy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		7.9 [3.8 : 15.2]	10.7 [1.6 : 25]	1.9 [0.5 : 3.7]	19.5 [2.1 : 37]	2.5 [1.8 : 4]	2.5 [1 : 5]
Bone marrow		4.2 [2 : 8.2]	6.6 [1 : 11.4]	1.7 [0.7 : 2.9]	10.2 [1.8 : 18.5]	2.8 [2.2 : 4.5]	2.4 [0.9 : 4]
Breasts		15.8 [7.4 : 30]	24.3 [3.5 : 56.9]	3.3 [0.7 : 8.2]	72.9 [4.7 : 141.1]	4 [2.3 : 6.2]	4.7 [1.6 : 11.3]
Heart		19.3 [8.9 : 37.5]	28.8 [4.2 : 67.3]	5.9 [1.6 : 10.5]	42.1 [5.8 : 78.4]	7.1 [5.4 : 11.8]	7.1 [2.8 : 14.1]
Lungs		27.9 [13.5 : 54.1]	36.4 [5.4 : 84.7]	5.9 [1.8 : 12.9]	53.3 [7 : 99.6]	7.8 [6.6 : 12.6]	8.5 [3.2 : 17.1]
Lymph		4.9 [2.4 : 9.6]	6.4 [1 : 14.9]	1.1 [0.3 : 2.2]	8.4 [1.2 : 15.6]	1.5 [1.1 : 2.3]	1.5 [0.6 : 2.9]
Oesophagus		16.2 [7.8 : 31.9]	20.6 [3.1 : 47.7]	4.4 [1.2 : 7.3]	25.6 [3.9 : 47.2]	5.1 [4.3 : 8]	4.9 [2 : 10]
Thyroid		1 [0.5 : 2.1]	0.8 [0.1 : 1.9]	0.1 [0 : 0.2]	0.8 [0.1 : 1.5]	0.1 [0 : 0.2]	0.1 [0 : 0.3]
Liver		5.2 [2.6 : 10.1]	6 [0.9 : 14.1]	1.1 [0.3 : 1.9]	10.4 [1.1 : 19.7]	1.3 [0.9 : 2.3]	1.3 [0.5 : 2.6]
Stomach		3.5 [1.7 : 6.8]	4.1 [0.6 : 9.1]	0.7 [0.2 : 1.2]	3.7 [0.7 : 6.8]	0.8 [0.5 : 1.2]	0.8 [0.3 : 1.7]
n	0	4	6	29	2	12	53

<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		14.3 [6.6 : 24.5]	17.2 [12.6 : 26.1]	12.2 [6.4 : 17.4]	17 [8.9 : 29.6]	15.4 [10.9 : 24.1]	14.6 [9.4 : 24.6]
Bone marrow		9.7 [4.4 : 16.8]	12.7 [9.4 : 23]	12.4 [7.5 : 21.5]	19.8 [9.3 : 38.5]	17.5 [12 : 31.6]	13.1 [8.5 : 22.4]
Breasts		8.8 [4.1 : 15.4]	9.7 [7.4 : 14.9]	4.9 [2.7 : 7.7]	6.6 [3.3 : 9.6]	5.1 [3.9 : 9.7]	7.5 [4.1 : 12.3]
Heart		37.2 [17 : 64.7]	49.3 [35.7 : 74.5]	34.4 [17.8 : 48.7]	47.5 [25 : 80.4]	44.1 [30.7 : 67.7]	41.6 [26.8 : 68.6]
Lungs		52.6 [24 : 90.1]	65.4 [47.7 : 99]	47.7 [25.1 : 68]	66.5 [34.9 : 115.4]	56.9 [42.4 : 88.7]	56.3 [36.2 : 91.4]
Lymph		11.8 [5.5 : 20.2]	13.9 [10.4 : 21.4]	9.3 [4.8 : 12.6]	13 [6.9 : 21.5]	11.1 [8.7 : 18.2]	11.6 [7.2 : 19.2]
Oesophagus		35.8 [16.6 : 61]	39.7 [29.9 : 62.2]	27.7 [14.6 : 40.2]	36.7 [19.3 : 68.4]	34.5 [25.7 : 56.4]	35.1 [21 : 57.7]
Thyroid		2.2 [1 : 4.1]	2.1 [1.6 : 3.3]	0.8 [0.4 : 1.4]	1.2 [0.4 : 1.6]	0.8 [0.5 : 1.2]	1.5 [0.6 : 2.4]
Liver		10.8 [5 : 19.2]	11.4 [8.8 : 17.8]	7.7 [3.5 : 9.9]	9.9 [5.2 : 15.7]	9 [6.7 : 14.7]	9.4 [5.8 : 15.6]
Stomach		10.5 [4.9 : 18.7]	10.9 [8.5 : 17.2]	6.6 [3.1 : 8.7]	8.7 [4.5 : 12.8]	7.2 [5.7 : 14.7]	9 [5.3 : 14.5]
n		20	61	47	14	21	171

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.6	15.4 [13.7 : 42.6]	8.6 [4.6 : 24.5]	10.7 [6.6 : 20]	12.2 [1.4 : 22]	5.2 [4.1 : 12.8]	10.3 [4.8 : 22.4]
Bone marrow	1.1	9.8 [8.8 : 26.9]	6.3 [3.1 : 17.3]	9.8 [6.2 : 19]	20.1 [2.3 : 39.2]	8.6 [7.1 : 21]	9.6 [5.1 : 19.7]
Breasts	2.1	19.9 [17.8 : 55.3]	10.1 [5.6 : 30]	11.1 [7.3 : 23.5]	5.7 [1.1 : 9.1]	2.4 [2 : 6.2]	9.4 [3.7 : 21.9]
Heart	4.6	38.9 [34 : 103]	25.6 [12.7 : 65.7]	34.1 [20.5 : 57]	40.8 [4.5 : 77.7]	17.2 [14.1 : 42.8]	32.5 [15.1 : 64.5]
Lungs	6.4	60.4 [53.7 : 166.5]	33.8 [18.2 : 88.9]	41.5 [25.6 : 71.8]	46.4 [5.3 : 79.2]	19.7 [14.9 : 48.4]	40 [18.7 : 76.1]
Lymph	1.1	10.6 [9.5 : 29.2]	6.1 [3.3 : 15.8]	7.3 [4.6 : 12.5]	8.4 [0.9 : 15.2]	3.6 [2.8 : 8.8]	7.1 [3.3 : 13.8]
Oesophagus	4	34.1 [30.7 : 93.7]	19.7 [10.5 : 50.9]	24.4 [14.7 : 42.5]	33.8 [3.8 : 62.3]	14.4 [11.4 : 35.2]	23.5 [11.5 : 47.5]
Thyroid	0.3	2.3 [1.9 : 6.4]	0.9 [0.4 : 2.4]	0.8 [0.5 : 1.4]	0.6 [0.1 : 0.8]	0.2 [0.2 : 0.4]	0.8 [0.3 : 1.8]
Liver	0.9	9.7 [8.5 : 27.1]	4.8 [2.6 : 14.4]	5.3 [3.5 : 10.7]	5.6 [0.6 : 10.9]	2.4 [2 : 6]	5.5 [2.5 : 11.5]
Stomach	0.8	8.1 [7.1 : 22.4]	4.3 [2.2 : 10.8]	4.4 [3 : 7.8]	4.3 [0.5 : 8.1]	1.8 [1.5 : 4.5]	4.7 [2.1 : 8.9]
n	1	7	15	20	6	8	57

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	9.6 [7.1 : 18.8]	53.2 [30.4 : 96.7]	29.7 [29.6 : 39]	22			13.3 [7.5 : 28.8]
Bone marrow	4.4 [3.4 : 8]	22.9 [13 : 41.3]	14.3 [14.2 : 17.8]	17.5			6.1 [3.5 : 14.2]
Breasts	21.3 [14.9 : 41.7]	127.3 [72.7 : 231.5]	78.6 [77.8 : 97.4]	48.8			29.6 [16.8 : 60.9]
Heart	21.6 [15.9 : 42.5]	103.3 [59 : 187.8]	57.6 [57.4 : 75.8]	40.5			29.7 [16.6 : 57.4]
Lungs	31.4 [23.7 : 59.3]	176.4 [100.7 : 319.8]	96.9 [96.3 : 129.1]	79.1			43.4 [24.6 : 93.6]
Lymph	5.7 [4.3 : 11]	30.7 [17.6 : 56.1]	16 [15.8 : 21.7]	11.3			7.9 [4.5 : 15.8]
Oesophagus	20.8 [15.4 : 40.3]	94.5 [54 : 172.3]	48 [47.2 : 66.2]	35.4			28.6 [16.3 : 47.2]
Thyroid	1.8 [1.3 : 3.5]	5.5 [3.2 : 10.5]	2.2 [2.2 : 3.1]	1			2.1 [1.4 : 3.5]
Liver	7.2 [5.1 : 14]	45.5 [26.1 : 83.6]	23.3 [23.1 : 31.6]	16			10 [5.5 : 21.7]
Stomach	4.3 [3.3 : 8.1]	22.4 [12.9 : 41.4]	10.9 [10.7 : 15.1]	5.6			5.6 [3.4 : 10.7]
n	41	4	3	1	0	0	49

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	13.4 [6.4 : 24.4]	18.3 [11.2 : 25.6]	12.3 [7.1 : 20.8]	10.3 [2.6 : 26.6]	13.9 [2.5 : 29.5]	28.1 [12.5 : 46.7]	13.9 [5.7 : 25.1]
Bone marrow	5.4 [2.5 : 10.5]	7.6 [4.7 : 10.5]	5.8 [3 : 10.1]	6.9 [2.7 : 17.5]	9 [3.5 : 31.4]	23.8 [11.2 : 34.2]	6.8 [3 : 12]
Breasts	31.7 [16.2 : 56.4]	42.7 [23.6 : 58.6]	21.5 [10 : 44.6]	14.1 [2.4 : 45.1]	11.4 [1.8 : 19.6]	34.8 [5.3 : 97.6]	27 [9.1 : 50]
Heart	30.5 [14.7 : 56.6]	40 [24.6 : 54.9]	30 [15 : 48.3]	28.2 [9 : 55]	29.6 [7 : 115]	79.4 [34 : 115.3]	33.5 [13.6 : 56.1]
Lungs	40.3 [18.8 : 74.3]	56.3 [34.9 : 78.2]	38.2 [22.3 : 64.4]	35.5 [9.6 : 86.1]	46 [8.6 : 126.4]	115.8 [57.8 : 163.9]	43.6 [17.7 : 78.4]
Lymph	8.2 [3.8 : 15]	11.1 [6.6 : 15.8]	7.3 [4.3 : 12.3]	6.7 [1.8 : 14.5]	7.5 [1.7 : 22.2]	18.3 [9.2 : 27]	8.5 [3.5 : 15.1]
Oesophagus	28.6 [13.6 : 53.5]	37.5 [22 : 50.8]	23.9 [14 : 40.6]	21.3 [6.3 : 47.1]	24 [6.7 : 74.8]	62 [31.2 : 87.2]	28.1 [12.6 : 50.7]
Thyroid	2.7 [1.2 : 4.8]	2.6 [1.7 : 4]	1.2 [0.7 : 2.4]	0.8 [0.2 : 1.6]	0.8 [0.1 : 1.1]	1.8 [0.9 : 3.2]	1.4 [0.6 : 2.9]
Liver	11.5 [5.9 : 20.9]	17.2 [10.1 : 23.9]	11.2 [6.4 : 20.9]	8.2 [1.5 : 23.1]	11.3 [1.8 : 19]	22.5 [9.6 : 38]	12.3 [4.9 : 21.7]
Stomach	6.8 [3.1 : 12.7]	9 [5.5 : 12.6]	5.2 [2.8 : 8.8]	4.3 [1.2 : 8.5]	4.6 [1.3 : 8.9]	9 [3.9 : 17.2]	6.2 [2.6 : 10.7]
n	40	54	45	77	8	4	228

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	10.9 [5.7 : 20]	9.2 [5.2 : 18.3]	9.2 [5.2 : 16.2]	11.4 [5.8 : 20.7]	13.1 [7.9 : 34.1]		9.8 [5.6 : 18.9]
Bone marrow	4.1 [2.3 : 9.2]	3.4 [1.9 : 6.6]	4.1 [2.3 : 7]	6.6 [3.1 : 11.7]	10 [5.5 : 27.4]		4.2 [2.3 : 8.8]
Breasts	27.3 [13.9 : 47.3]	25.6 [13.8 : 43.6]	25.4 [9.4 : 46.6]	24.5 [11.4 : 55.2]	30.7 [23.4 : 77]		25.8 [13.2 : 46.8]
Heart	25.6 [13.5 : 47.3]	20.3 [11.5 : 39.7]	20.1 [11.7 : 37.7]	25.2 [12.2 : 42.4]	26.7 [14.8 : 72.9]		22.4 [12.8 : 42.4]
Lungs	31.8 [17.1 : 64.8]	27.8 [15.8 : 56.8]	27.9 [17.5 : 47.5]	37.4 [18.7 : 62.2]	42.7 [23.7 : 122.6]		30.1 [17 : 58.6]
Lymph	6.5 [3.6 : 12.9]	5.4 [3.1 : 11.7]	5.2 [3.3 : 8.7]	6.3 [3.2 : 10.1]	6.9 [3.6 : 19.6]		5.8 [3.3 : 11.1]
Oesophagus	24.4 [12.7 : 46.3]	18.2 [10.3 : 37.6]	16.8 [10.8 : 29.5]	19.3 [9.7 : 32.6]	23.3 [12.2 : 65.9]		19.7 [11.4 : 38.4]
Thyroid	2.1 [1.1 : 4.3]	1.2 [0.7 : 2.7]	0.9 [0.6 : 1.8]	0.7 [0.4 : 1.5]	0.7 [0.5 : 2.1]		1.3 [0.7 : 2.7]
Liver	10.2 [5.2 : 17.2]	9.6 [5.4 : 16.8]	9 [4.4 : 14.9]	9.7 [5 : 19.5]	12 [7.9 : 28.3]		9.8 [5.1 : 17.3]
Stomach	5.5 [2.9 : 10.3]	4.3 [2.4 : 9.3]	3.8 [2.5 : 6.7]	3.6 [2 : 6.7]	3.8 [1.9 : 11.5]		4.4 [2.5 : 8.6]
n	131	137	61	58	16	0	403

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	11.9 [7.7 : 18.2]	13.8 [8.8 : 24.6]	11.6 [5.2 : 19.7]	10.6 [5.7 : 20.2]	13.1 [3.9 : 25.4]	22 [19.6 : 27.1]	12.3 [6.5 : 21.7]
Bone marrow	5 [3.1 : 7.7]	6.1 [3.7 : 10.6]	5.7 [3.1 : 9.6]	9 [4.2 : 15.3]	10.4 [4.8 : 22]	20.4 [12.3 : 30.7]	6.2 [3.6 : 11.4]
Breasts	28.5 [16.7 : 43.8]	31.5 [16.7 : 57]	15.5 [5.4 : 44.3]	9.4 [3.8 : 35.1]	8.6 [3.4 : 57.4]	46.5 [31.7 : 62.8]	25.1 [7.9 : 47.9]
Heart	28.6 [18.2 : 45.1]	30.8 [19.2 : 54.7]	26 [13.7 : 48.6]	29.5 [16.1 : 47.3]	35.4 [10.4 : 56.5]	50 [43.2 : 72.7]	29.5 [16.4 : 49.8]
Lungs	36.6 [22.8 : 53.8]	43.8 [27.5 : 76.1]	36.2 [16.4 : 65.2]	36 [20.1 : 67.9]	47.1 [15 : 89.6]	73.9 [65 : 97.7]	40 [22 : 69.5]
Lymph	7.4 [4.7 : 10.9]	8.9 [5.5 : 15.6]	7.2 [3.7 : 12.6]	7.5 [4.3 : 12.8]	8.7 [2.7 : 14.8]	12.7 [10.9 : 19]	7.9 [4.5 : 13.1]
Oesophagus	27.2 [16.9 : 41]	28.6 [17.6 : 51.4]	22.7 [11.8 : 39.4]	23.3 [13.2 : 38.4]	28.6 [9.9 : 50.4]	44.8 [34.6 : 66.3]	26.3 [14.8 : 42.9]
Thyroid	2.5 [1.5 : 3.7]	2.1 [1.3 : 3.8]	1.3 [0.7 : 2.3]	0.9 [0.5 : 1.6]	0.7 [0.2 : 1.5]	1.3 [1 : 1.6]	1.6 [0.8 : 2.8]
Liver	10.2 [6.3 : 16.9]	13.3 [8 : 23.7]	9.4 [4.3 : 17.7]	8.1 [4.1 : 16.5]	8.7 [2.9 : 19.9]	18.1 [15.7 : 23.3]	10.7 [5.2 : 18.7]
Stomach	6.2 [3.9 : 9.1]	7.6 [4.5 : 13]	5.9 [3.1 : 9.5]	5.3 [2.8 : 9.1]	5.7 [2 : 9]	7.7 [6.2 : 11.9]	6.3 [3.7 : 10.6]
n	82	111	79	84	24	9	389

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7.8	3 [1.5 : 6.3]	4.3 [1.5 : 14.2]	7.2 [2.6 : 17.6]	1		5.3 [1.8 : 10.8]
Bone marrow	2.4	1.7 [0.9 : 3.1]	2.7 [0.9 : 6.3]	6.5 [2.4 : 17.7]	1.2		2.4 [1.1 : 6.6]
Breasts	22.6	5.3 [2.4 : 14.2]	6.1 [2.1 : 21.8]	16.2 [3 : 25.2]	0.8		5.9 [2.2 : 21]
Heart	17.9	6.7 [3.4 : 13.8]	9.9 [3.4 : 31.1]	15.5 [6.4 : 42.6]	2.5		11.5 [3.9 : 23.9]
Lungs	21.8	10.8 [5.5 : 20.8]	15.6 [5.4 : 45]	24.7 [10.1 : 65.1]	4.2		16.9 [6.3 : 34.2]
Lymph	4.5	2.1 [1.1 : 4.1]	3 [1 : 8.6]	4.1 [1.7 : 11.5]	0.7		3.3 [1.2 : 6.5]
Oesophagus	15.5	6.7 [3.3 : 13.5]	9.5 [3.4 : 28.3]	14.8 [5.6 : 37.9]	2.5		10.3 [3.7 : 21.2]
Thyroid	1.2	0.4 [0.2 : 1]	0.5 [0.2 : 1.6]	0.5 [0.2 : 1.2]	0.1		0.4 [0.2 : 1.1]
Liver	8.8	2.4 [1.1 : 5.9]	3.1 [1.1 : 10.9]	6.2 [1.7 : 12.1]	0.7		3.8 [1.3 : 9.2]
Stomach	3.5	1.9 [1 : 3.6]	2.6 [0.9 : 6.7]	2.7 [1.3 : 8.5]	0.5		2.5 [1 : 5.5]
n	1	16	14	13	1	0	45

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6.7 [4.5 : 12.5]	8.5 [5 : 15.7]	8 [5.3 : 18.2]	7.2 [6 : 14.9]	56.8		8.2 [5.1 : 15.2]
Bone marrow	2.2 [1.8 : 3.8]	2.7 [1.5 : 5.8]	2.8 [2.3 : 5.3]	3.2 [2.2 : 6.2]	37		2.8 [1.9 : 5.4]
Breasts	18.8 [11.8 : 28]	25.7 [14.8 : 39]	25.1 [14.9 : 58.5]	24.1 [19.5 : 54.9]	138.8		24.2 [14.9 : 39.9]
Heart	16.8 [11.5 : 30]	19.5 [11.7 : 37.2]	17.6 [11.4 : 38]	14 [12 : 28.9]	124.4		18.3 [12 : 34.1]
Lungs	18.2 [13 : 35]	23.6 [14.6 : 45.5]	22.3 [15.4 : 47.2]	20.2 [16 : 41]	190.3		23.2 [14.7 : 44.1]
Lymph	3.9 [2.8 : 7.6]	4.7 [3 : 9.5]	4.3 [3.1 : 8.7]	3.2 [2.7 : 6.5]	30.7		4.5 [2.9 : 8.4]
Oesophagus	14.7 [10.4 : 27.3]	16.2 [10.2 : 32.8]	14.3 [10 : 29.6]	9.9 [7.9 : 20]	98.9		15.4 [9.2 : 29.6]
Thyroid	1.3 [1 : 2.3]	1.1 [0.7 : 2.5]	0.8 [0.5 : 1.8]	0.4 [0.4 : 0.9]	3.6		1.1 [0.6 : 2.1]
Liver	6.7 [4.2 : 10.8]	9.5 [5.7 : 16.1]	8.7 [5 : 20]	7.5 [5.6 : 14.9]	49		8.6 [5.5 : 15.3]
Stomach	3.1 [2.4 : 5.9]	3.7 [2.2 : 8.1]	2.9 [2.5 : 5.8]	2 [1.2 : 3.2]	17.9		3.4 [2 : 6.2]
n	17	66	20	11	1	0	115

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	11.8 [5.9 : 19.2]	9.3 [5.3 : 12.3]	13.2 [9.9 : 15.8]	17.1 [13 : 39.9]			11.8 [6 : 17.1]
Bone marrow	5 [2.4 : 8.1]	3.5 [2.1 : 4.7]	5.2 [4.4 : 7.3]	11.4 [10.4 : 32.4]			4.7 [2.5 : 8.1]
Breasts	27.2 [14.3 : 46.9]	24.7 [14.2 : 32.2]	36.7 [27.7 : 38.7]	41.6 [26.6 : 84.3]			29.2 [15.8 : 44.6]
Heart	27.5 [13.1 : 46.2]	20.3 [11.4 : 26.6]	28.5 [21.5 : 34.7]	35 [27.5 : 83.9]			25.3 [14.1 : 39.3]
Lungs	36.4 [17.5 : 56]	27.8 [16 : 37.1]	40.3 [29.6 : 47.4]	57.6 [45.4 : 137.2]			35.9 [18.9 : 53.2]
Lymph	7.4 [3.6 : 11.6]	5.5 [3 : 7.2]	8 [5.4 : 8.6]	9.1 [7.3 : 22.1]			6.6 [3.8 : 10.5]
Oesophagus	26.8 [12.6 : 42.7]	18.2 [10.1 : 24]	25.4 [16.9 : 28.1]	29.6 [24.7 : 75.3]			23.1 [12.6 : 37.4]
Thyroid	2.3 [1.2 : 3.9]	1.2 [0.7 : 1.5]	1.2 [0.9 : 1.8]	1.1 [0.7 : 2.1]			1.8 [1 : 3]
Liver	10.1 [5.4 : 17.3]	9.6 [5.2 : 12.3]	13 [9.2 : 14.4]	15.3 [11.1 : 35.2]			10.9 [5.7 : 15.9]
Stomach	6.2 [2.9 : 9.6]	4.3 [2.3 : 5.6]	5.7 [3.8 : 6.6]	5 [4.2 : 12.5]			5 [2.9 : 8.7]
n	34	10	7	3	0	0	54

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	8.5 [4.8 : 18.8]	8.6 [7 : 13.8]	8.8	10.3 [4.4 : 24.6]	9.7 [7.7 : 10.5]		8.8 [5.9 : 15.7]
Bone marrow	3.6 [2.1 : 7.1]	3.8 [3 : 6.8]	3.9	8 [4.6 : 12.5]	6.7 [4 : 8.2]		4.1 [2.7 : 8.1]
Breasts	20.1 [11.6 : 48.8]	20.6 [14.7 : 29.3]	24.5	23.5 [8.1 : 75.7]	23.8 [23.2 : 24.1]		23.8 [13.4 : 34.3]
Heart	19.3 [11.4 : 46.3]	19.1 [15.3 : 29.9]	19	23.5 [10.8 : 49.9]	19.9 [14.9 : 21.8]		19.3 [13.3 : 34.3]
Lungs	26 [14.9 : 54.3]	27 [22.9 : 45]	26.4	32.7 [14.1 : 74.3]	33.3 [23.5 : 35.2]		26.4 [18.1 : 49]
Lymph	5.3 [3 : 11.3]	5.2 [4.4 : 8.8]	4.8	5.8 [2.6 : 12.1]	5.2 [3.7 : 5.7]		5.2 [3.4 : 8.8]
Oesophagus	18.4 [11.1 : 43.2]	17.2 [14.2 : 28.5]	15.4	19.1 [9.4 : 37.2]	17.2 [11.5 : 19.2]		17.2 [12.4 : 31.8]
Thyroid	1.6 [1 : 4.1]	1.1 [0.9 : 1.9]	0.8	0.7 [0.2 : 1.6]	0.5 [0.5 : 0.6]		1.1 [0.6 : 2.3]
Liver	7.5 [4.1 : 16.6]	8.2 [6.1 : 12.3]	8.1	8.8 [3.8 : 23.1]	8.7 [7.5 : 9.5]		8.1 [5.1 : 13.1]
Stomach	4.4 [2.5 : 9.1]	4.2 [3.7 : 7.6]	3.5	3.9 [1.9 : 6.8]	2.8 [1.8 : 3.2]		3.5 [2.7 : 6.9]
n	9	4	1	4	3	0	21

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	10.2 [8.1 : 14.5]	8.6 [7.2 : 35.4]	21.4 [10.9 : 32.6]	17.7 [5.4 : 20.6]	8.7		10.9 [7.5 : 20.6]
Bone marrow	3.6 [3.1 : 5.1]	3.3 [2.3 : 9.3]	7 [3.6 : 10.5]	6 [2.5 : 10.9]	4.8		4.5 [2.9 : 9.6]
Breasts	27.6 [20.8 : 39.2]	21.9 [19.2 : 115.3]	67.8 [38.5 : 103.3]	51.9 [15.3 : 56.6]	26.8		33.8 [18.7 : 56.7]
Heart	24.3 [17.9 : 35.5]	18.8 [16 : 81.7]	45.2 [22.4 : 70.2]	37.9 [11.7 : 42.2]	16.3		24.3 [16.4 : 45.6]
Lungs	29.2 [24.4 : 41.1]	25.9 [20.2 : 94.6]	60.2 [29.1 : 90.5]	51.8 [16 : 62.8]	27.1		29.2 [23.8 : 62.8]
Lymph	6.1 [4.9 : 8.6]	5.2 [4.1 : 19.4]	11.2 [5.2 : 17.4]	8.9 [2.9 : 10.2]	4.1		6.1 [4.1 : 10.9]
Oesophagus	21.9 [16.2 : 32.3]	17 [13.8 : 67.5]	37.4 [16.8 : 59.4]	26.9 [9.4 : 34.1]	12.8		19.7 [12.5 : 35.8]
Thyroid	1.9 [1.2 : 3]	1.2 [1 : 4.9]	2.2 [0.9 : 3.8]	1.2 [0.5 : 1.4]	0.5		1.2 [0.8 : 2.6]
Liver	10.1 [8.3 : 13.7]	8.7 [7.6 : 44]	22.3 [11.1 : 36.6]	15.6 [5.2 : 19.2]	9		11.1 [7.3 : 20.1]
Stomach	4.9 [4.1 : 6.8]	4.2 [3.2 : 14]	7.6 [3.2 : 11.9]	4.7 [2.1 : 6.3]	1.8		4.6 [2.6 : 7.4]
n	5	4	6	7	1	0	23

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	14.4 [8.9 : 22.7]	10.4 [6.2 : 12.3]	26.6 [8.8 : 44.4]	12.9 [7.3 : 18.9]	6.3 [1.8 : 10.8]		10.8 [8.2 : 18.9]
Bone marrow	6.5 [3.5 : 10.2]	4.9 [2.5 : 5.4]	8 [3.7 : 12.3]	9 [4.7 : 10.5]	4.9 [1.4 : 8.4]		5.6 [3.6 : 9.4]
Breasts	29.9 [19.8 : 49.4]	21.4 [15 : 27.2]	83.6 [21.2 : 145.9]	26 [15.4 : 63.8]	15.8 [4.5 : 27]		26.1 [19.8 : 49.4]
Heart	32.6 [20.8 : 52.6]	21.7 [13.4 : 26.1]	58 [19.1 : 97]	29.8 [16.2 : 33.9]	12.6 [3.5 : 21.6]		23.9 [18.6 : 35.7]
Lungs	45.3 [26.1 : 71.3]	34 [18.9 : 39.1]	73.6 [27.5 : 119.8]	38.2 [24.8 : 55.6]	19.8 [5.6 : 34.1]		34.1 [25.4 : 55.6]
Lymph	9.2 [5.5 : 14.3]	6.7 [3.8 : 7.7]	14.4 [5.4 : 23.4]	7.1 [4.5 : 8.3]	3.2 [0.9 : 5.5]		6.7 [5.1 : 9.3]
Oesophagus	32.9 [20.6 : 51.8]	21.1 [12.3 : 24.7]	49.1 [17.6 : 80.7]	24.2 [13.9 : 27.1]	10.8 [3 : 18.7]		21.7 [17.1 : 33.1]
Thyroid	2.9 [1.9 : 4.6]	1.6 [0.9 : 1.8]	3.3 [1.2 : 5.4]	0.9 [0.5 : 1.1]	0.3 [0.1 : 0.5]		1.6 [0.9 : 3]
Liver	11.1 [7.6 : 17.8]	9 [6.1 : 11.2]	30.3 [8.4 : 52.1]	12.2 [5.7 : 20.2]	6 [1.7 : 10.4]		10.4 [7 : 17.5]
Stomach	7.7 [4.4 : 12]	6 [3.2 : 6.6]	10.1 [4.4 : 15.9]	3.9 [3.2 : 4.4]	1.7 [0.5 : 3]		4.4 [3.7 : 7.7]
n	9	3	2	5	2	0	21

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	53.4 [18.9 : 88]		21.5 [9.3 : 34.5]	39.5 [15.2 : 56]	29.9 [29.3 : 30.5]	24.8	29.1 [16 : 46.5]
Bone marrow	33.5 [11.7 : 55.2]		15 [6.4 : 26.8]	37.7 [13 : 56.6]	33.5 [30.4 : 34.3]	22	32.1 [10.9 : 41.8]
Breasts	48.1 [17.3 : 79]		12.2 [5.4 : 17.9]	15.1 [6.8 : 21.5]	11.5 [11.3 : 11.7]	10.4	13.9 [9.2 : 21]
Heart	212.8 [72.6 : 353]		84.2 [37.1 : 129.8]	140 [54.8 : 201.9]	126.5 [109.2 : 138.5]	91.8	110.8 [65.1 : 191.8]
Lungs	200.5 [71.5 : 329.6]		94 [40 : 158.1]	188 [71.5 : 263.7]	130.6 [124.3 : 143.6]	117	129.8 [66.6 : 202.4]
Lymph	43.3 [15.1 : 71.6]		17 [7.4 : 26.2]	28.7 [11.3 : 40.6]	22.5 [22.1 : 23.1]	18.5	22 [13 : 35.2]
Oesophagus	166.4 [58.5 : 274.3]		58.1 [25.8 : 85.8]	98 [37.8 : 137.6]	75.6 [74.4 : 76.2]	62.3	74 [44.6 : 115.8]
Thyroid	14.5 [5 : 24]		2.6 [1.2 : 3.5]	1.6 [0.9 : 3.1]	1 [0.9 : 1.6]	1.7	1.8 [1 : 3.5]
Liver	37.5 [14.8 : 60.1]		21.5 [8.8 : 36.6]	31.6 [14 : 52.3]	23.2 [15.8 : 26.1]	19	27.1 [12.7 : 44.6]
Stomach	30.4 [10 : 50.8]		8.9 [4.5 : 11.5]	10.1 [4.3 : 16.8]	11.2 [7.8 : 14.1]	7.6	9.9 [5.9 : 15.1]
n	2	0	8	15	3	1	29

<b>Heart biopsy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		5.2	0.6 [0.2 : 0.9]	2.5 [1.2 : 3]	0.1	0.3	1.8 [0.6 : 2.9]
Bone marrow		2.2	0.4 [0.2 : 0.6]	2.7 [1.2 : 3.9]	0.2	0.3	1.9 [0.6 : 3.4]
Breasts		14.4	0.8 [0.3 : 1.2]	2 [1.2 : 3.2]	0.1	0.3	1.6 [0.6 : 3]
Heart		14.1	1.9 [0.7 : 2.7]	8.7 [4.3 : 10.5]	0.5	0.9	6.1 [2.3 : 10.4]
Lungs		15.7	2.1 [0.8 : 3]	9 [4.4 : 10.9]	0.5	0.9	6.5 [2.4 : 10.8]
Lymph		3.1	0.4 [0.2 : 0.6]	1.8 [0.9 : 2.2]	0.1	0.2	1.3 [0.5 : 2.1]
Oesophagus		11.1	1.6 [0.5 : 2.2]	6.3 [3.2 : 8.8]	0.4	0.7	4.8 [1.9 : 8.3]
Thyroid		0.6	0.1 [0 : 0.1]	0.2 [0.1 : 0.2]	0	0	0.2 [0.1 : 0.2]
Liver		3.8	0.4 [0.1 : 0.5]	1.4 [0.7 : 1.7]	0.1	0.1	1 [0.4 : 1.6]
Stomach		2.2	0.3 [0.1 : 0.5]	1.1 [0.6 : 1.5]	0.1	0.1	0.8 [0.3 : 1.4]
n	0	1	4	22	1	1	29

<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		8.9 [4.8 : 13.2]	6.1 [4.4 : 11.2]	7.4 [5.5 : 13.9]	10.3 [3 : 12.2]	25.5	7.4 [4.5 : 13]
Bone marrow		5.8 [3.1 : 8.6]	4.1 [3.1 : 8.8]	7.1 [4.6 : 12.8]	12.8 [2.9 : 16]	32.9	5.8 [3.6 : 12.5]
Breasts		6.3 [3.8 : 9.5]	4.3 [2.9 : 7.1]	4.4 [2.8 : 7.1]	4 [1.6 : 4.3]	8.9	4.4 [2.8 : 8]
Heart		24.7 [13.6 : 36.2]	17.8 [13.5 : 34.6]	23.1 [16.8 : 41.8]	32.1 [9.4 : 37.5]	78.3	23 [13.6 : 39]
Lungs		30.5 [16.1 : 44.9]	21.2 [15.5 : 40.1]	27.8 [19.9 : 50.9]	36.9 [11.2 : 44.5]	92.1	26.8 [15.6 : 47]
Lymph		7.7 [4.2 : 11.3]	5.3 [3.7 : 9.6]	6.1 [4.4 : 10.9]	8 [2.5 : 9.4]	19.5	6.1 [3.9 : 10.9]
Oesophagus		24.2 [13.4 : 35.7]	16.8 [11.8 : 27.7]	19 [13.4 : 34.4]	26.7 [7.4 : 32.3]	67.1	19 [12.4 : 34.3]
Thyroid		1.7 [1 : 2.6]	0.8 [0.7 : 1.4]	0.9 [0.5 : 1.3]	0.5 [0.3 : 0.8]	1.3	0.9 [0.6 : 1.6]
Liver		7.4 [3.9 : 11.1]	4.9 [3.3 : 8.2]	5.1 [3.5 : 8.5]	6.7 [2 : 7.6]	15.9	5.2 [3.4 : 9.2]
Stomach		7.4 [4.1 : 11.2]	5 [3.3 : 8]	5.1 [3.1 : 7.9]	5.7 [1.9 : 6.4]	13.4	5.2 [3.3 : 9.2]
n		15	23	39	6	1	87

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	4.2 [2 : 9.8]			25 [23.3 : 28.3]			6 [2.1 : 23.9]
Bone marrow	1.8 [1 : 4.6]			15.2 [10.6 : 18.8]			3.1 [1 : 11.9]
Breasts	9.5 [4.3 : 21.5]			64.6 [61.4 : 76]			13.1 [4.6 : 62.5]
Heart	10.6 [4.7 : 23.1]			54 [48.9 : 65.5]			14 [4.8 : 50.6]
Lungs	12.3 [6.2 : 30.8]			80.5 [66.7 : 95.7]			19.4 [6.6 : 71.3]
Lymph	2.5 [1.2 : 6.2]			13.5 [11.4 : 16.6]			3.8 [1.3 : 12.1]
Oesophagus	9.8 [4.6 : 23]			42 [34.9 : 50.4]			14.4 [4.9 : 37.3]
Thyroid	0.9 [0.4 : 2.1]			1.7 [1.7 : 2.2]			1.3 [0.4 : 2.1]
Liver	3.4 [1.5 : 7.6]			21.4 [21.2 : 22.2]			4.5 [1.6 : 21.2]
Stomach	2.1 [1 : 5.2]			8.7 [7.2 : 12.1]			3.2 [1.1 : 7.7]
n	13	0	0	3	0	0	16



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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.6 [0.2 : 2.5]	0.5 [0.2 : 1.7]	0.5 [0.2 : 2.6]	0.7 [0.3 : 2]	1.3 [0.4 : 3.3]	1.3 [0.8 : 2.9]	0.6 [0.2 : 2.3]
Bone marrow	0.3 [0.1 : 0.9]	0.2 [0.1 : 0.6]	0.3 [0.1 : 1.3]	0.6 [0.2 : 1.6]	1.3 [0.4 : 3]	1.3 [0.6 : 2.7]	0.5 [0.2 : 1.4]
Breasts	1.1 [0.5 : 6.5]	1 [0.4 : 4]	0.9 [0.3 : 3.4]	0.8 [0.3 : 2.5]	1.2 [0.4 : 4.1]	1.6 [0.8 : 3.7]	0.9 [0.3 : 3.4]
Heart	1.7 [0.6 : 6.4]	1.2 [0.5 : 3.8]	1.7 [0.5 : 7.2]	2.3 [1 : 6.5]	4.4 [1.4 : 9.9]	4.4 [2.3 : 8.6]	2.1 [0.7 : 6.5]
Lungs	1.8 [0.7 : 7.1]	1.5 [0.6 : 4.9]	1.7 [0.6 : 8.8]	2.4 [1 : 7.6]	4.6 [1.6 : 11.4]	4.5 [2.4 : 10.7]	2.3 [0.8 : 7.7]
Lymph	0.4 [0.1 : 1.5]	0.3 [0.1 : 1]	0.4 [0.1 : 1.8]	0.5 [0.2 : 1.3]	0.9 [0.3 : 2]	0.9 [0.4 : 1.9]	0.4 [0.2 : 1.4]
Oesophagus	1.3 [0.5 : 5.9]	1.1 [0.4 : 3.3]	1.3 [0.4 : 5.7]	1.7 [0.7 : 4.5]	3.2 [1 : 7.3]	3.3 [1.7 : 6.5]	1.6 [0.6 : 4.9]
Thyroid	0.1 [0 : 0.6]	0.1 [0 : 0.2]	0.1 [0 : 0.3]	0 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0.1 : 0.2]	0.1 [0 : 0.2]
Liver	0.4 [0.1 : 2.3]	0.3 [0.1 : 1.7]	0.4 [0.1 : 2.5]	0.4 [0.2 : 1.6]	0.8 [0.3 : 2.5]	0.7 [0.5 : 2.7]	0.4 [0.2 : 2]
Stomach	0.3 [0.1 : 1.2]	0.3 [0.1 : 0.8]	0.3 [0.1 : 0.9]	0.3 [0.1 : 0.7]	0.5 [0.1 : 1]	0.6 [0.2 : 0.9]	0.3 [0.1 : 0.8]
n	62	143	107	286	73	13	684

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.2 [1.3 : 3.5]	1.6 [0.8 : 2.9]	2 [0.7 : 4.9]	3.7 [1.5 : 8.5]	5 [2.2 : 9.4]	8.5 [1.4 : 15.8]	2.2 [1 : 4.9]
Bone marrow	0.8 [0.5 : 1.3]	0.5 [0.3 : 1.1]	0.8 [0.4 : 1.7]	1.9 [0.9 : 4.1]	3.2 [1.2 : 5.6]	4.9 [1.6 : 8.1]	0.9 [0.4 : 2]
Breasts	5.8 [3.3 : 9.3]	4.2 [2.3 : 8.4]	4.6 [1.2 : 13.7]	10.1 [3.1 : 23.7]	11.3 [3.8 : 26.3]	26.5 [2.4 : 35]	6 [2.5 : 12.7]
Heart	5.4 [3 : 8.6]	3.7 [1.9 : 6.9]	4.3 [1.7 : 11]	7.7 [3.6 : 17.5]	11.4 [4.4 : 18.8]	15.8 [3.4 : 33]	5 [2.5 : 10.9]
Lungs	6.2 [3.6 : 10]	4.5 [2.5 : 8.7]	5.5 [2.4 : 13.4]	11.5 [4.8 : 25.2]	17.3 [6.7 : 29.5]	25.7 [4.9 : 47.8]	6.4 [3.1 : 14]
Lymph	1.3 [0.8 : 2.1]	0.9 [0.5 : 1.8]	1.1 [0.5 : 2.6]	1.9 [0.8 : 4.2]	2.8 [1.1 : 4.7]	3.9 [0.9 : 7.8]	1.2 [0.6 : 2.7]
Oesophagus	4.8 [2.8 : 7.9]	3.2 [1.7 : 6.1]	3.5 [1.5 : 8.6]	6 [2.6 : 13.4]	8.6 [3.4 : 14.8]	12.5 [3.2 : 24.7]	4.3 [2.1 : 9.2]
Thyroid	0.4 [0.3 : 0.8]	0.2 [0.1 : 0.5]	0.2 [0.1 : 0.5]	0.2 [0.1 : 0.6]	0.3 [0.1 : 0.5]	0.3 [0.1 : 0.8]	0.3 [0.1 : 0.6]
Liver	2.1 [1.2 : 3.4]	1.7 [0.9 : 3.2]	1.9 [0.6 : 5]	3.8 [1.4 : 8.2]	4.3 [2.1 : 9.4]	9.3 [1.1 : 14.5]	2.2 [1 : 4.7]
Stomach	1.1 [0.6 : 1.8]	0.7 [0.4 : 1.4]	0.8 [0.3 : 1.8]	1 [0.5 : 2.3]	1.3 [0.6 : 2.3]	1.8 [0.6 : 4.2]	0.9 [0.5 : 1.9]
n	327	360	230	291	58	17	1283

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.9 [1.8 : 5.4]	2.3 [1.2 : 4.3]	1.8 [1 : 3.3]	2.4 [1.4 : 4.4]	2.5 [1.6 : 4.1]	2.1 [1.3 : 7.2]	2.3 [1.3 : 4.3]
Bone marrow	1.2 [0.7 : 2.1]	1.1 [0.5 : 1.7]	1 [0.6 : 1.8]	2 [1.2 : 3.6]	2.5 [1.4 : 4.5]	2.6 [1.4 : 5.9]	1.4 [0.8 : 2.6]
Breasts	7.1 [4.4 : 13.6]	4.7 [1.3 : 10.4]	1.9 [0.8 : 6.2]	1.6 [0.9 : 4.3]	1.2 [0.7 : 2.8]	2 [0.7 : 4.3]	2.4 [1 : 8.6]
Heart	6.9 [4.4 : 12.8]	5.6 [3 : 9.6]	4.8 [3 : 8.3]	6.7 [3.9 : 12.1]	7.2 [4.5 : 11.8]	6.7 [4 : 15.6]	6.1 [3.5 : 11.1]
Lungs	8.7 [5.3 : 15.8]	7.2 [3.9 : 12.8]	6.1 [3.6 : 10.4]	8.5 [4.8 : 15.6]	8.8 [5.6 : 14.4]	7.7 [4.9 : 19.3]	7.7 [4.4 : 13.9]
Lymph	1.8 [1.1 : 3.3]	1.6 [0.8 : 2.7]	1.3 [0.8 : 2.2]	1.7 [1 : 3.1]	1.8 [1.2 : 2.9]	1.7 [1 : 4.1]	1.6 [0.9 : 2.9]
Oesophagus	6.7 [4.1 : 12]	5.2 [2.8 : 8.8]	4.2 [2.6 : 7.1]	5.3 [3.1 : 9.7]	6 [3.7 : 9.8]	5.5 [3.3 : 12.6]	5.2 [3 : 9.6]
Thyroid	0.6 [0.4 : 1.1]	0.4 [0.2 : 0.7]	0.3 [0.1 : 0.4]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]	0.3 [0.1 : 0.5]
Liver	2.6 [1.6 : 4.8]	2.2 [1.1 : 4.1]	1.4 [0.8 : 2.9]	1.7 [0.9 : 3.1]	1.8 [1 : 2.7]	1.6 [0.9 : 5.9]	1.9 [1 : 3.7]
Stomach	1.5 [0.9 : 2.7]	1.4 [0.7 : 2.3]	1.1 [0.7 : 1.8]	1.2 [0.7 : 2.2]	1.2 [0.8 : 1.9]	1.2 [0.7 : 2.7]	1.3 [0.7 : 2.2]
n	146	268	212	362	94	18	1100

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.3 [2.8 : 7.8]	0.5 [0.3 : 0.8]	0.6 [0.4 : 0.8]	0.9 [0.4 : 1.5]	1.4 [0.5 : 3]	0.3	0.6 [0.3 : 1]
Bone marrow	2.1 [1.1 : 3.1]	0.3 [0.2 : 0.5]	0.3 [0.2 : 0.5]	0.7 [0.4 : 1.1]	1.4 [0.5 : 2.7]	0.3	0.3 [0.2 : 0.7]
Breasts	13.6 [7.5 : 19.7]	0.8 [0.5 : 1.4]	0.8 [0.5 : 1.3]	1.2 [0.5 : 1.7]	1.3 [0.6 : 5.4]	0.3	0.9 [0.5 : 1.4]
Heart	13 [6.9 : 19.1]	1.1 [0.6 : 1.8]	1.3 [0.9 : 1.9]	2.3 [0.9 : 3.7]	3.4 [1.3 : 6.8]	0.8	1.3 [0.8 : 2.5]
Lungs	15.3 [8.2 : 22.5]	1.8 [1 : 2.9]	2 [1.3 : 2.9]	3.4 [1.4 : 5.7]	5.5 [2.1 : 10.1]	1.3	2 [1.3 : 3.8]
Lymph	3.2 [1.7 : 4.8]	0.4 [0.2 : 0.6]	0.4 [0.3 : 0.6]	0.6 [0.3 : 1]	0.9 [0.4 : 1.8]	0.2	0.4 [0.2 : 0.7]
Oesophagus	12.2 [6.4 : 18.1]	1.1 [0.6 : 1.9]	1.2 [0.8 : 1.9]	2 [0.9 : 3.4]	3.3 [1.3 : 5.9]	0.8	1.2 [0.8 : 2.2]
Thyroid	1.2 [0.6 : 1.7]	0.1 [0 : 0.1]	0.1 [0 : 0.1]	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0	0.1 [0 : 0.1]
Liver	4.8 [2.7 : 6.8]	0.4 [0.2 : 0.6]	0.4 [0.3 : 0.6]	0.7 [0.3 : 1]	0.9 [0.4 : 2.5]	0.2	0.4 [0.3 : 0.7]
Stomach	2.7 [1.4 : 3.9]	0.3 [0.2 : 0.5]	0.3 [0.2 : 0.5]	0.5 [0.2 : 0.7]	0.7 [0.3 : 1.2]	0.2	0.3 [0.2 : 0.6]
n	2	56	67	28	5	1	159

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.9 [1.2 : 2.7]	1.4 [1 : 2.1]	1.3 [0.8 : 2.1]	1.6 [1.1 : 2.7]	4.1 [2.5 : 4.1]		1.6 [1 : 2.4]
Bone marrow	0.6 [0.4 : 0.9]	0.4 [0.3 : 0.6]	0.4 [0.3 : 0.6]	0.6 [0.3 : 0.9]	1.7 [1.1 : 2.1]		0.5 [0.3 : 0.7]
Breasts	5.5 [3.4 : 7.9]	4.2 [2.9 : 6.7]	4.5 [2.8 : 7.6]	6.7 [4.3 : 10.1]	12.5 [8.2 : 13.9]		4.8 [3.1 : 7.4]
Heart	4.8 [2.9 : 7]	3.3 [2.3 : 4.9]	2.7 [1.7 : 4.5]	3.1 [2.2 : 5.3]	8 [5.1 : 8]		3.8 [2.4 : 5.7]
Lungs	5.1 [3.2 : 7.5]	3.8 [2.7 : 5.8]	3.4 [2.1 : 5.6]	4.2 [2.9 : 7.1]	11.9 [7.3 : 12.5]		4.3 [2.8 : 6.4]
Lymph	1.1 [0.7 : 1.6]	0.8 [0.6 : 1.2]	0.6 [0.4 : 1.1]	0.6 [0.5 : 1.2]	1.8 [1.2 : 1.9]		0.9 [0.6 : 1.4]
Oesophagus	4.3 [2.6 : 6.1]	2.8 [1.9 : 4]	2 [1.4 : 3.6]	2 [1.7 : 3.5]	5.6 [3.6 : 6]		3.1 [2 : 4.9]
Thyroid	0.4 [0.2 : 0.6]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.2]	0.1 [0.1 : 0.2]	0.2 [0.2 : 0.3]		0.2 [0.1 : 0.4]
Liver	2 [1.3 : 2.9]	1.6 [1.1 : 2.6]	1.3 [0.9 : 2.5]	1.7 [1.2 : 2.7]	4.2 [2.5 : 4.3]		1.8 [1.2 : 2.6]
Stomach	0.9 [0.6 : 1.3]	0.6 [0.4 : 0.9]	0.4 [0.3 : 0.7]	0.5 [0.2 : 0.6]	0.8 [0.6 : 0.9]		0.7 [0.4 : 1]
n	93	152	26	13	3	0	287

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2 [1.2 : 3]	1.9 [1.5 : 3.9]	1.7 [1.2 : 3]	4.9 [1.6 : 10.9]	9.4	5.1	2 [1.3 : 3.4]
Bone marrow	0.7 [0.4 : 1]	0.8 [0.5 : 1.6]	0.8 [0.5 : 1]	3.1 [0.8 : 4.6]	6.2	3.3	0.8 [0.5 : 1.3]
Breasts	5 [3 : 8.3]	4.5 [3.7 : 9.6]	4.3 [3 : 7.6]	16.4 [4.7 : 38.8]	25.9	17.1	5.3 [3.3 : 9.2]
Heart	4.8 [2.8 : 7.4]	4.1 [3.3 : 8.6]	3.7 [2.7 : 6.6]	8.4 [3.2 : 21.9]	18.3	8.8	4.9 [3 : 8]
Lungs	5.7 [3.4 : 8.3]	5.8 [4.3 : 12]	5.4 [3.7 : 8.6]	13.3 [4.6 : 30]	29.6	13.8	5.9 [3.8 : 9.6]
Lymph	1.2 [0.7 : 1.8]	1.2 [0.9 : 2.4]	1.1 [0.7 : 1.7]	2.1 [0.8 : 5]	4.7	2.2	1.2 [0.7 : 2]
Oesophagus	4.3 [2.6 : 6.7]	3.9 [2.9 : 8]	3.5 [2.2 : 5.6]	6.6 [2.4 : 15.5]	15.2	7	4.3 [2.6 : 6.9]
Thyroid	0.4 [0.2 : 0.6]	0.3 [0.2 : 0.6]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.7]	0.5	0.1	0.4 [0.2 : 0.6]
Liver	1.7 [1.1 : 2.9]	1.8 [1.4 : 3.8]	1.5 [1.2 : 2.9]	5.5 [1.5 : 10.9]	9.4	5.7	2 [1.3 : 3.4]
Stomach	1 [0.6 : 1.4]	1 [0.7 : 2.1]	0.9 [0.5 : 1.2]	0.9 [0.4 : 2.9]	2.3	1	1 [0.6 : 1.5]
n	61	28	10	11	1	1	112

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.3 [1.4 : 3.6]	2.7 [1.3 : 4.1]	1.8 [1.6 : 2.2]	3.7 [2 : 5.7]	3.8 [1.9 : 4]		2.7 [1.6 : 4]
Bone marrow	1 [0.5 : 1.5]	1 [0.5 : 1.6]	1.2 [0.8 : 1.4]	2.4 [1.3 : 3.4]	3.2 [1.6 : 3.2]		1.3 [0.8 : 2.1]
Breasts	5.2 [3.3 : 8.3]	6.7 [3.3 : 10.1]	4.1 [3.7 : 5.2]	10 [4.7 : 16.3]	10 [5.1 : 10.7]		6.6 [3.5 : 10.1]
Heart	5.4 [3.3 : 8.5]	5.9 [2.9 : 8.9]	4.1 [3.7 : 5]	8 [4.9 : 11]	7.3 [3.8 : 8.1]		6.4 [3.6 : 8.9]
Lungs	6.9 [4 : 10.9]	8.1 [4 : 12.2]	5.9 [5.3 : 7.1]	12.1 [7.5 : 17.5]	10.2 [5.6 : 12.1]		8 [5.1 : 12]
Lymph	1.4 [0.8 : 2.3]	1.7 [0.8 : 2.5]	1 [1 : 1.2]	2 [1.3 : 2.8]	1.8 [0.9 : 2]		1.5 [0.9 : 2.4]
Oesophagus	5.4 [3 : 8.4]	5.4 [2.7 : 8.2]	3.4 [3.3 : 3.9]	6.5 [4.5 : 9.1]	6.1 [3.2 : 6.9]		5.5 [3.1 : 8.5]
Thyroid	0.5 [0.3 : 0.8]	0.4 [0.2 : 0.6]	0.2 [0.1 : 0.2]	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.2]		0.3 [0.2 : 0.6]
Liver	1.8 [1.2 : 3]	2.8 [1.4 : 4.2]	1.5 [1.5 : 1.8]	3.2 [1.5 : 5.8]	4 [2 : 4]		2.2 [1.4 : 3.6]
Stomach	1.2 [0.7 : 1.9]	1.4 [0.7 : 2.1]	0.8 [0.8 : 0.9]	1.2 [0.9 : 1.5]	1 [0.5 : 1.1]		1.1 [0.7 : 1.6]
n	28	2	3	14	3	0	50

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.5 [1.5 : 4]	3.1 [1.9 : 5.7]	3.9 [2.7 : 6.5]	5.5 [2.3 : 10.3]	4.3 [2.4 : 7.7]		3.6 [2.1 : 6.2]
Bone marrow	0.9 [0.5 : 1.3]	1.1 [0.6 : 2]	1.4 [1 : 2]	1.8 [1 : 4.3]	2.5 [1.4 : 3.7]		1.3 [0.7 : 2.2]
Breasts	6.7 [4.4 : 11.2]	8.4 [5.8 : 16]	11.4 [7.6 : 21.5]	21.1 [8 : 37.4]	11.2 [7.7 : 26.3]		10.9 [6.4 : 20]
Heart	6.2 [3.7 : 10.2]	7.1 [4.3 : 12.9]	8.7 [6.1 : 14.5]	10.4 [4.6 : 19.4]	8.6 [4.4 : 14.5]		8 [4.5 : 13.6]
Lungs	7.1 [4 : 11]	9.3 [5.1 : 16.6]	12 [8 : 17.2]	14.1 [6.4 : 28.6]	14.1 [7 : 22.6]		10.1 [6.1 : 17.4]
Lymph	1.5 [0.9 : 2.4]	1.9 [1.1 : 3.3]	2.3 [1.5 : 3.4]	2.3 [1 : 4.4]	2.2 [1.1 : 3.4]		2 [1.1 : 3.4]
Oesophagus	5.8 [3.2 : 9.2]	6.4 [3.6 : 11.2]	7.6 [4.8 : 10.8]	7 [3.2 : 13.8]	7.2 [3.4 : 10.5]		6.7 [3.6 : 11.1]
Thyroid	0.6 [0.3 : 0.9]	0.5 [0.3 : 0.9]	0.5 [0.3 : 0.6]	0.4 [0.2 : 0.7]	0.3 [0.1 : 0.5]		0.5 [0.2 : 0.8]
Liver	2.3 [1.7 : 3.9]	3.3 [2.3 : 6.5]	4 [2.9 : 7.9]	5.8 [2.3 : 10.7]	4.1 [2.6 : 8.3]		3.6 [2.2 : 6.5]
Stomach	1.3 [0.7 : 1.9]	1.6 [0.8 : 2.6]	1.5 [1.2 : 2]	1.1 [0.6 : 2.2]	1.1 [0.5 : 1.6]		1.4 [0.7 : 2.3]
n	17	41	22	23	6	0	109

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.5 [1.8 : 4.5]	3.1 [2.3 : 3.5]	2 [1.6 : 2.2]	3.9 [2.2 : 8.3]	3.7 [0.6 : 6.8]	7.8	2.7 [1.9 : 4.8]
Bone marrow	1 [0.7 : 1.8]	1 [0.9 : 1.1]	0.8 [0.6 : 0.8]	2.3 [1.2 : 4.5]	1.7 [0.6 : 2.8]	3.7	1 [0.7 : 2]
Breasts	6.7 [4.3 : 11]	9 [5.4 : 10.2]	5.7 [4.8 : 6.5]	11.4 [6.7 : 28.5]	12.8 [1.9 : 23.7]	29.9	7.9 [5.2 : 13]
Heart	6.2 [4.2 : 10.3]	7.1 [5.1 : 7.8]	4.3 [3.3 : 4.8]	7.7 [4.2 : 14.5]	6.7 [1.3 : 12.1]	12.2	6.4 [4.1 : 10.8]
Lungs	7.2 [5 : 13.2]	8.6 [7.3 : 9.7]	5.8 [4.3 : 6.4]	12.6 [6.6 : 23.7]	10.8 [1.8 : 19.8]	20.4	7.7 [5.3 : 14.5]
Lymph	1.5 [1.1 : 2.8]	1.8 [1.4 : 2]	1.1 [0.7 : 1.3]	2 [1 : 3.6]	1.6 [0.3 : 2.9]	3	1.6 [1 : 2.9]
Oesophagus	5.7 [3.9 : 9.6]	6.1 [4.8 : 6.7]	3.5 [2.3 : 4.2]	6.3 [3.2 : 11.1]	4.9 [1.1 : 8.7]	8.7	5.7 [3.8 : 9.2]
Thyroid	0.6 [0.4 : 0.8]	0.4 [0.3 : 0.5]	0.2 [0.1 : 0.3]	0.3 [0.1 : 0.4]	0.2 [0 : 0.4]	0.3	0.4 [0.3 : 0.7]
Liver	2.4 [1.6 : 4.2]	3.6 [2.2 : 4]	2 [1.5 : 2.2]	3.9 [2.2 : 9.3]	4.1 [0.7 : 7.5]	9.3	2.7 [1.7 : 4.8]
Stomach	1.3 [0.9 : 2.3]	1.4 [1.2 : 1.6]	0.7 [0.4 : 1]	1 [0.6 : 1.6]	0.6 [0.2 : 1.1]	1.1	1.2 [0.8 : 1.8]
n	28	6	4	11	2	1	52

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	10 [8.5 : 12.2]	1.7 [1.5 : 2]	0.8 [0.3 : 2.3]	1.5 [0.5 : 3.3]	2.3 [0.6 : 4.7]	2.4 [1.4 : 5.9]	1.5 [0.5 : 3.3]
Bone marrow	6.1 [5.2 : 7.5]	1.1 [0.9 : 1.2]	0.5 [0.2 : 1.8]	1.3 [0.5 : 2.8]	1.8 [0.5 : 4.7]	2.6 [1.2 : 5.5]	1.3 [0.4 : 2.8]
Breasts	9.7 [8 : 11.8]	1.2 [1 : 1.4]	0.5 [0.2 : 1.4]	0.6 [0.3 : 1.6]	1 [0.3 : 2.3]	1 [0.6 : 2.6]	0.8 [0.3 : 1.6]
Heart	38.6 [34 : 46.3]	7 [5.8 : 8.2]	3.2 [1.3 : 9.2]	5.9 [2.2 : 12.2]	8.2 [2.5 : 18.7]	9.9 [6.4 : 21.4]	6.2 [2.2 : 12.7]
Lungs	36.9 [30.9 : 45.3]	7 [6 : 7.9]	3.2 [1.3 : 10.2]	6.5 [2.4 : 14.9]	10.3 [2.7 : 19.9]	10.1 [5.8 : 27.4]	6.7 [2.3 : 14.9]
Lymph	8 [6.9 : 9.8]	1.4 [1.2 : 1.7]	0.7 [0.2 : 1.8]	1.1 [0.4 : 2.4]	1.7 [0.5 : 3.6]	1.8 [1.1 : 4.4]	1.2 [0.4 : 2.5]
Oesophagus	31.3 [26.7 : 38.1]	5.4 [4.5 : 6.2]	2.4 [0.8 : 6]	4 [1.4 : 8.5]	6 [1.6 : 12.5]	6.3 [3.8 : 15.5]	4.1 [1.4 : 9.1]
Thyroid	2.9 [2.4 : 3.5]	0.3 [0.2 : 0.3]	0.1 [0 : 0.3]	0.1 [0 : 0.2]	0.2 [0 : 0.3]	0.1 [0.1 : 0.5]	0.1 [0 : 0.3]
Liver	8.3 [6.2 : 10.6]	1.8 [1.7 : 1.9]	0.8 [0.2 : 2.5]	1.1 [0.4 : 2.8]	2 [0.4 : 3.5]	2 [0.5 : 5.5]	1.2 [0.4 : 3.2]
Stomach	5.4 [5 : 6.4]	1 [0.7 : 1.2]	0.4 [0.2 : 0.9]	0.5 [0.2 : 1.2]	0.7 [0.2 : 1.7]	0.9 [0.6 : 1.8]	0.6 [0.2 : 1.2]
n	3	2	31	102	27	5	170

<b>Heart biopsy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.3 [0.2 : 0.7]	0.3 [0.2 : 0.6]	0.3 [0.2 : 0.6]	0.5 [0.3 : 0.9]	0.7 [0.3 : 1.8]	0.9 [0.8 : 1.2]	0.4 [0.2 : 0.7]
Bone marrow	0.1 [0.1 : 0.3]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]	0.5 [0.2 : 0.8]	0.6 [0.4 : 1.5]	0.7 [0.6 : 1.2]	0.3 [0.1 : 0.6]
Breasts	0.8 [0.5 : 1.2]	0.7 [0.4 : 1.2]	0.7 [0.3 : 1]	0.7 [0.3 : 1.6]	1.1 [0.7 : 4.4]	1.9 [1.4 : 2.5]	0.8 [0.4 : 1.4]
Heart	0.9 [0.7 : 1.8]	0.9 [0.5 : 1.6]	0.8 [0.5 : 1.7]	1.6 [0.9 : 2.6]	2.1 [1.1 : 5.1]	2.6 [2.3 : 3.8]	1.2 [0.7 : 2.3]
Lungs	0.9 [0.7 : 2]	1.1 [0.6 : 1.9]	0.8 [0.6 : 1.8]	1.6 [0.9 : 2.7]	2.3 [1.1 : 5.4]	2.8 [2.4 : 4]	1.3 [0.7 : 2.4]
Lymph	0.2 [0.2 : 0.4]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.4]	0.3 [0.2 : 0.5]	0.4 [0.2 : 1]	0.5 [0.4 : 0.8]	0.3 [0.1 : 0.5]
Oesophagus	0.7 [0.6 : 1.5]	0.7 [0.4 : 1.3]	0.6 [0.4 : 1.4]	1.2 [0.6 : 2]	1.5 [0.8 : 3.6]	1.7 [1.7 : 2.9]	1 [0.5 : 1.7]
Thyroid	0.1 [0 : 0.1]	0.1 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]	0.1 [0.1 : 0.1]	0 [0 : 0.1]
Liver	0.2 [0.2 : 0.4]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.4]	0.3 [0.2 : 0.6]	0.4 [0.2 : 1.2]	0.6 [0.5 : 0.7]	0.3 [0.1 : 0.5]
Stomach	0.1 [0.1 : 0.3]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]	0.2 [0.1 : 0.3]	0.2 [0.1 : 0.6]	0.3 [0.2 : 0.5]	0.2 [0.1 : 0.3]
n	24	91	52	135	34	5	341

<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		1.8 [1.2 : 2.3]	1.5 [1 : 2.3]	2.3 [1.4 : 3.8]	2.4 [1.7 : 3.8]	1.9 [1.3 : 4.6]	1.9 [1.3 : 3.3]
Bone marrow		1.2 [0.7 : 1.5]	1.1 [0.7 : 1.6]	2.2 [1.3 : 3.9]	2.8 [1.9 : 4.5]	2 [1.6 : 4.7]	1.7 [1 : 3.2]
Breasts		1.2 [0.8 : 1.6]	1 [0.7 : 1.5]	1.1 [0.7 : 1.8]	1 [0.7 : 1.4]	0.8 [0.5 : 2.2]	1.1 [0.7 : 1.7]
Heart		4.9 [3.2 : 6.6]	4.5 [3.2 : 6.9]	7.1 [4.4 : 11.7]	7.5 [5 : 11.6]	5.7 [4.2 : 14]	5.9 [3.8 : 10.1]
Lungs		6 [3.8 : 7.9]	5.2 [3.7 : 7.9]	8.5 [5.2 : 13.7]	8.9 [6 : 13.7]	7.1 [4.7 : 17]	7.1 [4.6 : 11.9]
Lymph		1.5 [1 : 2]	1.3 [0.9 : 1.9]	1.8 [1.2 : 3]	1.9 [1.3 : 2.9]	1.5 [1 : 3.7]	1.6 [1.1 : 2.7]
Oesophagus		4.8 [3.1 : 6.3]	4 [2.8 : 5.8]	5.8 [3.5 : 9.6]	6.2 [4.3 : 9.9]	4.9 [3.3 : 11.4]	5.1 [3.3 : 8.6]
Thyroid		0.3 [0.2 : 0.5]	0.2 [0.2 : 0.3]	0.2 [0.1 : 0.3]	0.2 [0.1 : 0.2]	0.1 [0.1 : 0.3]	0.2 [0.1 : 0.3]
Liver		1.4 [0.9 : 1.9]	1.1 [0.8 : 1.7]	1.5 [0.9 : 2.5]	1.5 [1 : 2.3]	1.2 [0.9 : 3]	1.4 [0.9 : 2.3]
Stomach		1.4 [1 : 1.9]	1.1 [0.8 : 1.7]	1.5 [0.9 : 2.3]	1.4 [0.9 : 2]	1.1 [0.8 : 2.8]	1.3 [0.9 : 2.1]
n	0	63	104	223	66	11	470

<b>Pressure studies, PVR</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.5 [0.7 : 5.1]	0.5 [0.2 : 1.8]	1 [0.4 : 2.1]	1.1 [0.5 : 2.4]	1.3 [0.2 : 3.5]	1.5 [0.4 : 5.5]	1 [0.3 : 2.2]
Bone marrow	0.7 [0.3 : 1.9]	0.3 [0.1 : 0.7]	0.5 [0.2 : 0.9]	0.9 [0.4 : 1.5]	1.1 [0.2 : 3.7]	1.3 [0.4 : 4.4]	0.5 [0.2 : 1.2]
Breasts	3.6 [1.5 : 12.2]	1 [0.4 : 5.3]	2 [0.7 : 5.3]	2 [0.6 : 5.4]	1 [0.3 : 4]	2.5 [0.7 : 16.9]	1.9 [0.5 : 5.6]
Heart	3.6 [1.6 : 12]	1.1 [0.4 : 4.1]	2.2 [0.8 : 4.7]	2.7 [1.3 : 5]	3.2 [0.5 : 8]	3.2 [0.9 : 10.1]	2.2 [0.6 : 4.9]
Lungs	4.6 [2.1 : 14.8]	1.8 [0.7 : 5.3]	3.3 [1.2 : 6.8]	4.1 [1.9 : 7.8]	5 [0.9 : 13.8]	5.2 [1.5 : 15]	3.3 [1 : 6.9]
Lymph	1 [0.4 : 3.1]	0.4 [0.1 : 1.1]	0.6 [0.2 : 1.3]	0.7 [0.3 : 1.3]	0.8 [0.2 : 2.3]	0.8 [0.3 : 2.5]	0.6 [0.2 : 1.3]
Oesophagus	3.5 [1.6 : 11.2]	1.1 [0.4 : 3.5]	2 [0.8 : 4.4]	2.2 [1.1 : 4.1]	2.7 [0.5 : 8.1]	3 [0.9 : 8.3]	2 [0.6 : 4.4]
Thyroid	0.3 [0.1 : 1]	0.1 [0 : 0.2]	0.1 [0 : 0.3]	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0 : 0.1]	0.1 [0 : 0.3]
Liver	1.3 [0.6 : 4.4]	0.4 [0.2 : 2.1]	0.8 [0.3 : 2.1]	0.9 [0.4 : 1.9]	0.9 [0.2 : 2.4]	1.2 [0.3 : 5.9]	0.8 [0.2 : 2.2]
Stomach	0.8 [0.4 : 2.5]	0.3 [0.1 : 0.9]	0.5 [0.2 : 1.1]	0.5 [0.2 : 0.9]	0.4 [0.1 : 1.5]	0.5 [0.2 : 1.3]	0.5 [0.2 : 1]
n	16	49	30	48	7	3	153

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0 [0 : 0]	0.2 [0 : 1]	0.5 [0 : 1.6]	0.4 [0 : 1]	0.1 [0 : 0.4]	0.1 [0 : 0.7]	0.3 [0 : 0.9]
Bone marrow	0 [0 : 0]	0.1 [0 : 0.6]	0.4 [0 : 1.2]	0.5 [0 : 1.1]	0.1 [0 : 0.6]	0.1 [0 : 1]	0.4 [0 : 0.9]
Breasts	0 [0 : 0]	0.3 [0 : 1.6]	0.6 [0 : 2.4]	0.3 [0 : 0.9]	0 [0 : 0.2]	0.1 [0 : 0.4]	0.3 [0 : 0.9]
Heart	0 [0 : 0]	0.6 [0 : 3]	1.7 [0 : 5.5]	1.4 [0 : 3.6]	0.3 [0 : 1.5]	0.4 [0.1 : 2.6]	1.3 [0 : 3.3]
Lungs	0 [0 : 0]	0.7 [0 : 3.4]	1.6 [0 : 5.6]	1.3 [0 : 3.4]	0.3 [0 : 1.4]	0.4 [0.1 : 2.3]	1.1 [0 : 3.1]
Lymph	0 [0 : 0]	0.2 [0 : 0.7]	0.4 [0 : 1.2]	0.3 [0 : 0.7]	0.1 [0 : 0.3]	0.1 [0 : 0.5]	0.2 [0 : 0.7]
Oesophagus	0 [0 : 0]	0.6 [0 : 2.7]	1.3 [0 : 4.5]	1.1 [0 : 2.8]	0.2 [0 : 1.3]	0.3 [0.1 : 2.3]	1.1 [0 : 2.7]
Thyroid	0 [0 : 0]	0 [0 : 0.2]	0.1 [0 : 0.2]	0 [0 : 0.1]	0 [0 : 0]	0 [0 : 0]	0 [0 : 0.1]
Liver	0 [0 : 0]	0.1 [0 : 0.7]	0.3 [0 : 1.1]	0.2 [0 : 0.6]	0 [0 : 0.2]	0.1 [0 : 0.4]	0.2 [0 : 0.6]
Stomach	0 [0 : 0]	0.1 [0 : 0.6]	0.3 [0 : 1]	0.2 [0 : 0.5]	0 [0 : 0.2]	0.1 [0 : 0.3]	0.2 [0 : 0.5]
n	2	8	17	69	16	3	115

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.9 [0 : 2.7]	2.1 [1 : 4.5]	1.1 [0.6 : 3.1]	5 [3.6 : 8.9]	4.4 [2.4 : 11.6]	0.9	2.2 [0.5 : 5]
Bone marrow	0.4 [0 : 1.2]	1 [0.4 : 1.9]	0.5 [0.3 : 1.5]	2.9 [2.3 : 4.2]	3.5 [2 : 6.6]	0.5	1 [0.2 : 2.5]
Breasts	2.2 [0 : 6.5]	4.1 [1.8 : 12.6]	2.4 [0.9 : 7.3]	13.4 [6.3 : 28.4]	7.6 [3.3 : 42.2]	2.4	4.2 [0.9 : 12.6]
Heart	2.2 [0 : 6.5]	4.4 [2.1 : 10.1]	2.5 [1.4 : 6.9]	10.5 [8.4 : 18.5]	10.3 [5.8 : 18.8]	2.1	4.6 [1 : 10.8]
Lungs	2.7 [0 : 8.4]	6.8 [3.3 : 13.5]	3.6 [2.1 : 9.8]	16.6 [12.5 : 24.1]	15.8 [8.9 : 30.7]	2.9	7.3 [1.6 : 15.5]
Lymph	0.6 [0 : 1.7]	1.4 [0.7 : 2.7]	0.7 [0.4 : 1.9]	2.8 [2.1 : 4.2]	2.7 [1.6 : 4.7]	0.5	1.3 [0.3 : 2.8]
Oesophagus	2.1 [0 : 6.1]	4.4 [2.1 : 8.8]	2.4 [1.4 : 6.1]	9.3 [6.6 : 12.9]	8.8 [5 : 14]	1.6	4.4 [1 : 9.2]
Thyroid	0.2 [0 : 0.6]	0.3 [0.1 : 0.7]	0.1 [0.1 : 0.4]	0.3 [0.3 : 0.6]	0.3 [0.2 : 0.3]	0.1	0.3 [0.1 : 0.6]
Liver	0.8 [0 : 2.4]	1.7 [0.8 : 5]	1 [0.5 : 2.7]	4.5 [2.7 : 8.6]	3.4 [1.7 : 13.4]	0.8	2 [0.4 : 4.7]
Stomach	0.5 [0 : 1.5]	1.2 [0.6 : 2.4]	0.6 [0.4 : 1.5]	1.6 [1.4 : 2.5]	1.9 [1.1 : 2.2]	0.4	1.1 [0.3 : 2]
n	33	22	5	16	4	1	81

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.2 [0.6 : 4.3]	1.1 [0.7 : 2]	0.7 [0.4 : 1.7]	1.8 [0.7 : 5]	0.9 [0.3 : 2.2]	1.3 [0 : 2.6]	1.2 [0.5 : 3.3]
Bone marrow	0.6 [0.2 : 1.9]	0.6 [0.3 : 0.8]	0.4 [0.2 : 0.8]	1.1 [0.4 : 3]	1.1 [0.2 : 2.7]	1.9 [0 : 3.8]	0.6 [0.3 : 1.9]
Breasts	3.7 [0.8 : 10.3]	2.5 [1.8 : 4.7]	1.3 [0.6 : 4.8]	2.6 [1.7 : 12.2]	1 [0.6 : 4.1]	0.8 [0 : 1.6]	2.2 [1 : 6.6]
Heart	3.6 [1.3 : 10.4]	2.9 [1.8 : 4.6]	2.4 [1.1 : 3.9]	4.9 [2.1 : 12.7]	3.4 [0.8 : 7]	4.6 [0 : 9.3]	3.1 [1.4 : 8.7]
Lungs	3.7 [1.7 : 12.8]	3.6 [2 : 5.9]	2.7 [1.4 : 5.6]	5.2 [2.1 : 16.8]	3.3 [0.8 : 7]	4.7 [0 : 9.3]	3.8 [1.6 : 10.5]
Lymph	0.8 [0.4 : 2.7]	0.7 [0.4 : 1.2]	0.5 [0.3 : 1.1]	0.9 [0.4 : 2.8]	0.7 [0.1 : 1.4]	0.9 [0 : 1.9]	0.7 [0.3 : 1.9]
Oesophagus	3.1 [1.2 : 10.1]	2.6 [1.4 : 4.4]	2 [0.9 : 3.7]	3.2 [1.4 : 8.7]	2.5 [0.5 : 5.5]	4 [0 : 8]	2.6 [1.1 : 7]
Thyroid	0.3 [0.1 : 1]	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.2]	0.1 [0 : 0.3]	0 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0 : 0.3]
Liver	1.3 [0.6 : 3.5]	0.9 [0.5 : 1.8]	0.7 [0.3 : 1.7]	1.2 [0.4 : 4]	0.8 [0.2 : 1.6]	0.7 [0 : 1.4]	0.9 [0.4 : 2.9]
Stomach	0.6 [0.3 : 2.2]	0.6 [0.3 : 1.1]	0.3 [0.2 : 0.9]	0.6 [0.2 : 1.5]	0.3 [0.1 : 0.7]	0.5 [0 : 1.1]	0.5 [0.2 : 1.2]
n	11	19	21	38	12	2	103

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.5 [0.9 : 2.2]	1.9 [1.1 : 3.1]	3.3 [1.3 : 6]	5.5 [2.1 : 14.5]	7.1 [3.4 : 13.5]	4.7 [2.5 : 28.1]	2.2 [1.2 : 5.3]
Bone marrow	0.5 [0.3 : 0.8]	0.7 [0.3 : 1.2]	1.4 [0.7 : 2.7]	3.5 [1.5 : 8.3]	5.9 [2.4 : 8.7]	2.7 [1.7 : 14.4]	1 [0.5 : 2.9]
Breasts	3.9 [2.3 : 5.9]	4.8 [2.3 : 7.7]	9 [2.2 : 17.6]	13.6 [2.6 : 43]	16.6 [2.9 : 34]	13.4 [5.8 : 82.6]	5.4 [2.4 : 13.8]
Heart	3.8 [2.1 : 5.5]	4.3 [2.5 : 7]	7.6 [3.7 : 13.5]	12.1 [5.9 : 29.6]	17.1 [9.5 : 32.7]	9.7 [5.5 : 61.6]	5.5 [3.1 : 11.9]
Lungs	4.4 [2.7 : 6.1]	5.4 [3.1 : 9.2]	11.1 [4.5 : 18.1]	17.6 [7.5 : 42]	25.8 [13.3 : 47.3]	14.8 [8.4 : 84]	6.7 [3.7 : 17.3]
Lymph	0.9 [0.6 : 1.3]	1.1 [0.6 : 1.9]	2.1 [0.9 : 3.5]	3 [1.3 : 7.2]	4.4 [2.3 : 7.9]	2.4 [1.4 : 14.7]	1.3 [0.8 : 2.8]
Oesophagus	3.5 [2 : 4.9]	3.8 [2.1 : 6.2]	6.4 [2.9 : 11.8]	9.3 [4.4 : 23.3]	14.6 [7.7 : 25.8]	7.6 [4.5 : 44.8]	4.7 [2.6 : 9.7]
Thyroid	0.3 [0.2 : 0.4]	0.3 [0.1 : 0.5]	0.4 [0.1 : 0.6]	0.4 [0.1 : 0.8]	0.5 [0.1 : 0.7]	0.3 [0.2 : 2.1]	0.3 [0.1 : 0.5]
Liver	1.4 [0.9 : 2.2]	2 [1 : 3.1]	3.5 [1.2 : 5.9]	5.4 [1.8 : 13.3]	6 [2.4 : 11.9]	4.5 [2.2 : 24.9]	2.2 [1.1 : 5.3]
Stomach	0.8 [0.5 : 1.1]	0.9 [0.5 : 1.6]	1.4 [0.6 : 2.7]	1.6 [0.8 : 3.9]	2.2 [1.2 : 4.1]	1.3 [0.9 : 9.8]	1.1 [0.5 : 2.1]
n	96	90	63	82	24	3	358

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.7 [0.9 : 3.2]	1.3 [0.8 : 3.3]	1.2 [0.7 : 2.7]	2.7 [1.7 : 5.3]	2.5 [1 : 5]		2 [0.9 : 4.2]
Bone marrow	0.7 [0.4 : 1.3]	0.7 [0.4 : 1.5]	0.7 [0.4 : 1.5]	2.5 [1.5 : 4.3]	2.1 [0.8 : 5.1]		1.3 [0.5 : 2.7]
Breasts	3.6 [1.6 : 8.2]	2.4 [0.9 : 7.9]	1.5 [0.6 : 5.3]	2 [1 : 5.5]	1.6 [0.5 : 3]		2.1 [0.8 : 6.5]
Heart	4 [2.3 : 7.9]	3.1 [1.9 : 7.6]	3.1 [1.9 : 7.3]	7.9 [4.6 : 14.9]	5.8 [2.4 : 13.6]		5.3 [2.3 : 10.8]
Lungs	5.1 [2.7 : 9.8]	4.2 [2.6 : 10.1]	3.9 [2.6 : 8.4]	9.9 [6.3 : 18.9]	8.6 [3.6 : 19]		7 [2.9 : 14.4]
Lymph	1 [0.6 : 2]	0.9 [0.6 : 2.4]	0.8 [0.5 : 1.9]	2 [1.2 : 3.6]	1.4 [0.6 : 3.5]		1.4 [0.6 : 2.8]
Oesophagus	3.9 [2.2 : 7.5]	2.9 [1.8 : 7.5]	2.6 [1.7 : 5.6]	6.1 [3.8 : 11.4]	4.8 [2 : 12.4]		4.5 [2.1 : 9.4]
Thyroid	0.4 [0.2 : 0.7]	0.2 [0.1 : 0.6]	0.2 [0.1 : 0.3]	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.3]		0.2 [0.1 : 0.4]
Liver	1.4 [0.8 : 2.8]	1.2 [0.7 : 3]	1 [0.6 : 2.6]	1.9 [1.2 : 4]	2.1 [0.7 : 3.4]		1.4 [0.7 : 3.4]
Stomach	0.9 [0.5 : 1.7]	0.9 [0.5 : 2]	0.7 [0.4 : 1.3]	1.3 [0.8 : 2.4]	0.9 [0.4 : 2.4]		0.9 [0.5 : 2]
n	26	62	50	77	30	0	245

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		0.4 [0.2 : 0.8]	0.7 [0.4 : 1.5]	1.4 [0.9 : 2.7]	0.3	1.8	0.8 [0.4 : 1.5]
Bone marrow		0.2 [0.1 : 0.4]	0.4 [0.3 : 1]	1.6 [0.9 : 2.6]	0.4	1.3	0.5 [0.2 : 1.4]
Breasts		0.6 [0.4 : 1.2]	1 [0.6 : 1.9]	1.8 [1 : 3.4]	0.3	3.3	1 [0.5 : 1.9]
Heart		0.7 [0.5 : 1.6]	1.6 [0.9 : 3.4]	3.5 [2.3 : 6.7]	0.8	4.1	1.8 [0.8 : 3.8]
Lungs		1.2 [0.8 : 2.6]	2.4 [1.4 : 5.3]	5.4 [3.6 : 10.1]	1.4	6.2	2.8 [1.4 : 6]
Lymph		0.2 [0.2 : 0.5]	0.5 [0.3 : 1]	0.9 [0.6 : 1.8]	0.2	1.1	0.5 [0.2 : 1]
Oesophagus		0.8 [0.5 : 1.7]	1.5 [0.8 : 3.2]	3.5 [2.1 : 6]	0.8	3.5	1.7 [0.8 : 3.5]
Thyroid		0.1 [0 : 0.1]	0.1 [0 : 0.1]	0.1 [0.1 : 0.2]	0	0.1	0.1 [0 : 0.1]
Liver		0.3 [0.2 : 0.6]	0.5 [0.3 : 1.1]	1 [0.6 : 1.9]	0.2	1.4	0.5 [0.2 : 1.1]
Stomach		0.2 [0.2 : 0.5]	0.4 [0.2 : 0.8]	0.8 [0.5 : 1.5]	0.2	0.7	0.4 [0.2 : 0.8]
n	0	8	12	7	1	1	29

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.8 [1 : 2.1]	1.5 [1.1 : 1.9]	3.7 [1.5 : 4.5]	1.9 [1.8 : 3.4]			1.7 [1.1 : 2.1]
Bone marrow	0.5 [0.3 : 0.7]	0.4 [0.3 : 0.6]	1.3 [0.5 : 1.5]	0.8 [0.7 : 1]			0.5 [0.3 : 0.7]
Breasts	4.9 [2.7 : 5.9]	4.2 [3.4 : 5.6]	9.4 [5.2 : 13.6]	6.7 [6.1 : 12.2]			4.8 [3.2 : 6.2]
Heart	4.6 [2.6 : 5.5]	3.5 [2.6 : 4.4]	8.8 [3.1 : 10.3]	4.1 [3.7 : 7.4]			4 [2.7 : 5]
Lungs	4.7 [2.7 : 5.8]	3.9 [2.9 : 5.2]	11.3 [3.8 : 12.7]	5.3 [4.9 : 9]			4.7 [2.9 : 5.7]
Lymph	1 [0.6 : 1.3]	0.8 [0.6 : 1.1]	2.3 [0.7 : 2.5]	0.9 [0.8 : 1.7]			0.9 [0.6 : 1.2]
Oesophagus	4 [2.3 : 4.9]	2.9 [2.1 : 3.8]	7.7 [2.3 : 8.6]	2.8 [2.5 : 5.7]			3.2 [2.2 : 4.4]
Thyroid	0.4 [0.2 : 0.4]	0.2 [0.1 : 0.3]	0.5 [0.1 : 0.6]	0.1 [0.1 : 0.4]			0.3 [0.1 : 0.4]
Liver	1.7 [1 : 2.1]	1.7 [1.4 : 2.1]	3.7 [1.5 : 5]	1.8 [1.7 : 3.9]			1.7 [1.1 : 2.2]
Stomach	0.8 [0.5 : 1.1]	0.6 [0.5 : 0.9]	1.6 [0.4 : 1.9]	0.6 [0.5 : 1.1]			0.7 [0.5 : 1]
n	29	26	7	3	0	0	65

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.2 [0.7 : 2.2]	1.5 [1.2 : 2.8]	3.1 [2.3 : 5.3]	9.8 [4.5 : 44.1]	15.6		1.6 [1 : 3.2]
Bone marrow	0.4 [0.2 : 0.8]	0.7 [0.5 : 1.5]	1.1 [0.9 : 2]	5.5 [2.5 : 26.1]	13.2		0.7 [0.4 : 1.4]
Breasts	3.2 [2 : 5.8]	3.9 [2.1 : 5]	10.8 [6.7 : 16.3]	26.2 [12.1 : 110.7]	39.7		4.2 [2.3 : 8.3]
Heart	2.8 [1.7 : 5.4]	3.3 [2.5 : 5.9]	6.7 [4.9 : 11.5]	22.2 [10 : 101.6]	31.9		3.8 [2.2 : 6.9]
Lungs	3.4 [2 : 6.2]	4.7 [4 : 9.2]	8.5 [6.5 : 15.1]	30.3 [13.9 : 140.5]	46.7		4.9 [2.7 : 9.2]
Lymph	0.7 [0.4 : 1.3]	0.9 [0.8 : 1.9]	1.6 [1.2 : 2.8]	5.4 [2.4 : 25]	7.9		1 [0.6 : 1.9]
Oesophagus	2.6 [1.5 : 4.9]	3.1 [2.6 : 6.2]	5.1 [4.1 : 9.3]	16.3 [7.5 : 75.7]	27.6		3.4 [2 : 6.6]
Thyroid	0.2 [0.1 : 0.5]	0.2 [0.2 : 0.5]	0.3 [0.2 : 0.5]	0.8 [0.3 : 3.5]	0.5		0.3 [0.2 : 0.5]
Liver	1.1 [0.7 : 2.1]	1.5 [0.9 : 2]	3.3 [2.3 : 5.4]	8.3 [3.9 : 36.6]	15.7		1.6 [0.9 : 3.3]
Stomach	0.6 [0.3 : 1.1]	0.8 [0.6 : 1.7]	1 [0.9 : 2]	3.8 [1.7 : 18.1]	4.5		0.8 [0.5 : 1.6]
n	24	10	3	3	1	0	41

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1 [0.9 : 1.3]	5.8 [1.8 : 9.9]	3.5 [3.4 : 3.6]	5.7 [4.1 : 9.2]	3.4 [0.8 : 6.1]		3.4 [1.3 : 6]
Bone marrow	0.4 [0.4 : 0.5]	1.6 [0.7 : 2.4]	1.8 [1.6 : 2]	3.9 [2.2 : 6.2]	3.4 [1 : 5.8]		1.6 [0.6 : 3.5]
Breasts	2.4 [2 : 3.4]	18 [4.1 : 31.8]	8 [7.1 : 9]	14.5 [11.1 : 24.7]	7.1 [1.6 : 12.7]		7.1 [3.1 : 14.2]
Heart	2.4 [2 : 3.3]	14 [3.8 : 24.1]	8 [7.6 : 8.4]	12.7 [8 : 18.3]	7.7 [2 : 13.4]		7.6 [3 : 13.2]
Lungs	3 [2.6 : 3.9]	15.6 [5.4 : 25.7]	11.3 [11.1 : 11.5]	19.1 [12.7 : 29.6]	10.9 [2.5 : 19.3]		11.1 [3.7 : 19.3]
Lymph	0.6 [0.5 : 0.8]	3.3 [1.1 : 5.5]	2.2 [2.1 : 2.2]	3.2 [2 : 4.7]	1.9 [0.5 : 3.4]		2.1 [0.8 : 3.3]
Oesophagus	2.3 [2 : 3.1]	11.7 [3.6 : 19.8]	6.9 [6.5 : 7.3]	10.4 [6.2 : 15.3]	6.9 [1.8 : 12.1]		6.5 [2.9 : 11.6]
Thyroid	0.2 [0.2 : 0.3]	0.9 [0.3 : 1.6]	0.4 [0.3 : 0.5]	0.4 [0.3 : 0.5]	0.1 [0 : 0.2]		0.3 [0.2 : 0.4]
Liver	0.9 [0.7 : 1.2]	7 [1.7 : 12.4]	3.1 [3 : 3.1]	4.9 [4.1 : 9.1]	3.2 [0.8 : 5.6]		3 [1.1 : 5.5]
Stomach	0.5 [0.5 : 0.7]	2.6 [1 : 4.1]	1.7 [1.6 : 1.9]	2.1 [1 : 2.4]	1.2 [0.3 : 2.1]		1.1 [0.6 : 2.1]
n	4	2	2	5	2	0	15



<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.7 [0.5 : 1.4]	2.9 [2.3 : 3.5]	4 [2.8 : 10]	5.3 [4.9 : 13.8]	5.3		3.1 [1.5 : 5]
Bone marrow	0.3 [0.2 : 0.6]	1 [0.8 : 1.2]	1.5 [1.2 : 3.1]	2.7 [1.6 : 5.2]	3.3		1.2 [0.6 : 1.9]
Breasts	2.2 [1.5 : 4]	7.4 [5.9 : 10.4]	12.5 [7.2 : 33.2]	16.8 [15.8 : 49.4]	16		8.1 [4.1 : 15]
Heart	1.7 [1.3 : 3.6]	6.6 [5.1 : 8]	8.8 [6.3 : 21.1]	11.2 [10.5 : 29]	10		6.8 [3.3 : 10.8]
Lungs	1.9 [1.6 : 4.3]	8.6 [6.6 : 9.8]	12 [8.6 : 26.4]	15.8 [13.7 : 36.8]	16		8.9 [4.3 : 14]
Lymph	0.4 [0.3 : 0.9]	1.8 [1.4 : 2]	2.3 [1.6 : 4.8]	2.7 [2.4 : 6.5]	2.5		1.8 [0.8 : 2.5]
Oesophagus	1.4 [1.2 : 3.2]	6 [4.6 : 6.8]	7.9 [5.1 : 15.2]	8.9 [7.3 : 19.9]	8		6.2 [2.9 : 8.9]
Thyroid	0.1 [0.1 : 0.3]	0.5 [0.3 : 0.5]	0.5 [0.3 : 1]	0.4 [0.4 : 1]	0.2		0.4 [0.2 : 0.5]
Liver	0.8 [0.5 : 1.4]	3 [2.4 : 4.1]	4.3 [2.5 : 10.2]	5.5 [4.5 : 13.3]	5.6		3.2 [1.4 : 5.2]
Stomach	0.3 [0.3 : 0.8]	1.5 [1.1 : 1.6]	1.6 [1.2 : 3.2]	1.6 [1.5 : 4]	1.2		1.5 [0.7 : 1.7]
n	9	13	11	6	1	0	40

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.4 [1.3 : 2.2]	0.6	4.6 [2.5 : 4.7]	5.4 [2 : 6.5]			2.3 [1.4 : 5.1]
Bone marrow	0.6 [0.5 : 0.8]	0.3	1.7 [0.9 : 1.9]	2.8 [1.3 : 3.2]			1.1 [0.6 : 2.5]
Breasts	3.5 [3.3 : 5.7]	1.2	11.6 [6.3 : 16.2]	15.2 [5.4 : 19.7]			6.1 [3.7 : 16.5]
Heart	3.3 [3.1 : 5.3]	1.2	9.7 [5.3 : 10.1]	10.7 [4.3 : 12.8]			5 [3.3 : 10.5]
Lungs	4.1 [3.6 : 6.1]	1.8	12.2 [7 : 13.8]	17.3 [6.3 : 19.4]			7.2 [4.4 : 15.8]
Lymph	0.9 [0.8 : 1.3]	0.4	2.1 [1.3 : 2.6]	2.7 [1.1 : 3.1]			1.2 [0.8 : 2.7]
Oesophagus	3.2 [2.9 : 4.9]	1.2	6.4 [4.2 : 8.4]	8.6 [3.4 : 9.5]			4.4 [3 : 8.8]
Thyroid	0.3 [0.3 : 0.5]	0.1	0.3 [0.2 : 0.5]	0.3 [0.1 : 0.4]			0.3 [0.2 : 0.4]
Liver	1.3 [1.1 : 2]	0.5	4.4 [2.4 : 4.5]	5.3 [1.9 : 6.6]			2.3 [1.3 : 5]
Stomach	0.7 [0.6 : 1.1]	0.3	1.2 [0.9 : 1.9]	1.3 [0.7 : 1.6]			0.8 [0.7 : 1.5]
n	5	1	3	7	0	0	16

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.1 [1 : 9.3]	2 [1.2 : 2.8]	1 [0.6 : 1.4]	2.8 [1.2 : 4.2]	1.4 [1.1 : 4.9]		1.6 [1 : 3.5]
Bone marrow	3.1 [0.6 : 5.7]	1.2 [0.7 : 1.7]	0.7 [0.4 : 0.9]	2.2 [1.1 : 4]	1.3 [1 : 4.6]		1.5 [0.7 : 3.1]
Breasts	4.5 [0.7 : 8.2]	1.3 [0.8 : 1.9]	0.6 [0.4 : 1]	1.2 [0.5 : 1.9]	0.6 [0.5 : 2.1]		0.8 [0.5 : 1.9]
Heart	18.4 [3.6 : 33.2]	8.1 [5.4 : 10.8]	4.1 [2.4 : 5.7]	10.5 [4.8 : 16.6]	5.1 [4.3 : 19.3]		6.5 [3.7 : 13.4]
Lungs	19.3 [3.7 : 34.9]	7.8 [4.5 : 11.1]	4.3 [2.5 : 5.7]	12 [5.4 : 18.6]	6.4 [4.9 : 22.3]		7.3 [4 : 15.7]
Lymph	4.1 [0.8 : 7.4]	1.6 [1 : 2.3]	0.8 [0.5 : 1.2]	2.1 [0.9 : 3.2]	1 [0.8 : 3.7]		1.2 [0.8 : 2.7]
Oesophagus	16 [3.1 : 28.9]	6 [3.6 : 8.5]	2.7 [1.7 : 4.3]	7.1 [3.2 : 11.1]	3.7 [2.9 : 13.2]		4.4 [2.6 : 9.2]
Thyroid	1.3 [0.2 : 2.4]	0.3 [0.2 : 0.4]	0.1 [0.1 : 0.2]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]		0.2 [0.1 : 0.3]
Liver	5.5 [1 : 10]	1.9 [0.7 : 3.1]	1 [0.6 : 1.4]	2.4 [0.9 : 3.8]	1.2 [0.8 : 3.5]		1.3 [0.7 : 3.2]
Stomach	2.6 [0.6 : 4.7]	1.1 [0.9 : 1.4]	0.4 [0.3 : 0.8]	0.9 [0.4 : 1.4]	0.4 [0.3 : 1.8]		0.7 [0.4 : 1.3]
n	2	2	13	28	8	0	53

Heart biopsy	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	18-22 years	All
Effective dose	0.3	0.9 [0.4 : 1.2]	0.5 [0.3 : 0.8]	0.9 [0.6 : 2.1]	0.9 [0.3 : 2.2]	2.6	0.8 [0.3 : 1.5]
Bone marrow	0.1	0.4 [0.1 : 0.6]	0.2 [0.1 : 0.4]	0.7 [0.4 : 1.2]	1.3 [0.2 : 2.5]	3.8	0.5 [0.2 : 1.1]
Breasts	0.5	2 [1 : 3]	0.7 [0.6 : 1.8]	2.3 [1.5 : 4.8]	1.3 [0.6 : 3.1]	1.6	1.8 [0.7 : 3]
Heart	0.7	2.4 [0.9 : 3.4]	1.4 [0.8 : 2.3]	2.7 [1.8 : 5.4]	3.1 [0.8 : 6.6]	9.3	2.4 [0.9 : 4.4]
Lungs	0.9	2.8 [1 : 3.8]	1.6 [0.8 : 2.7]	2.8 [1.9 : 5.7]	2.5 [0.9 : 6.6]	9.3	2.5 [1 : 4.5]
Lymph	0.2	0.6 [0.2 : 0.8]	0.3 [0.2 : 0.5]	0.5 [0.3 : 1]	0.5 [0.1 : 1.3]	1.9	0.5 [0.2 : 0.9]
Oesophagus	0.6	2 [0.8 : 2.8]	1.1 [0.6 : 1.9]	1.9 [1.1 : 3.3]	2.3 [0.5 : 4.9]	8	1.6 [0.7 : 3.1]
Thyroid	0.1	0.1 [0.1 : 0.2]	0.1 [0 : 0.1]	0.1 [0 : 0.1]	0 [0 : 0.1]	0.2	0.1 [0 : 0.1]
Liver	0.2	0.7 [0.3 : 0.9]	0.3 [0.2 : 0.6]	0.6 [0.4 : 1.2]	0.7 [0.2 : 1.4]	1.4	0.5 [0.2 : 1]
Stomach	0.1	0.4 [0.2 : 0.6]	0.2 [0.1 : 0.4]	0.3 [0.2 : 0.6]	0.3 [0.1 : 0.6]	1.1	0.3 [0.1 : 0.6]
n	1	10	11	22	9	1	54

Coronary angiography	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	18-22 years	All
Effective dose		1.1 [0.8 : 2.2]	1.1 [0.8 : 2.2]	2.2 [1.7 : 4]	4 [1.4 : 5.2]		2.1 [1.1 : 3.3]
Bone marrow		0.7 [0.5 : 1.4]	0.7 [0.5 : 1.7]	2.3 [1.7 : 4]	5 [1.5 : 5.7]		1.7 [0.8 : 3.9]
Breasts		0.8 [0.6 : 1.6]	0.7 [0.5 : 1.4]	1.1 [0.7 : 1.8]	1.5 [0.6 : 2]		1 [0.6 : 1.6]
Heart		3.2 [2.2 : 6]	3.2 [2.3 : 6.8]	6.9 [5.1 : 12]	12 [4.2 : 15.8]		6 [3.2 : 10.1]
Lungs		3.7 [2.8 : 7.5]	3.7 [2.7 : 7.8]	8.3 [6.3 : 14.8]	15.3 [5.2 : 19.6]		7.3 [3.7 : 11.9]
Lymph		0.9 [0.7 : 1.9]	0.9 [0.7 : 1.9]	1.8 [1.3 : 3.1]	3.1 [1.1 : 4.1]		1.6 [0.9 : 2.5]
Oesophagus		2.9 [2.2 : 6]	2.9 [2.1 : 5.6]	5.6 [4.3 : 9.9]	10.6 [3.5 : 13.4]		5 [2.8 : 8.6]
Thyroid		0.2 [0.2 : 0.5]	0.2 [0.1 : 0.3]	0.2 [0.1 : 0.3]	0.3 [0.1 : 0.4]		0.2 [0.1 : 0.3]
Liver		0.9 [0.7 : 1.9]	0.8 [0.6 : 1.6]	1.5 [1 : 2.5]	2.4 [0.9 : 3.2]		1.3 [0.8 : 2.3]
Stomach		0.9 [0.7 : 1.9]	0.8 [0.6 : 1.6]	1.4 [0.9 : 2.3]	2.1 [0.8 : 2.9]		1.2 [0.7 : 2]
n		13	16	32	12	0	73

Pressure studies, PVR	<1 year	1-5 years	5-10 years	10-16 years	16-18 years	18-22 years	All
Effective dose	0.9 [0.6 : 1.8]	0.9 [0.6 : 1.3]	1.1 [0.6 : 3]	2 [1.3 : 5.1]	0.8 [0.4 : 2.6]		1.2 [0.7 : 3.4]
Bone marrow	0.4 [0.3 : 0.7]	0.4 [0.3 : 0.6]	0.5 [0.3 : 1.1]	1.8 [0.8 : 3.3]	0.7 [0.4 : 2.1]		0.6 [0.4 : 1.8]
Breasts	2.4 [1.4 : 4.5]	2.3 [1.5 : 2.6]	2.5 [1.4 : 6.9]	4.3 [2.1 : 11]	1 [0.3 : 5.1]		2.4 [1.4 : 7.7]
Heart	2.3 [1.4 : 4.3]	2.1 [1.4 : 2.7]	2.5 [1.4 : 6.6]	4.7 [2.8 : 11.5]	1.7 [0.9 : 5.6]		2.5 [1.5 : 7.3]
Lungs	2.7 [2 : 5.5]	2.9 [2 : 4.2]	3.3 [2 : 9.4]	7.5 [4 : 17.6]	2.9 [1.6 : 9.4]		3.7 [2.2 : 10.1]
Lymph	0.6 [0.4 : 1.1]	0.6 [0.4 : 0.8]	0.6 [0.4 : 1.8]	1.3 [0.7 : 3]	0.5 [0.3 : 1.5]		0.7 [0.4 : 2]
Oesophagus	2.2 [1.4 : 4.1]	1.9 [1.4 : 2.6]	2.1 [1.2 : 5.9]	4.2 [2.5 : 9.4]	1.6 [0.9 : 5.1]		2.3 [1.4 : 6.5]
Thyroid	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.2]	0.1 [0.1 : 0.3]	0.1 [0.1 : 0.4]	0 [0 : 0.2]		0.1 [0.1 : 0.2]
Liver	0.8 [0.5 : 1.6]	1 [0.6 : 1.1]	1 [0.6 : 2.7]	1.8 [1.1 : 4.4]	0.6 [0.3 : 2.1]		1 [0.6 : 3.1]
Stomach	0.5 [0.3 : 0.9]	0.5 [0.4 : 0.8]	0.4 [0.3 : 1.2]	0.8 [0.5 : 2.1]	0.3 [0.2 : 0.9]		0.6 [0.3 : 1.2]
n	5	14	15	17	8	0	59

<b>Valve replacement</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose			16.2 [11 : 22.5]	21.7 [16.4 : 31]	16 [10.2 : 33.2]	35.8	20.4 [12 : 32.1]
Bone marrow			6.6 [5.5 : 10.5]	12.3 [7.8 : 19.6]	8.5 [7.1 : 21.3]	18.3	10.9 [7.1 : 19.5]
Breasts			48.7 [25.4 : 68.7]	68.1 [50.3 : 89.4]	46.2 [27 : 77.1]	105.6	59.5 [34.3 : 91.2]
Heart			34.2 [24.9 : 50.3]	45 [33.7 : 64.7]	34.9 [20.9 : 68.3]	78.9	41.1 [26.1 : 67.5]
Lungs			45.5 [35.2 : 68.5]	67.5 [46.1 : 88.4]	48.8 [32.8 : 111.8]	107.1	61.4 [35.8 : 98.1]
Lymph			8.1 [6.7 : 12.8]	10.6 [8 : 15.4]	8.4 [5.3 : 17.8]	18.8	10.3 [6.5 : 16.2]
Oesophagus			25.3 [21.7 : 41.2]	33.5 [24.5 : 47.3]	25.8 [17.3 : 57.6]	57.2	32.6 [20.5 : 52.4]
Thyroid			1.3 [1.2 : 2.2]	1.3 [0.8 : 2.2]	1.2 [0.6 : 1.9]	2.7	1.3 [0.8 : 2.2]
Liver			15.5 [9.7 : 20.9]	21.5 [15.2 : 31.9]	14.4 [9.7 : 30.7]	31.7	19.9 [11.3 : 31.6]
Stomach			5.5 [4.8 : 9.5]	6.8 [4.4 : 10.1]	5.5 [3 : 9]	12.7	6.1 [4.2 : 9.9]
n	0	0	6	17	8	1	32

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		4	0.9 [0.6 : 2.6]	2.5	0.7 [0.2 : 1]	0	0.9 [0.4 : 2.7]
Bone marrow		1.1	0.6 [0.5 : 2.4]	3.4	1.1 [0.3 : 1.4]	0	1.1 [0.3 : 1.8]
Breasts		13.3	1.4 [0.8 : 3.2]	1.7	0.4 [0.1 : 0.8]	0	0.9 [0.3 : 2.3]
Heart		10.5	3.1 [2 : 9.3]	9.3	2.9 [0.7 : 3.9]	0.1	3.1 [1.3 : 9.6]
Lungs		10.5	3.1 [2 : 8.9]	8.9	2.5 [0.6 : 3.6]	0.1	3.1 [1.2 : 9.3]
Lymph		2.2	0.7 [0.4 : 1.9]	1.9	0.6 [0.1 : 0.8]	0	0.7 [0.3 : 1.9]
Oesophagus		8	2.6 [1.6 : 6.9]	8.1	2.5 [0.6 : 3.3]	0.1	2.6 [1 : 8]
Thyroid		0.6	0.1 [0.1 : 0.3]	0.2	0 [0 : 0.1]	0	0.1 [0 : 0.2]
Liver		3.8	0.6 [0.4 : 1.6]	1.4	0.4 [0.1 : 0.6]	0	0.6 [0.2 : 1.6]
Stomach		1.6	0.6 [0.3 : 1.4]	1.2	0.3 [0.1 : 0.5]	0	0.5 [0.2 : 1.3]
n	0	1	3	1	3	1	9

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	11.6	3.8 [2.5 : 4.3]	7.8 [2.1 : 13.6]	10.6 [6.7 : 14.5]	4		4.5 [3.4 : 12.1]
Bone marrow	4.5	1.6 [1 : 1.8]	3.5 [1 : 6]	7.3 [3.7 : 10.8]	3.9		3.7 [1.5 : 4.9]
Breasts	29.6	7.7 [5.6 : 11.1]	19.1 [4.8 : 33.5]	33.2 [18.3 : 48]	6.6		12.2 [6.2 : 30.6]
Heart	27.8	8.5 [5.4 : 9.6]	17.5 [4.7 : 30.3]	20.2 [14.7 : 25.6]	9.2		9.9 [7.6 : 26.2]
Lungs	33.6	12.6 [7.8 : 12.9]	24.5 [6.7 : 42.2]	29.3 [20.6 : 38]	14.1		14.1 [11.1 : 34.7]
Lymph	7.1	2.5 [1.6 : 2.6]	4.7 [1.3 : 8.1]	4.9 [3.6 : 6.3]	2.4		2.6 [2.1 : 6.5]
Oesophagus	26	8.2 [5.1 : 8.6]	15.6 [4.3 : 26.9]	15.9 [11 : 20.7]	8.7		8.8 [7.2 : 22]
Thyroid	2.4	0.5 [0.4 : 0.6]	0.9 [0.2 : 1.5]	0.4 [0.3 : 0.5]	0.2		0.5 [0.3 : 0.8]
Liver	10.7	3.3 [2.3 : 4.4]	7.3 [1.9 : 12.8]	11.2 [5.8 : 16.6]	3.4		4.8 [3 : 11.2]
Stomach	5.9	2.1 [1.3 : 2.1]	3.7 [1.1 : 6.4]	2.8 [2.4 : 3.1]	1.5		2.1 [1.4 : 3.8]
n	1	3	2	2	1	0	9

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6.8 [3.2 : 13.1]	7.9 [3.1 : 13.2]	5.2 [0 : 12.5]	3.3 [0 : 10.1]	5.8 [0 : 15.4]	0.5 [0.1 : 1.7]	6.1 [0.9 : 12.7]
Bone marrow	2.7 [1.3 : 5]	2.9 [1.1 : 4.9]	2.1 [0 : 4.7]	1.8 [0 : 5]	4 [0 : 12.2]	0.3 [0.1 : 1]	2.6 [0.4 : 5.1]
Breasts	17.2 [8.3 : 33.3]	20.8 [8 : 35]	14.5 [0 : 33.2]	9.6 [0 : 29]	14.6 [0 : 42.9]	1.3 [0.3 : 4.5]	16.3 [2.6 : 33.6]
Heart	16.8 [7.8 : 31.1]	17.2 [6.7 : 28.8]	11.2 [0 : 27.3]	6.8 [0 : 21.3]	11.5 [0 : 30.1]	1 [0.2 : 3.4]	14 [2.1 : 28]
Lungs	20 [9.5 : 38.6]	23.6 [9.1 : 39.5]	15.6 [0 : 37.5]	9.5 [0 : 30.1]	19 [0 : 44.5]	1.5 [0.4 : 5.5]	18.2 [2.8 : 37.5]
Lymph	4.2 [2 : 7.9]	4.7 [1.8 : 7.7]	3 [0 : 7.4]	1.6 [0 : 5.3]	3 [0 : 7.4]	0.2 [0.1 : 0.9]	3.5 [0.5 : 7.4]
Oesophagus	15.9 [7.3 : 28.6]	15.5 [6 : 26.3]	9.8 [0 : 24.4]	5.3 [0 : 16.9]	9.8 [0 : 25.4]	0.8 [0.2 : 2.8]	12.3 [1.7 : 25.2]
Thyroid	1.5 [0.7 : 2.4]	1.1 [0.4 : 2.1]	0.6 [0 : 1.4]	0.2 [0 : 0.6]	0.3 [0 : 0.6]	0 [0 : 0.1]	0.7 [0.1 : 1.7]
Liver	5.9 [3.2 : 12]	8.2 [3.2 : 13.4]	5.2 [0 : 12.9]	3 [0 : 9.3]	5.4 [0 : 15.9]	0.4 [0.1 : 1.5]	5.7 [0.8 : 12.4]
Stomach	3.4 [1.6 : 6.5]	3.8 [1.5 : 6.3]	2.2 [0 : 5.4]	0.9 [0 : 3.7]	1.5 [0 : 4.2]	0.1 [0 : 0.5]	2.6 [0.4 : 5.5]
n	95	130	82	82	24	3	416

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7 [3.9 : 11.7]	8.5 [5.5 : 14.2]	9.6 [5 : 14.6]	8.4 [4.4 : 13.5]	9.8 [6.3 : 15.5]	14 [13.6 : 14.3]	8.4 [5 : 14]
Bone marrow	2.7 [1.5 : 4.5]	3 [2 : 4.8]	4 [2.2 : 6.6]	5.4 [3.2 : 8.5]	6.1 [4.1 : 13.2]	10 [8.8 : 11.1]	3.5 [2.1 : 6.2]
Breasts	17.7 [8.7 : 30.1]	23.1 [13.9 : 39.6]	24.2 [12.1 : 44.1]	21.6 [9.9 : 36.7]	25.7 [13.3 : 45]	36.3 [34.7 : 37.9]	21.7 [11.8 : 38.3]
Heart	17 [9.6 : 28]	19.3 [12.3 : 32.5]	20.7 [11.7 : 33.5]	19.2 [10.3 : 28.9]	20 [14.2 : 36.2]	26.5 [25.6 : 27.5]	19 [11.4 : 31.5]
Lungs	21.1 [11.7 : 34.7]	24.7 [16.6 : 41.3]	28 [16 : 47.3]	27 [14.7 : 42.7]	30.4 [20.9 : 45]	45 [44.7 : 45.4]	24.9 [15.3 : 41.8]
Lymph	4.4 [2.4 : 7.1]	4.9 [3.3 : 8.3]	5.4 [2.9 : 8.9]	4.5 [2.5 : 7.1]	5 [3.3 : 8.4]	7 [6.9 : 7.1]	4.8 [3 : 7.8]
Oesophagus	16 [9.1 : 26.3]	16.6 [11.2 : 28.5]	17 [9.6 : 29.5]	14.4 [8.3 : 23.4]	16.5 [11.1 : 29.9]	22.9 [22.9 : 23]	16.2 [10 : 26.7]
Thyroid	1.5 [0.8 : 2.4]	1.2 [0.8 : 2]	1 [0.5 : 1.6]	0.5 [0.3 : 0.8]	0.4 [0.3 : 0.8]	0.7 [0.6 : 0.8]	1 [0.5 : 1.8]
Liver	6.7 [3.8 : 11.2]	9.2 [5.6 : 15.3]	8.7 [4.6 : 14.6]	7 [3.6 : 12.5]	8.5 [4.9 : 14]	14.5 [12.5 : 16.5]	8 [4.7 : 13.7]
Stomach	3.5 [1.9 : 5.8]	3.9 [2.7 : 6.3]	3.7 [2.3 : 6.7]	2.3 [1.2 : 3.7]	2.4 [1.2 : 3.8]	3.4 [3.1 : 3.7]	3.3 [2 : 5.6]
n	251	305	158	189	47	2	952

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	8.1 [4.3 : 12.8]	6.4 [3 : 14.8]	7.8 [4.6 : 11.4]	9.8 [4.2 : 19.2]	10.3 [7.2 : 12.5]		8 [3.9 : 13.2]
Bone marrow	3.1 [1.7 : 4.9]	2.4 [1.1 : 5.5]	3.2 [1.8 : 4.6]	5.3 [2.3 : 9.5]	5.8 [3.9 : 10]		3.2 [1.6 : 5.5]
Breasts	20.6 [10.8 : 32.3]	16.8 [7.9 : 39]	22.4 [12.9 : 32.3]	26 [12.1 : 54.5]	27.8 [21.7 : 36.5]		21.4 [10.2 : 35]
Heart	18.9 [10.1 : 30.3]	14.1 [6.6 : 32.3]	17 [10 : 24.6]	19.7 [8.7 : 40.9]	20.5 [15.2 : 25.5]		18.3 [8.7 : 30.1]
Lungs	23.8 [12.6 : 37.5]	19.2 [9 : 44.2]	23.5 [13.8 : 34.1]	31 [13 : 57]	33.2 [21.8 : 37.1]		24 [11.5 : 38.9]
Lymph	4.9 [2.6 : 7.7]	3.8 [1.8 : 8.8]	4.5 [2.6 : 6.4]	5 [2.2 : 9.8]	5.3 [3.7 : 6.1]		4.6 [2.3 : 7.7]
Oesophagus	17.5 [9.4 : 28.1]	12.6 [5.9 : 29]	14.9 [8.5 : 21.1]	16.4 [7 : 29.8]	16.6 [11.3 : 20.7]		16.3 [7.5 : 26.3]
Thyroid	1.4 [0.8 : 2.5]	0.9 [0.4 : 1.9]	0.9 [0.5 : 1.3]	0.5 [0.3 : 1.3]	0.6 [0.4 : 0.7]		1.1 [0.5 : 2]
Liver	7.2 [3.8 : 11.7]	6.6 [3.1 : 15.3]	7.8 [4.5 : 11.2]	9.3 [3.9 : 17.1]	10.1 [6.4 : 12.7]		7.6 [3.9 : 12.7]
Stomach	4 [2.1 : 6.3]	3 [1.4 : 6.7]	3.4 [1.9 : 4.8]	2.7 [1.3 : 5.9]	2.7 [2.3 : 3.8]		3.3 [1.8 : 5.8]
n	85	49	23	20	9	0	186

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	12.2 [7 : 15.9]	5.5 [3.9 : 7.6]	5.5 [3.1 : 10.8]	4.3 [2.7 : 7.8]	10.1 [9 : 12.2]		5.5 [3.5 : 9.1]
Bone marrow	6.2 [3.7 : 8]	2.9 [2.1 : 3.8]	3.2 [2.1 : 6.1]	3.7 [2.4 : 6.1]	12 [9.1 : 16.3]		3.2 [2.1 : 5.9]
Breasts	23.4 [13.6 : 30.5]	10.1 [6.9 : 14.2]	9.8 [5.5 : 19.2]	5.8 [3.5 : 11.2]	11.8 [10.8 : 14.6]		9.6 [5.5 : 15.3]
Heart	25.9 [15.7 : 33.2]	11.9 [8.7 : 15.6]	12.3 [7.3 : 24.1]	10.1 [6.3 : 18.7]	25.1 [21 : 32.4]		11.9 [7.4 : 20.9]
Lungs	40.2 [22.9 : 52.8]	18.8 [13.6 : 25.4]	19.1 [11 : 37.1]	16.1 [10.3 : 27.2]	35.6 [31.7 : 42.3]		18.6 [12 : 31.8]
Lymph	7.9 [4.5 : 10.4]	3.7 [2.6 : 5]	3.6 [2.1 : 7.1]	2.7 [1.7 : 4.9]	6.4 [5.8 : 7.8]		3.6 [2.2 : 5.9]
Oesophagus	26.3 [16.2 : 33.5]	11.6 [8.5 : 15.5]	11.5 [6.4 : 22.5]	9.2 [5.8 : 15.1]	24.1 [20.5 : 30.3]		11.4 [7 : 19.3]
Thyroid	2.2 [1.5 : 2.7]	0.8 [0.6 : 1.2]	0.7 [0.3 : 1.2]	0.3 [0.2 : 0.5]	0.4 [0.3 : 0.6]		0.6 [0.3 : 1.1]
Liver	9.4 [5.1 : 12.6]	4.4 [3.1 : 6.1]	4.3 [2.4 : 8.5]	3.1 [1.9 : 5.7]	7.9 [6.6 : 10.1]		4.2 [2.6 : 7]
Stomach	7.1 [3.9 : 9.4]	3.3 [2.3 : 4.5]	3.1 [1.7 : 6.1]	1.9 [1.2 : 3.7]	4.4 [3.8 : 5.6]		3.1 [1.7 : 4.8]
n	5	54	56	36	4	0	155

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7.8 [5.9 : 14.5]	8.5 [5.7 : 13.4]	7.2 [5.5 : 12.7]	9 [5.8 : 12.2]	11.5 [8 : 15]		8.5 [5.8 : 13.6]
Bone marrow	2.6 [1.9 : 4.6]	2.7 [1.8 : 4.2]	2.5 [1.8 : 4.4]	3.9 [2.5 : 5.1]	6.3 [3.5 : 9.2]		2.8 [1.9 : 4.3]
Breasts	22 [16.7 : 41.4]	24.9 [16.8 : 38.8]	24.8 [17.8 : 42.1]	31.1 [18.4 : 42.8]	38.6 [27.3 : 49.9]		25 [16.8 : 40.1]
Heart	19.7 [13.9 : 33.8]	19.6 [13.2 : 30.8]	16.2 [12 : 28.1]	18.8 [11.6 : 25.3]	21.8 [16.5 : 27.1]		19.5 [13.3 : 30.7]
Lungs	21.6 [16.4 : 40.8]	23.8 [16.1 : 37.7]	20.2 [15.3 : 35.6]	25.3 [17.4 : 34]	32.5 [22.9 : 42.2]		23.8 [16.3 : 38.1]
Lymph	4.6 [3.4 : 8.4]	4.9 [3.3 : 7.7]	3.9 [2.9 : 6.9]	4.2 [2.7 : 5.7]	5.2 [3.8 : 6.6]		4.7 [3.3 : 7.6]
Oesophagus	17.3 [11.9 : 28.8]	16.7 [11.4 : 26.2]	13.4 [9.4 : 23.3]	13.2 [8.4 : 17.2]	15.9 [11.5 : 20.4]		16.1 [11.2 : 25.8]
Thyroid	1.6 [0.9 : 2.3]	1.2 [0.8 : 1.9]	0.8 [0.5 : 1.3]	0.7 [0.4 : 0.8]	0.5 [0.5 : 0.5]		1.1 [0.7 : 1.8]
Liver	8.1 [6.6 : 15.9]	9.6 [6.4 : 15.1]	7.8 [5.8 : 13.7]	8.6 [5.6 : 11.5]	11.9 [7.6 : 16.1]		9.3 [6.4 : 15.1]
Stomach	3.7 [2.8 : 6.6]	3.8 [2.6 : 5.9]	2.9 [1.9 : 4.8]	2.6 [1.4 : 3.3]	2.6 [2.1 : 3.1]		3.5 [2.4 : 5.7]
n	23	149	39	16	2	0	229

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	8.6 [6.2 : 12.3]	10.7 [7.7 : 15.1]	10.4 [9.1 : 11.1]	10.4 [7.1 : 14.2]	11.4 [9.8 : 12.9]		9 [7 : 12.8]
Bone marrow	3.3 [2.4 : 4.8]	4 [2.9 : 5.6]	4 [3.7 : 4.2]	5.1 [4.8 : 6.4]	8.9 [8.5 : 9.3]		3.6 [2.8 : 5.5]
Breasts	21.8 [15.8 : 31]	27.9 [20.4 : 39.9]	28 [25.7 : 29.5]	30.1 [20 : 41.5]	30.8 [28.3 : 33.3]		23.1 [17.8 : 33.6]
Heart	20.3 [14.8 : 30]	23.2 [16.8 : 32.6]	22.5 [19.7 : 24.1]	21.8 [14.7 : 30.6]	22.3 [19 : 25.6]		20.6 [16.4 : 29.2]
Lungs	25.2 [18.3 : 36]	31.8 [22.9 : 45.3]	31.2 [27.3 : 33]	32 [22.5 : 42.1]	34.1 [26.8 : 41.4]		26.5 [20.8 : 37.9]
Lymph	5.2 [3.8 : 7.5]	6.2 [4.6 : 8.7]	5.8 [5.1 : 6.4]	5.3 [3.6 : 7.7]	5.6 [4.6 : 6.6]		5.3 [4.2 : 7.6]
Oesophagus	18.9 [13.5 : 28.4]	20.8 [15.1 : 29.1]	19 [16.8 : 21.2]	16.5 [11.8 : 24.6]	18.9 [16 : 21.8]		19 [14.8 : 27.3]
Thyroid	1.7 [1.2 : 2.7]	1.4 [1.1 : 2]	1.1 [1 : 1.3]	0.7 [0.4 : 1.3]	0.4 [0.2 : 0.6]		1.6 [1.1 : 2.5]
Liver	7.9 [5.7 : 11.4]	10.9 [8 : 15.1]	10.2 [8.9 : 11.1]	9.3 [6.7 : 13.4]	11.4 [10.4 : 12.4]		8.7 [6.3 : 12.3]
Stomach	4.2 [3.1 : 6]	4.8 [3.8 : 6.7]	4.2 [3.7 : 4.8]	3.2 [2.1 : 5.4]	3 [2.6 : 3.4]		4.2 [3.3 : 6.1]
n	80	18	6	5	2	0	111

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6.4 [5.3 : 10]	5.1 [4.8 : 7.6]		13.3 [9.3 : 16]	7.1		8.6 [5.6 : 13.6]
Bone marrow	2.5 [2.1 : 3.9]	1.9 [1.8 : 2.8]		9.4 [5.9 : 11.2]	5.2		3.9 [2.2 : 9.3]
Breasts	16.1 [13.6 : 25.5]	13.5 [12.5 : 20]		35.2 [26.9 : 42.2]	18.4		22.2 [14.3 : 35.7]
Heart	15.5 [12.6 : 23.6]	11.2 [10.4 : 16.7]		27.2 [19.1 : 31.9]	14.1		19 [13.8 : 27.8]
Lungs	18.7 [15.7 : 29.5]	15.3 [14.2 : 22.8]		40.3 [29 : 50.8]	22.7		25.2 [16.5 : 43.3]
Lymph	3.9 [3.2 : 6.1]	3 [2.8 : 4.5]		6.7 [4.8 : 8.1]	3.6		4.6 [3.4 : 6.9]
Oesophagus	14.5 [11.9 : 22.1]	10 [9.3 : 15]		21.3 [15 : 26.6]	12		15.2 [12 : 23.4]
Thyroid	1.4 [1.1 : 2.1]	0.7 [0.6 : 1.1]		0.7 [0.6 : 1]	0.3		1 [0.6 : 1.5]
Liver	5.6 [4.7 : 9.3]	5.3 [4.9 : 7.9]		12.7 [8.4 : 15.2]	6.9		7.9 [5 : 13.1]
Stomach	3.1 [2.6 : 5]	2.5 [2.2 : 3.7]		3.6 [2.8 : 4.4]	1.9		3.1 [2.5 : 4.5]
n	22	6	0	16	1	0	45

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	11.4 [8.9 : 26.4]	18.9 [9 : 27.8]	15.1 [11.3 : 22]	15.1 [11 : 20.4]	12.2 [7.9 : 15.6]		16 [10.2 : 26]
Bone marrow	3.5 [2.9 : 8.3]	5.9 [2.9 : 8.6]	5 [3.7 : 7.9]	6.3 [4.2 : 8.9]	5 [4.4 : 6.6]		5.6 [3.4 : 8.6]
Breasts	33.5 [25.3 : 75.4]	58.2 [29.3 : 82.8]	50.1 [35.9 : 76.2]	50.6 [36.1 : 68.6]	43.1 [25.7 : 54.6]		51.2 [33 : 79.4]
Heart	25.9 [22.3 : 61.6]	41.8 [19.2 : 62.1]	31.9 [24 : 45.5]	28.9 [20.4 : 42.7]	24.2 [14.2 : 30.9]		33.3 [21.1 : 57.7]
Lungs	32 [24.6 : 73.1]	53.1 [25.1 : 77.8]	41.4 [31.5 : 60.1]	43.8 [29.2 : 62.4]	33.8 [23.2 : 43.8]		43.9 [28.2 : 72.9]
Lymph	6.6 [5.2 : 15.4]	10.5 [4.7 : 15.7]	7.5 [6 : 10.8]	6.9 [5 : 10.2]	5.6 [3.5 : 7.1]		8.3 [5 : 14.5]
Oesophagus	22.4 [19.9 : 53.1]	35.8 [15.7 : 53.2]	24.7 [20.2 : 36.2]	21.3 [15.1 : 33.7]	16.9 [11 : 21.8]		27.3 [15.8 : 49]
Thyroid	2 [1.7 : 4.1]	2.6 [1.1 : 3.9]	1.5 [1.1 : 2.4]	0.9 [0.7 : 1.3]	0.8 [0.4 : 1]		1.7 [0.9 : 3.2]
Liver	13.2 [8.6 : 26.7]	21.4 [9.7 : 31.5]	15.6 [12.3 : 22.4]	15.2 [10.4 : 21.3]	11.8 [8.5 : 15.1]		17 [10.3 : 29.5]
Stomach	5.1 [4.1 : 12.1]	7.9 [3.4 : 12]	5 [4 : 7.5]	3.4 [2.5 : 5.5]	3 [1.5 : 3.8]		5.4 [3.2 : 9.4]
n	11	33	20	14	6	0	84

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6 [3 : 9]	5.4 [4.6 : 8]	7.7 [5 : 24.1]	11.8 [7.5 : 17.3]	11.6 [7.1 : 28.4]	14.3	7.2 [4.7 : 12]
Bone marrow	2.5 [1.2 : 3.7]	2.1 [1.8 : 3.2]	3.2 [2.2 : 9.7]	7.7 [3.9 : 13.5]	9.9 [5 : 17.5]	11.1	3.2 [2.1 : 6.9]
Breasts	13.1 [6.6 : 19.8]	12.6 [10.5 : 18.2]	19.8 [13.4 : 58.6]	30.8 [21.4 : 46.8]	32.6 [18.4 : 73.5]	37.9	17.1 [10.8 : 31.3]
Heart	14.2 [7.1 : 21.1]	12 [10.2 : 17.8]	16 [10.6 : 50.8]	23.2 [15.4 : 33]	20 [13.2 : 55]	25.6	15.8 [10.7 : 24.3]
Lungs	18.9 [9.6 : 28.5]	17 [14.5 : 25.3]	24.2 [15.6 : 76.9]	38.4 [23.5 : 58.5]	33.2 [23.2 : 94.5]	44.7	22.5 [14.7 : 39.2]
Lymph	3.8 [1.9 : 5.7]	3.3 [2.8 : 5]	4.1 [2.8 : 13]	6.1 [3.8 : 8.8]	5.3 [3.5 : 14.5]	6.9	4.1 [2.8 : 6.4]
Oesophagus	13.7 [6.8 : 20]	11.3 [9.5 : 16.7]	13.2 [9 : 41]	19.4 [12 : 28.7]	17.8 [11.6 : 46.7]	22.9	13.9 [9.6 : 22.7]
Thyroid	1.2 [0.6 : 1.7]	0.8 [0.7 : 1.1]	0.7 [0.5 : 1.8]	0.6 [0.4 : 1.1]	0.4 [0.3 : 1.8]	0.6	0.9 [0.5 : 1.5]
Liver	6.2 [3.6 : 10.4]	6.6 [5.6 : 9.8]	8.3 [5.6 : 26.4]	12.5 [7.8 : 20.4]	14 [7.8 : 30]	16.5	8.1 [4.9 : 13.7]
Stomach	2.8 [1.4 : 4.3]	2.5 [2 : 3.6]	2.5 [1.7 : 6.7]	2.9 [2.1 : 4.1]	2.4 [1.6 : 6.9]	3.1	2.7 [1.7 : 4.3]
n	33	13	10	21	5	1	83

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		13.8	11.5 [5.8 : 13.5]	6.9 [4 : 11.5]	6.5 [4.7 : 14.6]		6.9 [4.1 : 12.9]
Bone marrow		5.1	4.9 [3.2 : 5.7]	4.8 [2.8 : 7.7]	5 [3.1 : 11.6]		4.9 [3 : 7.8]
Breasts		39.9	37.2 [16.2 : 44.1]	17.9 [9.8 : 30.1]	15 [12.4 : 33.3]		17.9 [10.5 : 33.9]
Heart		34.8	27.9 [14.7 : 33.5]	17 [10 : 29.1]	17 [11.8 : 37.7]		17.4 [10.4 : 31.4]
Lungs		40.9	32 [18.2 : 40]	21.2 [13.2 : 37.2]	21.5 [15 : 50.9]		21.8 [13.8 : 38.6]
Lymph		7.8	5.7 [3.1 : 6.9]	3.6 [2.1 : 6]	3.6 [2.5 : 8]		3.6 [2.2 : 6.5]
Oesophagus		28.5	19.1 [11 : 23.8]	12 [7.7 : 20.8]	12.4 [8.4 : 28.8]		12.4 [7.8 : 22.7]
Thyroid		1.6	0.8 [0.4 : 1.1]	0.4 [0.2 : 0.6]	0.4 [0.2 : 0.6]		0.4 [0.2 : 0.7]
Liver		12.4	8.5 [4.5 : 10.4]	5.1 [3.1 : 8.7]	5.1 [3.4 : 11.3]		5.2 [3.3 : 9.7]
Stomach		4.9	2.7 [1.5 : 3.7]	1.5 [0.8 : 2.3]	1.3 [1 : 2.8]		1.5 [0.8 : 2.6]
n	0	1	8	76	23	0	108

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.9 [0 : 1.8]	0.1 [0 : 0.9]	2.5 [0.9 : 4.9]	1.3 [0.1 : 4.8]	0.4 [0 : 1.1]	1.5 [0.9 : 1.8]	1.1 [0.1 : 3.7]
Bone marrow	0.4 [0 : 0.7]	0 [0 : 0.3]	1.2 [0.4 : 2.1]	0.8 [0.1 : 3]	0.3 [0 : 0.9]	0.8 [0.6 : 1.3]	0.6 [0 : 1.9]
Breasts	2.5 [0 : 4.9]	0.2 [0 : 2.5]	8.6 [3 : 16.3]	3.3 [0.4 : 12.4]	0.8 [0 : 2.5]	4.3 [2.3 : 4.7]	3.1 [0.2 : 8.6]
Heart	2.6 [0 : 5.3]	0.2 [0 : 2.3]	6 [2.3 : 12]	3.3 [0.3 : 12.1]	0.9 [0 : 2.9]	3.8 [2.2 : 4.7]	2.9 [0.1 : 9.8]
Lungs	2.7 [0 : 5.3]	0.2 [0 : 2.8]	6.9 [2.6 : 14.1]	4.3 [0.3 : 15]	1.3 [0 : 3.9]	4.5 [2.8 : 6.2]	3.6 [0.2 : 11.3]
Lymph	0.5 [0 : 1.1]	0 [0 : 0.5]	1.2 [0.5 : 2.7]	0.7 [0.1 : 2.5]	0.2 [0 : 0.6]	0.8 [0.5 : 1]	0.6 [0 : 2]
Oesophagus	1.9 [0 : 3.9]	0.1 [0 : 2]	3.9 [1.7 : 9.8]	2.4 [0.2 : 8.8]	0.7 [0 : 2.2]	2.5 [1.6 : 3.5]	2 [0.1 : 6.4]
Thyroid	0.2 [0 : 0.4]	0 [0 : 0.1]	0.2 [0.1 : 0.5]	0.1 [0 : 0.3]	0 [0 : 0.1]	0.1 [0 : 0.1]	0.1 [0 : 0.2]
Liver	0.6 [0 : 1.3]	0.1 [0 : 0.9]	1.8 [0.7 : 4.3]	1 [0.1 : 3.6]	0.3 [0 : 0.8]	1.1 [0.7 : 1.3]	0.8 [0 : 2.8]
Stomach	0.3 [0 : 0.7]	0 [0 : 0.4]	0.6 [0.3 : 1.7]	0.2 [0 : 1]	0.1 [0 : 0.2]	0.3 [0.2 : 0.4]	0.2 [0 : 0.7]
n	2	4	9	28	8	3	54

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2 [0.3 : 4.1]	10.9					2 [0.4 : 4.3]
Bone marrow	0.9 [0.1 : 1.8]	4.4					0.9 [0.2 : 1.8]
Breasts	4.3 [0.7 : 8.8]	24.5					4.4 [0.8 : 9.1]
Heart	5.1 [0.9 : 10.5]	24.7					5.2 [1 : 10.8]
Lungs	6.3 [1.1 : 13]	34.7					6.4 [1.2 : 13.4]
Lymph	1.3 [0.2 : 2.7]	6.9					1.3 [0.2 : 2.7]
Oesophagus	5 [0.8 : 10.3]	23.1					5.1 [1 : 10.6]
Thyroid	0.5 [0.1 : 1]	1.7					0.5 [0.1 : 1]
Liver	2 [0.3 : 4.1]	13.5					2.1 [0.4 : 4.3]
Stomach	1 [0.2 : 2]	5.1					1 [0.2 : 2.1]
n	54	1	0	0	0	0	55

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7.5 [2 : 12]	4.9 [0 : 10.2]	5.8 [0 : 10.3]	4.7 [0.8 : 14]	2.3 [0 : 8.8]	2 [0.5 : 11.2]	5.6 [0.5 : 11.4]
Bone marrow	2.9 [0.8 : 4.7]	1.9 [0 : 3.8]	2.4 [0 : 4]	3 [0.5 : 7.1]	1.8 [0 : 6.7]	1.4 [0.3 : 7.8]	2.2 [0.2 : 4.6]
Breasts	18.9 [5.1 : 30.3]	12.8 [0 : 26.4]	15.6 [0.1 : 27.7]	11.5 [1.9 : 37.5]	5.2 [0 : 21.3]	4.7 [1.1 : 27.1]	14.6 [1.3 : 29.8]
Heart	18.2 [4.9 : 29]	11 [0 : 23]	13 [0.1 : 23.2]	12.4 [1.7 : 31.3]	6.5 [0 : 22.4]	4.2 [1 : 23.9]	12.7 [1.3 : 25.9]
Lungs	21.6 [5.9 : 34.7]	14.5 [0 : 30.2]	17.2 [0.1 : 30.7]	14.7 [2.3 : 40.8]	7.8 [0 : 27.6]	6.4 [1.5 : 36.5]	16.5 [1.5 : 33.6]
Lymph	4.6 [1.2 : 7.3]	3 [0 : 6.2]	3.4 [0 : 6.1]	2.6 [0.4 : 7.6]	1.3 [0 : 5]	1.1 [0.2 : 6.1]	3.4 [0.3 : 6.7]
Oesophagus	17 [4.4 : 26.7]	9.9 [0 : 21]	11.4 [0.1 : 20.6]	9.1 [1.4 : 25.5]	4.9 [0 : 18.3]	3.6 [0.8 : 20.8]	11.4 [1.1 : 23.1]
Thyroid	1.6 [0.4 : 2.5]	0.7 [0 : 1.7]	0.7 [0 : 1.3]	0.4 [0.1 : 1]	0.2 [0 : 0.6]	0.1 [0 : 0.7]	0.7 [0.1 : 1.6]
Liver	6.5 [2 : 10.5]	5.2 [0 : 10.7]	6 [0 : 10.6]	3.7 [0.7 : 13.3]	1.9 [0 : 8.8]	2 [0.5 : 11.4]	5.7 [0.5 : 11.1]
Stomach	3.8 [1 : 6]	2.5 [0 : 5]	2.7 [0 : 4.7]	1.1 [0.2 : 4.8]	0.5 [0 : 2.7]	0.6 [0.1 : 3.4]	2.6 [0.2 : 5.2]
n	70	104	57	58	16	4	309



<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.8 [2.7 : 9.9]	5.9 [3.8 : 9.4]	6.5 [3.4 : 10.8]	7.5 [3.6 : 12.8]	5.4 [3.3 : 11.1]	3.1 [1.1 : 3.7]	6.1 [3.4 : 10.6]
Bone marrow	2.2 [1.1 : 3.7]	2 [1.3 : 3.2]	2.4 [1.4 : 4]	4.3 [2.3 : 8.9]	4.4 [2.5 : 9.2]	2.3 [0.6 : 3.6]	2.5 [1.4 : 4.6]
Breasts	14.3 [6.7 : 25.4]	16.3 [10 : 25.8]	18.1 [9.9 : 31.2]	19.5 [8.6 : 35.7]	12.6 [7 : 27.1]	3.8 [3 : 8.3]	16.1 [8.6 : 28.4]
Heart	14.1 [6.5 : 24.3]	14 [8.8 : 21.5]	15.1 [8.3 : 25]	18.4 [9.2 : 34.1]	15.4 [8.6 : 30.1]	8.7 [2.3 : 9.6]	14.7 [8.4 : 25.6]
Lungs	17.2 [7.9 : 28]	16.7 [11 : 26.9]	19.1 [10.3 : 31.2]	23.1 [11 : 42.7]	18.4 [9.8 : 37.6]	10.5 [3.3 : 12.1]	17.9 [10.4 : 31.1]
Lymph	3.6 [1.7 : 5.9]	3.5 [2.3 : 5.6]	3.6 [2 : 5.9]	4 [2.1 : 7.3]	3.1 [1.8 : 6.4]	1.8 [0.5 : 2.4]	3.6 [2.1 : 6.1]
Oesophagus	13.3 [6.3 : 22]	12.1 [7.9 : 18.8]	12 [7 : 19.8]	13.6 [7 : 26.6]	11.8 [6.5 : 23.9]	6.5 [1.8 : 9.4]	12.6 [7.2 : 21.5]
Thyroid	1.2 [0.6 : 2]	0.9 [0.6 : 1.5]	0.7 [0.4 : 1.2]	0.5 [0.2 : 1]	0.4 [0.2 : 0.7]	0.2 [0.1 : 0.3]	0.8 [0.4 : 1.4]
Liver	5.4 [2.6 : 9.5]	6.7 [4.1 : 10.3]	6.9 [3.4 : 11.3]	7 [3.1 : 12.3]	4.9 [2.8 : 9.7]	2.4 [1.1 : 3.6]	6.2 [3.3 : 10.5]
Stomach	2.9 [1.3 : 4.9]	2.9 [1.9 : 4.5]	2.5 [1.4 : 4.3]	2.2 [1.1 : 3.9]	1.5 [0.8 : 2.8]	0.7 [0.3 : 1.8]	2.6 [1.4 : 4.3]
n	330	425	153	266	59	5	1238

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7.6 [4.1 : 12]	9.1 [5.6 : 14.1]	8.5 [5.6 : 11.7]	8.9 [5 : 14.5]	11.4 [3.8 : 22]	8.5 [6.4 : 10.2]	8.7 [5.2 : 12.8]
Bone marrow	3 [1.7 : 4.6]	3.4 [2.1 : 5.3]	3.3 [2.2 : 5.2]	4.6 [2.9 : 8.6]	7.9 [2.4 : 11.1]	6.9 [4.2 : 7.3]	3.4 [2.1 : 5.5]
Breasts	19.2 [10.4 : 30.4]	23.9 [14.6 : 36.9]	23 [15 : 32.7]	23.5 [14.1 : 36.1]	27.5 [9.3 : 60.2]	21.1 [16.4 : 23.8]	22.5 [13.8 : 34]
Heart	18.4 [9.7 : 28.1]	20.5 [12.4 : 31.7]	19 [12.6 : 26.8]	19.9 [11.1 : 30.4]	24.1 [8 : 49]	19 [13.9 : 23]	19.5 [11.8 : 28.9]
Lungs	22.2 [12 : 34.9]	27.1 [16.6 : 41.6]	25.4 [16.6 : 34.8]	26.1 [14.6 : 48.4]	37.1 [12.4 : 64.9]	24.5 [20.2 : 32]	25.7 [15.3 : 37.7]
Lymph	4.6 [2.5 : 7.3]	5.5 [3.4 : 8.5]	5.1 [3.1 : 6.7]	4.8 [2.8 : 7.8]	6.1 [2 : 11.6]	4.6 [3.5 : 5.7]	5.1 [3 : 7.7]
Oesophagus	17.4 [9 : 25.7]	18.4 [11.2 : 28.4]	17.1 [9.8 : 22.1]	14.9 [8.9 : 26.3]	20.9 [6.8 : 36.3]	17.1 [11.8 : 20.4]	17.4 [10.1 : 26]
Thyroid	1.6 [0.8 : 2.3]	1.3 [0.8 : 2.2]	1 [0.6 : 1.3]	0.7 [0.4 : 1.3]	0.7 [0.3 : 1.7]	0.5 [0.4 : 0.7]	1.2 [0.7 : 1.9]
Liver	6.7 [3.8 : 11.5]	9.5 [5.8 : 14.2]	8.9 [5.4 : 11.6]	8.4 [4.9 : 15.2]	11.4 [3.7 : 20.4]	9.8 [7.2 : 11.1]	8.5 [5.2 : 13]
Stomach	3.8 [2.1 : 6]	4.5 [2.8 : 7.1]	3.9 [2.4 : 5]	3 [1.9 : 5.1]	3.4 [1.2 : 7.4]	2.9 [2 : 3.6]	3.9 [2.2 : 6.2]
n	93	113	45	44	6	3	304

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	22.9	3.2 [1.8 : 5.8]	3 [1.5 : 5.4]	3.7 [2 : 4.9]	4.3 [1.1 : 8.7]	3.2	3.3 [1.8 : 5.6]
Bone marrow	11.9	1.7 [0.9 : 3]	1.6 [0.8 : 3]	2.9 [1.7 : 5.3]	5.1 [1.3 : 8.2]	3.6	1.9 [1.1 : 3.6]
Breasts	46.3	5.8 [3.3 : 10.6]	5.3 [2.7 : 9.6]	5.3 [3.1 : 8.8]	5.2 [1.3 : 11.1]	3.8	5.5 [3.3 : 10.1]
Heart	52.5	7.2 [4 : 12.6]	7 [3.5 : 13]	9.3 [4.9 : 12.8]	12 [3 : 21.3]	8.7	7.3 [4.4 : 12.7]
Lungs	72.5	10.7 [5.8 : 19.2]	10.1 [5.1 : 18.5]	12.8 [7.1 : 17.4]	13.9 [3.5 : 32]	10.5	11.1 [6.6 : 18.8]
Lymph	14.8	2.2 [1.2 : 3.9]	2 [1 : 3.6]	2.5 [1.4 : 3.3]	3 [0.7 : 5.7]	2.2	2.2 [1.2 : 3.7]
Oesophagus	55.2	7.1 [3.9 : 12.6]	6.7 [3.5 : 11.3]	9.1 [4.5 : 12.7]	12.4 [3.1 : 20.8]	9	7.2 [4.4 : 12.5]
Thyroid	5.2	0.4 [0.3 : 0.8]	0.4 [0.2 : 0.6]	0.3 [0.1 : 0.5]	0.2 [0.1 : 0.6]	0.2	0.4 [0.2 : 0.7]
Liver	16.2	2.6 [1.5 : 4.8]	2.4 [1.2 : 4.2]	3 [1.6 : 4]	3.9 [1 : 6.8]	2.8	2.8 [1.5 : 4.5]
Stomach	12.8	2 [1.1 : 3.6]	1.8 [0.9 : 3]	1.9 [1.1 : 2.7]	2.3 [0.6 : 4.1]	1.7	1.9 [1.1 : 3.2]
n	1	54	27	25	3	1	111

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	8.1 [5.7 : 10.6]	5.6 [4.1 : 7.8]	5.2 [3.4 : 7.2]	8 [6.6 : 10.7]	7.3	1.2	5.8 [4 : 8.2]
Bone marrow	2.7 [1.8 : 3.5]	1.8 [1.3 : 2.5]	1.8 [1.1 : 2.4]	3.7 [3.4 : 4.7]	3.5	0.6	1.9 [1.3 : 2.7]
Breasts	22.6 [16.2 : 29.7]	16 [11.6 : 22.3]	15.8 [10.2 : 21.8]	27.2 [20.4 : 35.2]	22.8	3.4	16.8 [11.6 : 23.8]
Heart	20.5 [13.8 : 26.3]	13.4 [9.6 : 18.7]	12.1 [7.7 : 16.5]	18 [14.2 : 23.7]	15.9	2.4	13.8 [9.6 : 19.7]
Lungs	22.2 [16 : 29.1]	15.6 [11.4 : 21.8]	14.6 [9.3 : 19.6]	22.2 [19.9 : 30.4]	21.8	3.6	16.3 [11.2 : 22.7]
Lymph	4.8 [3.4 : 6.4]	3.3 [2.4 : 4.7]	2.9 [1.8 : 3.9]	4 [3.3 : 5.3]	3.7	0.6	3.4 [2.3 : 4.8]
Oesophagus	18 [11.9 : 22.7]	11.5 [8.2 : 16]	9.8 [6.2 : 13.4]	12.4 [10.4 : 16.7]	11.6	1.9	11.6 [8.1 : 16.5]
Thyroid	1.6 [1.1 : 2.2]	0.9 [0.6 : 1.3]	0.6 [0.4 : 0.8]	0.6 [0.5 : 0.8]	0.5	0.1	0.9 [0.6 : 1.3]
Liver	8.1 [6.3 : 10.6]	6.5 [4.5 : 9]	5.6 [3.6 : 7.8]	8 [7.1 : 10.9]	7.6	1.3	6.6 [4.5 : 9]
Stomach	4 [2.8 : 5.2]	2.7 [1.9 : 3.7]	2.1 [1.3 : 2.9]	2.5 [1.8 : 3.2]	2.1	0.3	2.6 [1.9 : 3.8]
n	34	238	41	7	1	1	322

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6.7 [4.8 : 10.1]	7.8 [4.4 : 11.5]	8.1 [3.6 : 10.5]	6.3 [0.5 : 16.2]			6.7 [4.6 : 10.6]
Bone marrow	2.6 [1.9 : 3.8]	3 [1.7 : 4.3]	3.1 [1.4 : 4.7]	4.7 [0.3 : 10.3]			2.6 [1.8 : 4.2]
Breasts	17.1 [12.3 : 25.7]	20 [11.4 : 29.6]	21.4 [9.4 : 30.4]	15.7 [1.3 : 42.9]			17.2 [11.8 : 27.7]
Heart	15.9 [11.6 : 23.8]	17.9 [10.1 : 25.8]	18.2 [8 : 23.7]	13.4 [1.2 : 35.4]			16 [11.2 : 24.8]
Lungs	19.6 [14.1 : 29.4]	22.9 [13 : 33.9]	24.1 [10.6 : 30.6]	19.7 [1.7 : 50.4]			19.7 [13.5 : 31.4]
Lymph	4.1 [3 : 6.2]	4.8 [2.7 : 7]	4.9 [2.1 : 5.8]	3.4 [0.3 : 8.7]			4.1 [2.8 : 6.4]
Oesophagus	14.8 [11 : 22.4]	16.1 [9.2 : 23.3]	16.3 [7.2 : 18.5]	11.6 [1 : 28.8]			14.9 [10.2 : 22.1]
Thyroid	1.3 [1 : 2.1]	1.2 [0.6 : 1.8]	1 [0.5 : 1.1]	0.3 [0 : 1.1]			1.3 [0.9 : 1.9]
Liver	6.3 [4.4 : 9.3]	7.6 [4.4 : 12.2]	8.5 [3.7 : 10.1]	6.6 [0.5 : 16]			6.4 [4.3 : 10]
Stomach	3.4 [2.5 : 5.2]	3.9 [2.3 : 5.9]	3.9 [1.7 : 4.2]	1.9 [0.2 : 5.3]			3.4 [2.3 : 5.2]
n	88	19	5	4	0	0	116

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	4.4 [2.9 : 7.2]	8.1 [5 : 10.8]	2.4 [1.9 : 8]	7.8 [5.5 : 26.7]	29.4		5 [3.2 : 9.2]
Bone marrow	1.7 [1.1 : 2.8]	3 [1.9 : 4]	0.9 [0.8 : 3]	4.3 [3.3 : 18.4]	18.7		2 [1.3 : 3.7]
Breasts	11.3 [7.2 : 18.2]	20.9 [12.9 : 27.7]	6.3 [5.4 : 21]	21.5 [13.6 : 64.6]	73		12.8 [8.3 : 23.5]
Heart	10.6 [7 : 17.4]	18.3 [11.2 : 24.2]	5.4 [4.3 : 17.9]	17.3 [12.2 : 56.9]	63.5		12.1 [7.5 : 21.1]
Lungs	12.9 [8.3 : 20.9]	24 [14.7 : 31.8]	7.1 [5.7 : 23.7]	23.8 [17.8 : 86.7]	96.3		14.6 [9.4 : 26.9]
Lymph	2.7 [1.7 : 4.4]	5 [3 : 6.6]	1.4 [1.1 : 4.8]	4.2 [3.1 : 14.4]	16		3.1 [1.9 : 5.6]
Oesophagus	9.9 [6.7 : 16.3]	16.5 [10 : 21.8]	4.8 [3.6 : 16.1]	13.4 [10.5 : 49.2]	53.3		11.1 [7 : 19.4]
Thyroid	0.9 [0.6 : 1.4]	1.3 [0.7 : 1.7]	0.3 [0.2 : 1.1]	0.8 [0.5 : 1.7]	2.1		0.9 [0.6 : 1.6]
Liver	4.1 [2.5 : 6.5]	8.6 [5.2 : 11.4]	2.5 [1.9 : 8.3]	7.4 [5.3 : 26.9]	28.7		4.8 [3 : 8.4]
Stomach	2.2 [1.4 : 3.6]	4.2 [2.5 : 5.6]	1.2 [0.8 : 3.8]	2.7 [1.9 : 8.2]	9.3		2.3 [1.6 : 4.7]
n	35	4	3	9	1	0	52

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	11.9 [4.4 : 15.8]	9 [4.7 : 14.7]	11.5 [7 : 15.6]	12.1 [8.6 : 16.9]	8.9 [5.8 : 10.6]		10.8 [6.6 : 16.1]
Bone marrow	3.9 [1.4 : 5.1]	2.8 [1.5 : 4.6]	3.7 [2.3 : 5]	5.3 [3.3 : 7.7]	4.3 [3.3 : 4.7]		3.6 [2.2 : 5.4]
Breasts	33.5 [12.6 : 44.9]	26.1 [13.8 : 43.5]	35.2 [21.7 : 47.8]	40.4 [25.6 : 57.2]	27.7 [17.6 : 34.6]		32.4 [19.7 : 47.4]
Heart	30.3 [11 : 39.1]	20.9 [11.3 : 34]	25.7 [15.6 : 34.7]	26.2 [17.4 : 35.9]	18.3 [11.9 : 22.3]		24.1 [14.4 : 35.7]
Lungs	32.4 [12.2 : 43.4]	25 [13.2 : 41.1]	31.7 [19.3 : 43.5]	33.7 [24.1 : 47.3]	26.4 [16.5 : 30.4]		29.7 [18.9 : 44.9]
Lymph	7 [2.6 : 9.3]	5.3 [2.7 : 8.6]	6.3 [3.8 : 8.6]	6.1 [4.2 : 8.2]	4.3 [2.8 : 5.2]		5.7 [3.6 : 8.4]
Oesophagus	27.3 [9.8 : 34.8]	18 [9.9 : 29.2]	21.4 [12.8 : 29.5]	20 [13.5 : 26.8]	13.8 [9.4 : 16.3]		18.9 [11.5 : 28.6]
Thyroid	2.7 [0.9 : 3.2]	1.4 [0.8 : 2]	1.4 [0.9 : 2]	1 [0.6 : 1.3]	0.6 [0.3 : 0.8]		1.3 [0.7 : 2]
Liver	11.5 [4.5 : 16]	10.4 [5.5 : 17.1]	12.9 [7.7 : 17.7]	12.8 [9.3 : 18.4]	9.4 [6.8 : 11]		11.6 [7.3 : 17.2]
Stomach	5.6 [2.1 : 7.4]	4.2 [2.2 : 6.5]	4.6 [2.8 : 6.2]	3.6 [2.1 : 4.8]	2.3 [1.5 : 2.9]		4.1 [2.3 : 6.2]
n	17	56	28	26	3	0	130

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.9 [4.9 : 7.5]	3.7 [3.2 : 5.5]	6 [3.7 : 6.7]	5 [4.5 : 8.8]			5 [3.6 : 6.9]
Bone marrow	2.5 [2.1 : 3.2]	1.5 [1.3 : 2.2]	2.5 [1.8 : 3]	3.7 [2.2 : 5.2]			2.3 [1.6 : 3.1]
Breasts	13.1 [10.6 : 16.1]	8.5 [7.2 : 12.2]	14.6 [10.1 : 16.9]	12.9 [11.6 : 23.2]			12.2 [8.6 : 16.1]
Heart	14.6 [12.2 : 18.7]	8.5 [7.2 : 12.6]	13.4 [8.2 : 16.1]	11 [9.9 : 19]			11.5 [8 : 16.5]
Lungs	18.6 [15.4 : 23.5]	11.7 [10 : 17.2]	18.8 [11.4 : 21]	15.8 [13.7 : 28]			15.6 [11.3 : 21.5]
Lymph	3.8 [3.2 : 4.8]	2.3 [2 : 3.5]	3.5 [2.1 : 4.2]	2.8 [2.5 : 4.7]			3.1 [2.2 : 4.3]
Oesophagus	14 [11.3 : 18.1]	8 [6.7 : 11.8]	11.2 [6.7 : 15.1]	9.7 [8.3 : 15.5]			11.1 [7.3 : 14.6]
Thyroid	1.2 [1 : 1.7]	0.6 [0.5 : 0.9]	0.6 [0.4 : 1]	0.5 [0.4 : 0.7]			0.7 [0.5 : 1.2]
Liver	6.5 [5.3 : 8.1]	4.6 [3.9 : 6.8]	7 [4.1 : 7.6]	6.8 [5.1 : 9.8]			5.9 [4.3 : 7.9]
Stomach	2.9 [2.3 : 3.7]	1.8 [1.4 : 2.6]	2.2 [1.3 : 3.2]	1.9 [1.4 : 2.7]			2.2 [1.5 : 3]
n	16	20	7	13	0	0	56

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	56.8 [12.3 : 101.3]	5.2 [2 : 5.5]	4.9 [3.2 : 9.8]	6.2 [3 : 12.4]	5.2 [2.3 : 9.6]	1.9 [0.8 : 3.1]	5.7 [2.9 : 11.7]
Bone marrow	23 [5 : 41]	2.1 [0.9 : 3.8]	2.2 [1.3 : 4.3]	4.3 [2 : 9]	3.7 [1.8 : 8]	1.4 [0.5 : 2.3]	3.9 [1.8 : 8.2]
Breasts	153 [33.2 : 272.8]	12.3 [5.3 : 14.9]	15.5 [9 : 29.2]	15.6 [7.6 : 31.9]	11.7 [6.1 : 21.4]	4.4 [1.9 : 7]	14.4 [7.1 : 28.8]
Heart	167.3 [36.4 : 298.1]	13.4 [5.4 : 14.4]	13 [8.3 : 25.9]	17.7 [8.1 : 35.2]	14.3 [6.3 : 26.5]	5.4 [2.1 : 8.7]	15.6 [8.1 : 32.5]
Lungs	167 [36 : 298.1]	16.3 [6.3 : 16.5]	14 [9 : 27.5]	19.8 [9.3 : 41.6]	15.7 [7.6 : 30.5]	6.5 [2.4 : 10.5]	18.4 [9.1 : 37]
Lymph	34.7 [7.5 : 61.9]	2.8 [1.1 : 3.1]	2.6 [1.8 : 5.3]	3.6 [1.6 : 7.2]	2.9 [1.3 : 5.5]	1.1 [0.4 : 1.8]	3.2 [1.6 : 6.8]
Oesophagus	124.7 [26.9 : 222.6]	10.4 [4 : 11.7]	9.1 [6.4 : 19]	12.6 [6 : 26.6]	11 [4.8 : 20.7]	4 [1.5 : 6.5]	11.8 [5.9 : 25.3]
Thyroid	11.9 [2.6 : 21.2]	0.2 [0.1 : 0.6]	0.5 [0.3 : 0.9]	0.5 [0.2 : 0.9]	0.3 [0.2 : 0.6]	0.1 [0.1 : 0.2]	0.4 [0.2 : 0.8]
Liver	42.7 [9 : 76.5]	4.6 [1.7 : 5]	3.9 [2.7 : 8]	5.1 [2.4 : 10.3]	4.2 [2 : 8.5]	1.5 [0.6 : 2.4]	4.7 [2.4 : 9.6]
Stomach	22.7 [4.9 : 40.5]	1.1 [0.5 : 1.9]	1.4 [1.1 : 2.9]	1.5 [0.8 : 2.9]	1.2 [0.6 : 2.4]	0.5 [0.2 : 0.7]	1.4 [0.7 : 2.9]
n	2	3	20	173	53	2	253

<b>Pressure studies, PVR</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	15.9 [7.1 : 19.2]	7.1 [2.5 : 19.2]	9.6	14.6		5.8	9.6 [6.1 : 16.9]
Bone marrow	6.5 [3 : 8]	2.9 [1 : 7.7]	4	9.3		3.3	4 [3 : 8.8]
Breasts	34.9 [15.2 : 41.5]	15.6 [5.6 : 42.2]	23.3	34.8		14.8	23.3 [15 : 36.7]
Heart	37.3 [17.7 : 47]	16.4 [5.8 : 44.2]	21.4	29.6		12.1	21.4 [13.2 : 40.5]
Lungs	50.3 [22.2 : 60.3]	22.4 [7.9 : 60.4]	30.4	49.4		18.7	30.4 [19.6 : 53.1]
Lymph	10.2 [4.6 : 12.4]	4.6 [1.6 : 12.3]	5.8	7.8		3.1	5.8 [3.5 : 10.8]
Oesophagus	35.3 [17.2 : 45.3]	15.4 [5.5 : 41.6]	19.7	26		10.1	19.7 [11.9 : 38.7]
Thyroid	2.8 [1.6 : 4.1]	1.2 [0.4 : 3.2]	1.2	1.1		0.5	1.2 [1 : 3.3]
Liver	19.3 [7.6 : 21.4]	8.9 [3.1 : 24]	11.5	16.1		6.3	11.5 [6.8 : 19.5]
Stomach	7.8 [3.5 : 9.4]	3.5 [1.2 : 9.4]	4	3.8		1.7	3.9 [2.6 : 8.2]
n	5	3	1	1	0	1	11

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0 [0 : 1.6]	1.2 [0.3 : 2.1]	1.5 [1 : 3.1]	0 [0 : 2.2]	0 [0 : 1]	0.9 [0 : 2.7]	0.4 [0 : 2.1]
Bone marrow	0 [0 : 0.6]	0.5 [0.1 : 0.8]	0.6 [0.4 : 1.4]	0 [0 : 1.1]	0 [0 : 0.6]	0.4 [0 : 2.2]	0.2 [0 : 0.9]
Breasts	0 [0 : 4.2]	2.9 [0.8 : 5.4]	4.7 [3.2 : 10.2]	0 [0 : 6.4]	0 [0 : 2.7]	2.8 [0 : 5.8]	0.8 [0 : 5.8]
Heart	0 [0 : 4.6]	3.1 [0.9 : 5.5]	4 [2.7 : 8.2]	0 [0 : 5.8]	0 [0 : 2.7]	2.4 [0 : 8.1]	0.9 [0 : 5.5]
Lungs	0 [0 : 4.6]	3.5 [1 : 6.2]	4.3 [2.9 : 8.6]	0 [0 : 6.1]	0 [0 : 3.1]	2.6 [0 : 8.9]	1 [0 : 5.7]
Lymph	0 [0 : 1]	0.7 [0.2 : 1.3]	0.8 [0.6 : 1.6]	0 [0 : 1.1]	0 [0 : 0.5]	0.5 [0 : 1.7]	0.2 [0 : 1.1]
Oesophagus	0 [0 : 3.4]	2.6 [0.7 : 4.7]	3 [2 : 5.6]	0 [0 : 3.8]	0 [0 : 1.9]	1.7 [0 : 6.2]	0.7 [0 : 3.8]
Thyroid	0 [0 : 0.3]	0.2 [0.1 : 0.3]	0.2 [0.1 : 0.3]	0 [0 : 0.2]	0 [0 : 0.1]	0.1 [0 : 0.2]	0 [0 : 0.2]
Liver	0 [0 : 1.1]	1.1 [0.3 : 2]	1.3 [0.8 : 2.5]	0 [0 : 1.7]	0 [0 : 0.8]	0.7 [0 : 2.3]	0.3 [0 : 1.7]
Stomach	0 [0 : 0.6]	0.5 [0.1 : 0.9]	0.5 [0.3 : 0.9]	0 [0 : 0.6]	0 [0 : 0.3]	0.3 [0 : 0.7]	0.1 [0 : 0.7]
n	5	15	14	61	12	6	113

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.1 [0.4 : 3.3]	6.5 [2.4 : 10.6]		1.3			1.2 [0.4 : 3.3]
Bone marrow	0.5 [0.2 : 1.4]	2.7 [1 : 4.5]		0.5			0.5 [0.2 : 1.4]
Breasts	2.3 [0.9 : 7]	13.9 [5.2 : 22.5]		2.7			2.5 [0.9 : 7.1]
Heart	2.8 [1 : 8.4]	16.2 [5.5 : 26.9]		3.3			3 [1.1 : 8.5]
Lungs	3.3 [1.3 : 10.2]	20.2 [7.5 : 33]		4			3.6 [1.3 : 10.3]
Lymph	0.7 [0.3 : 2.1]	4.2 [1.5 : 6.8]		0.8			0.8 [0.3 : 2.1]
Oesophagus	2.7 [1 : 8.2]	15.7 [5.2 : 26.3]		3.2			2.9 [1 : 8.3]
Thyroid	0.3 [0.1 : 0.8]	1.5 [0.4 : 2.6]		0.3			0.3 [0.1 : 0.8]
Liver	1.1 [0.4 : 3.3]	6.9 [3 : 10.9]		1.3			1.2 [0.4 : 3.4]
Stomach	0.5 [0.2 : 1.6]	3.2 [1.2 : 5.2]		0.6			0.6 [0.2 : 1.6]
n	89	2	0	1	0	0	92

Hospital 3: 2004-2008. \* Zero doses are correct. The majority of atrial septostomies used ultrasound only.

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.8 [2.2 : 11.7]	6.7 [4.3 : 10.6]	4.2 [1.6 : 10.5]	2 [0.9 : 7.1]	2.8 [1.2 : 5.7]	3.9 [1.4 : 9.4]	5.2 [1.9 : 10]
Bone marrow	2.3 [0.8 : 4.3]	2.3 [1.5 : 3.5]	2 [0.9 : 4.3]	1.7 [0.8 : 3.9]	2.6 [1.2 : 4]	3.7 [1.4 : 6.1]	2.2 [1.1 : 3.9]
Breasts	14.4 [4.8 : 31.8]	18.4 [11.9 : 30.1]	8.2 [2.2 : 32.1]	1.1 [0.4 : 15]	1.3 [0.6 : 5.2]	9.6 [1.2 : 19.7]	12.5 [1.4 : 26.9]
Heart	13.7 [5.3 : 28.6]	15 [9.8 : 23.7]	10.5 [4.2 : 25.7]	7.3 [3.6 : 16.1]	9.2 [4.8 : 13.1]	8.9 [4.3 : 21]	12.5 [5.7 : 23]
Lungs	16.9 [6.5 : 33.6]	19.8 [12.7 : 29.7]	14.2 [5.6 : 30.5]	8.3 [4.2 : 20.7]	12 [5.8 : 17.1]	15.1 [6.2 : 31.9]	15.6 [7.1 : 29.6]
Lymph	3.5 [1.4 : 7.1]	3.9 [2.6 : 6]	2.6 [1 : 6]	1.4 [0.7 : 3.5]	2 [0.9 : 2.9]	2.5 [1.1 : 5.4]	3 [1.3 : 5.8]
Oesophagus	12.8 [4.9 : 26.3]	13.3 [8.9 : 20.3]	8.6 [3.2 : 19.6]	4.7 [2.3 : 11]	6.6 [3.1 : 9.7]	8.6 [3.4 : 16.8]	10.4 [4.2 : 19.7]
Thyroid	1.2 [0.4 : 2.4]	1 [0.6 : 1.6]	0.5 [0.2 : 1.1]	0.1 [0.1 : 0.4]	0.1 [0.1 : 0.2]	0.2 [0.1 : 0.6]	0.6 [0.1 : 1.3]
Liver	5.6 [1.9 : 11.5]	7 [4.7 : 11.5]	3.9 [1.2 : 11.3]	1.5 [0.6 : 6.3]	1.8 [0.8 : 4.7]	4.1 [1 : 8.8]	4.9 [1.4 : 10.1]
Stomach	2.9 [1.1 : 5.7]	3.1 [2 : 4.7]	1.9 [0.8 : 4]	0.7 [0.4 : 2]	1 [0.4 : 1.5]	1.3 [0.6 : 3.1]	2.2 [0.8 : 4]
n	156	110	55	81	23	17	442

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7.9 [5.3 : 12.7]	7.8 [3.9 : 14.1]	5.6 [2.8 : 9.8]	7.7 [4 : 11.4]	2.8 [2 : 6.3]	10.1 [5.1 : 15.8]	7.3 [4 : 12.3]
Bone marrow	3 [2 : 4.9]	2.9 [1.5 : 5.2]	2.4 [1.1 : 4.2]	4.5 [2.4 : 7.3]	1.9 [1.3 : 4.3]	6.5 [4 : 10.8]	3 [1.8 : 5.3]
Breasts	20.1 [13.3 : 32.3]	20.5 [10.1 : 37]	15.9 [7.8 : 28.2]	22 [11.4 : 31.3]	7.3 [5 : 15.8]	28.4 [13.8 : 40.4]	19.6 [10.4 : 33.8]
Heart	18.7 [12.5 : 30.1]	16.8 [8.5 : 30.7]	12 [6 : 21.1]	15.8 [8.4 : 23.3]	5.6 [4 : 12.4]	20.7 [10 : 31.2]	16.7 [8.4 : 28.5]
Lungs	23.2 [15.5 : 37.4]	23.3 [11.6 : 42]	16.6 [8.3 : 29.1]	24.4 [13 : 34.3]	8.9 [6.6 : 19.8]	31.2 [15.3 : 46.5]	22.2 [11.9 : 36.9]
Lymph	4.8 [3.2 : 7.7]	4.5 [2.3 : 8.4]	3.1 [1.5 : 5.6]	4 [2.1 : 5.9]	1.4 [1 : 3.2]	5.2 [2.5 : 7.6]	4.3 [2.2 : 7.3]
Oesophagus	17.2 [11.7 : 28.3]	15 [7.6 : 27.6]	10.1 [5.1 : 17.4]	12.5 [6.6 : 18.3]	4.6 [3.4 : 10.6]	16.4 [8.5 : 26.3]	14.9 [7.3 : 25.6]
Thyroid	1.5 [1 : 2.5]	1 [0.6 : 2]	0.6 [0.3 : 1]	0.5 [0.3 : 0.6]	0.1 [0.1 : 0.2]	0.3 [0.1 : 0.9]	1 [0.5 : 1.9]
Liver	7.4 [4.7 : 11.6]	7.8 [4 : 14.2]	5.4 [2.7 : 9.8]	7 [3.7 : 10.3]	2.5 [1.9 : 5.9]	9.4 [5.1 : 14.9]	7.1 [3.8 : 12.2]
Stomach	3.9 [2.6 : 6.3]	3.4 [1.9 : 6.7]	2.2 [1.1 : 3.8]	2.5 [1.2 : 3.3]	0.8 [0.5 : 1.7]	2.8 [1.3 : 4.2]	3.2 [1.7 : 5.6]
n	121	84	38	27	13	14	297

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		4.5 [2.1 : 6.2]	1.9 [1.1 : 3.9]	1.2 [0.9 : 2.4]	3 [1.8 : 4.4]	2.9 [1.5 : 10.9]	2.7 [1.2 : 5]
Bone marrow		2.3 [1.1 : 3.3]	1 [0.6 : 2.3]	1.3 [0.7 : 2.6]	3 [1.7 : 5.3]	2.8 [1.6 : 10.6]	1.9 [0.7 : 3.1]
Breasts		7.9 [3.9 : 11]	3.2 [1.9 : 6.7]	1.4 [1.4 : 2.8]	3.9 [2.3 : 5.6]	3.7 [1.7 : 14.1]	3.8 [1.8 : 8.2]
Heart		9.7 [4.4 : 13.6]	4.2 [2.4 : 8.9]	2.8 [2.1 : 5.7]	7.1 [4.4 : 11.1]	6.7 [3.7 : 25.6]	6.4 [2.8 : 10.9]
Lungs		15.3 [7.1 : 21.3]	6.5 [3.8 : 13.6]	4.8 [3.3 : 9.3]	11.1 [6.7 : 14.8]	11.1 [5.4 : 40.9]	9.8 [4.1 : 17.2]
Lymph		3 [1.4 : 4.1]	1.3 [0.7 : 2.6]	0.8 [0.6 : 1.6]	1.9 [1.2 : 2.8]	1.8 [1 : 6.9]	1.8 [0.8 : 3.3]
Oesophagus		9.6 [4.4 : 13.2]	4.1 [2.3 : 8.2]	2.8 [1.9 : 5.6]	6.6 [4.1 : 10.2]	6.4 [3.4 : 23.9]	6.1 [2.8 : 10.7]
Thyroid		0.6 [0.3 : 0.8]	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.1]	0.1 [0.1 : 0.2]	0.2 [0.1 : 0.7]	0.2 [0.1 : 0.6]
Liver		3.5 [1.7 : 4.9]	1.5 [0.8 : 3]	0.9 [0.7 : 1.8]	2.2 [1.4 : 3.5]	2.1 [1.1 : 7.9]	2.1 [0.9 : 3.9]
Stomach		2.6 [1.3 : 3.6]	1.1 [0.6 : 2.2]	0.5 [0.4 : 1]	1.3 [0.8 : 2]	1.2 [0.6 : 4.7]	1.3 [0.6 : 2.6]
n	0	11	20	3	4	8	46

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.2 [4.5 : 6.7]	5.8 [4.4 : 9.3]	6 [4 : 7.5]	1.9	5.8	6.5	5.8 [4.4 : 8.3]
Bone marrow	1.7 [1.4 : 2.2]	1.9 [1.4 : 3]	1.9 [1.3 : 2.5]	0.7	3.8	3.9	1.9 [1.4 : 2.8]
Breasts	14.7 [12.7 : 18.9]	16.9 [12.8 : 26.9]	18.7 [12.6 : 23.6]	6.6	20.2	21.4	16.6 [12.6 : 23.9]
Heart	13.2 [10.8 : 16.7]	13.6 [10.1 : 21.4]	13.4 [8.8 : 16.8]	4	10	11.7	13.2 [9.9 : 19]
Lungs	14.4 [12.5 : 18.6]	16.2 [12.3 : 26.2]	17 [11.3 : 21.1]	5	15.1	18.2	15.9 [12.2 : 23]
Lymph	3.1 [2.6 : 4]	3.4 [2.5 : 5.3]	3.3 [2.2 : 4.1]	0.9	2.4	2.8	3.2 [2.5 : 4.7]
Oesophagus	11.5 [9.3 : 14.6]	11.6 [8.6 : 18.1]	11.2 [7.3 : 14]	2.8	7.4	8.8	11.2 [8.4 : 16.3]
Thyroid	1 [0.7 : 1.3]	0.8 [0.6 : 1.3]	0.7 [0.4 : 0.9]	0.1	0.1	0.2	0.8 [0.6 : 1.2]
Liver	5.5 [4.7 : 7]	6.3 [4.9 : 10.3]	6.6 [4.3 : 8.2]	1.8	6.5	6.9	6.2 [4.8 : 8.7]
Stomach	2.5 [2.1 : 3.2]	2.6 [2 : 4]	2.3 [1.5 : 2.9]	0.6	1.1	1.3	2.5 [1.9 : 3.7]
n	15	60	7	1	1	1	85

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	9.2 [6 : 21.9]	4.1 [2.9 : 12.5]		6.1 [4.1 : 8]			8 [5.1 : 20.1]
Bone marrow	3.5 [2.3 : 8.6]	1.5 [1.1 : 4.6]		4.1 [1.9 : 6.3]			3.4 [2 : 7.6]
Breasts	23.7 [15.3 : 55.4]	10.5 [7.5 : 32.8]		17.2 [12.7 : 21.6]			21.6 [13 : 51.3]
Heart	21.3 [14.2 : 53.4]	8.9 [6.4 : 27.4]		12.3 [8.9 : 15.7]			19 [12.5 : 45.6]
Lungs	27.3 [17.7 : 64.3]	12 [8.6 : 37.4]		18 [12 : 24]			24 [15 : 59.3]
Lymph	5.6 [3.6 : 13.3]	2.4 [1.7 : 7.5]		3 [2.1 : 3.9]			4.8 [3.1 : 12.1]
Oesophagus	20.1 [13.1 : 50.3]	8 [5.8 : 24.6]		9.9 [6.5 : 13.3]			17.8 [11.8 : 42.2]
Thyroid	1.9 [1.1 : 4.8]	0.6 [0.4 : 1.8]		0.3 [0.3 : 0.3]			1.6 [1 : 3.5]
Liver	8.9 [5.7 : 19.3]	4.2 [3 : 13]		5.9 [3.7 : 8]			7.5 [4.6 : 18.8]
Stomach	4.6 [3 : 10.8]	2 [1.4 : 6.1]		1.8 [1.4 : 2.1]			3.9 [2.4 : 9.9]
n	35	8	0	2	0	0	45

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	7.5 [4.8 : 16.3]	7.9 [6.9 : 8.8]	12.8	8.8 [4.5 : 13.2]	6		7.5 [5 : 14.1]
Bone marrow	3 [1.9 : 6.4]	2.9 [2.6 : 3.3]	5.5	6 [2.2 : 9.7]	4.1		3.1 [2 : 6.2]
Breasts	18.9 [12.2 : 41.1]	20.7 [18.5 : 22.9]	37.6	24.1 [13.7 : 34.5]	15		18.9 [12.9 : 37.4]
Heart	18.3 [11.8 : 39.5]	17.2 [15 : 19.3]	27.7	17.8 [9.5 : 26]	11.9		18.3 [11.9 : 32.4]
Lungs	22 [14.2 : 47.7]	23.5 [20.7 : 26.2]	38	27.4 [13.2 : 41.6]	19.8		22 [14.6 : 42.2]
Lymph	4.6 [2.9 : 9.9]	4.7 [4 : 5.3]	6.9	4.4 [2.3 : 6.6]	3.1		4.6 [3 : 8.3]
Oesophagus	17.3 [11.1 : 37.2]	15.4 [13.4 : 17.4]	22.1	14.5 [6.8 : 22.1]	10.1		17.3 [10.5 : 29.2]
Thyroid	1.5 [1.1 : 3.5]	1.1 [0.9 : 1.3]	1.2	0.5 [0.3 : 0.6]	0.3		1.2 [0.8 : 2.5]
Liver	6.5 [4.2 : 14.2]	8.1 [7 : 9.2]	12.1	8.4 [3.9 : 12.8]	5.6		7 [4.3 : 13.2]
Stomach	3.7 [2.4 : 8]	3.7 [3.1 : 4.4]	4.9	2.5 [1.5 : 3.5]	1.6		3.5 [2.3 : 6.6]
n	13	2	1	2	1	0	19

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	10.9 [7.3 : 14.5]	9.6 [8.1 : 11.1]	16.1 [11.7 : 20.2]	11.3 [8.3 : 19.2]	5.4	14.6 [14.2 : 14.9]	10.7 [7.8 : 14.2]
Bone marrow	3.4 [2.3 : 4.6]	3 [2.5 : 3.4]	5.8 [3.7 : 6.4]	4.8 [3.2 : 9.9]	2.3	7 [6 : 8]	3.4 [2.5 : 5.8]
Breasts	31.1 [21.1 : 41.6]	27.8 [24.4 : 32.7]	59.3 [37.3 : 63.4]	37.6 [29.3 : 59.8]	18.7	48 [46.5 : 49.4]	32.4 [24.6 : 47.4]
Heart	25.5 [17.5 : 34.8]	21.5 [17.8 : 25.2]	32.8 [24.9 : 43.9]	20.7 [16.4 : 36.1]	10.6	27.7 [27.5 : 28]	23.4 [18.1 : 29.8]
Lungs	30.1 [20.3 : 40.2]	26.8 [22.6 : 31.1]	42.5 [32.5 : 56.4]	32.3 [22.2 : 59.2]	15.3	42.9 [40.1 : 45.6]	30.2 [21.9 : 40.1]
Lymph	6.3 [4.3 : 8.4]	5.4 [4.5 : 6.4]	7.3 [6.1 : 10.7]	4.9 [3.7 : 9]	2.5	6.7 [6.5 : 6.9]	5.8 [4.5 : 7.3]
Oesophagus	22.1 [15.3 : 30.6]	18.4 [15.3 : 21.6]	23.6 [20.4 : 35.7]	15.4 [11.3 : 27.8]	7.6	20.7 [19.9 : 21.4]	19.7 [14.7 : 24.7]
Thyroid	1.8 [1.3 : 2.7]	1.3 [1.1 : 1.6]	1.4 [1.2 : 2.1]	0.7 [0.5 : 1]	0.3	0.9 [0.8 : 0.9]	1.2 [0.8 : 1.6]
Liver	11.2 [7.8 : 15.2]	10.5 [9.1 : 12.7]	15.3 [12.7 : 22.2]	12.1 [7.8 : 19.5]	5.3	14.6 [13.8 : 15.5]	11.9 [8.7 : 15.3]
Stomach	4.9 [3.3 : 6.6]	3.9 [3.4 : 4.8]	4.6 [4.1 : 7]	2.7 [2 : 4]	1.3	3.2 [3 : 3.5]	4 [2.8 : 5]
n	12	17	7	11	1	2	50

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6.1 [3.8 : 9.8]	3	4.3 [3.7 : 4.9]	6.4 [4.1 : 11.8]	8.4	6.7 [4.2 : 7.4]	5.9 [3.7 : 9.1]
Bone marrow	2.6 [1.6 : 4.1]	1.2	1.8 [1.6 : 2.1]	3.1 [2.1 : 7.6]	5	5.4 [3.5 : 5.6]	3 [1.6 : 4.3]
Breasts	13.3 [8.2 : 21.1]	7.4	11.2 [9.7 : 12.8]	17.7 [11.4 : 30.7]	21.9	18.8 [11.9 : 19]	14.7 [8.9 : 20]
Heart	15 [9.4 : 24.3]	6.4	9.3 [8 : 10.5]	13.2 [8.3 : 22.7]	16.4	11.5 [7.3 : 13.6]	13.4 [8 : 22.2]
Lungs	19.3 [12 : 30.8]	9.5	13.7 [11.8 : 15.6]	20 [12.9 : 38.6]	27.8	19.1 [12.1 : 24.3]	18.7 [11.6 : 28.6]
Lymph	3.9 [2.4 : 6.3]	1.7	2.5 [2.1 : 2.8]	3.4 [2.1 : 6.1]	4.3	3 [1.9 : 3.7]	3.5 [2.2 : 5.8]
Oesophagus	14.5 [9.2 : 23.6]	5.9	8.2 [7 : 9.4]	10.7 [6.6 : 19.8]	13.8	10.2 [6.5 : 12.2]	12.4 [7.7 : 21.3]
Thyroid	1.3 [0.9 : 2.2]	0.3	0.4 [0.4 : 0.5]	0.5 [0.3 : 0.7]	0.6	0.2 [0.1 : 0.4]	0.8 [0.5 : 1.9]
Liver	6.7 [4 : 10.4]	3.5	5 [4.3 : 5.7]	6.8 [4.3 : 13]	8.8	8.1 [5.1 : 8.3]	6.3 [4.1 : 9.6]
Stomach	2.9 [1.8 : 4.7]	1.2	1.6 [1.4 : 1.8]	1.9 [1.1 : 3]	2.1	1.4 [0.9 : 1.6]	2.2 [1.6 : 3.9]
n	19	1	2	4	1	3	30

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.1 [0.8 : 1.1]	3	1.5 [0.7 : 3.6]	1.3 [0.8 : 2.2]	2.1 [0.5 : 3.2]	1.3 [0.4 : 1.4]	1.3 [0.8 : 2.7]
Bone marrow	0.7 [0.5 : 0.7]	1.9	1 [0.5 : 2.4]	1.1 [0.7 : 2.2]	2.3 [0.5 : 3.4]	1.1 [0.4 : 1.1]	1.2 [0.6 : 2.4]
Breasts	1 [0.7 : 1]	1.9	0.9 [0.4 : 2.1]	0.5 [0.3 : 1]	0.8 [0.2 : 1.2]	0.5 [0.2 : 0.6]	0.6 [0.4 : 1.1]
Heart	4.2 [2.9 : 4.4]	11.3	6.2 [2.9 : 15.1]	5.1 [3.1 : 9.3]	8.6 [2.2 : 13]	4.9 [1.7 : 5.5]	5.3 [3 : 10.8]
Lungs	4.1 [2.9 : 4.3]	11.9	6.5 [3 : 15.5]	5.7 [3.6 : 9.9]	9.3 [2.5 : 14.5]	6 [2.1 : 6.2]	6 [3.4 : 11.9]
Lymph	0.9 [0.6 : 0.9]	2.5	1.2 [0.5 : 3]	1 [0.6 : 1.7]	1.6 [0.4 : 2.4]	1 [0.3 : 1.1]	1 [0.6 : 2]
Oesophagus	3.4 [2.3 : 3.5]	9.4	4 [1.7 : 10.1]	3.2 [2 : 5.7]	5.2 [1.4 : 8.1]	3.3 [1.1 : 3.4]	3.4 [2 : 6.8]
Thyroid	0.3 [0.2 : 0.3]	0.6	0.2 [0.1 : 0.5]	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0 : 0.1]	0.1 [0 : 0.2]
Liver	0.8 [0.6 : 0.9]	3	1.2 [0.5 : 3]	0.9 [0.5 : 1.6]	1.5 [0.4 : 2.2]	0.8 [0.3 : 0.9]	0.9 [0.5 : 1.8]
Stomach	0.6 [0.4 : 0.6]	1.9	0.7 [0.3 : 1.9]	0.5 [0.3 : 0.9]	0.8 [0.2 : 1.2]	0.4 [0.2 : 0.6]	0.5 [0.3 : 1]
n	3	1	10	53	15	3	85

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0	4.5	0.1 [0 : 1.5]	0.8 [0.2 : 2.1]	0.4 [0.2 : 2.1]	0.6 [0.3 : 2.4]	0.5 [0 : 2]
Bone marrow	0	2.8	0.1 [0 : 1.2]	0.7 [0.2 : 3.6]	0.6 [0.3 : 3.3]	0.7 [0.4 : 3.9]	0.6 [0.1 : 2.9]
Breasts	0	6.5	0.2 [0 : 1.9]	0.7 [0.1 : 1.2]	0.2 [0.1 : 1]	0.5 [0.1 : 1.2]	0.4 [0 : 1.3]
Heart	0	12.7	0.4 [0 : 5]	2.7 [0.6 : 8.4]	1.5 [0.7 : 7.7]	2 [1.2 : 9.3]	1.7 [0.1 : 7.5]
Lungs	0	15.9	0.5 [0 : 5.4]	2.9 [0.6 : 7.1]	1.2 [0.7 : 7.3]	2 [0.9 : 8.4]	1.7 [0.1 : 7]
Lymph	0	3.2	0.1 [0 : 1.1]	0.6 [0.1 : 1.5]	0.3 [0.1 : 1.5]	0.4 [0.2 : 1.8]	0.3 [0 : 1.5]
Oesophagus	0	11.2	0.3 [0 : 3.9]	2 [0.5 : 6.9]	1.2 [0.6 : 6.6]	1.4 [1 : 7.8]	1.3 [0.1 : 6.5]
Thyroid	0	0.7	0 [0 : 0.2]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]
Liver	0	3	0.1 [0 : 0.9]	0.5 [0.1 : 1.2]	0.2 [0.1 : 1.1]	0.3 [0.2 : 1.4]	0.3 [0 : 1.1]
Stomach	0	2.6	0.1 [0 : 0.8]	0.4 [0.1 : 0.9]	0.2 [0.1 : 0.9]	0.3 [0.1 : 1]	0.2 [0 : 0.9]
n	1	1	9	16	5	9	41

<b>Atrial septostomy *</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0 [0 : 0]						0 [0 : 0]
Bone marrow	0 [0 : 0]						0 [0 : 0]
Breasts	0 [0 : 0]						0 [0 : 0]
Heart	0 [0 : 0]						0 [0 : 0]
Lungs	0 [0 : 0]						0 [0 : 0]
Lymph	0 [0 : 0]						0 [0 : 0]
Oesophagus	0 [0 : 0]						0 [0 : 0]
Thyroid	0 [0 : 0]						0 [0 : 0]
Liver	0 [0 : 0]						0 [0 : 0]
Stomach	0 [0 : 0]						0 [0 : 0]
n	39	0	0	0	0	0	39



Hospital 3: 2008-2013. \* Zero doses are correct. The majority of atrial septostomies used ultrasound only.

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.4 [0.5 : 3]	2.2 [1.3 : 4]	2.2 [1.1 : 4.4]	3.1 [1.2 : 6.2]	2 [1 : 7.3]	4.7 [2.1 : 10.3]	2.1 [1.1 : 4.8]
Bone marrow	0.5 [0.2 : 1.1]	0.8 [0.5 : 1.4]	1 [0.6 : 2]	2.1 [1 : 4.3]	2 [1 : 5.7]	3.5 [2.1 : 10.5]	1 [0.5 : 2.5]
Breasts	3.6 [1.3 : 7.4]	6 [3.4 : 11.5]	5.3 [1.7 : 13.5]	3.2 [0.7 : 17.3]	1 [0.4 : 18.9]	6.2 [1.5 : 26.2]	4.8 [1.4 : 11.9]
Heart	3.5 [1.2 : 7.5]	5.2 [3.1 : 9.3]	5.2 [2.7 : 9.9]	8.7 [4.6 : 15.3]	7.6 [3.7 : 16.2]	10.7 [6.1 : 26.1]	5.6 [2.8 : 11.6]
Lungs	4.1 [1.4 : 8.5]	6.4 [3.9 : 11.3]	6.7 [3.8 : 13.2]	10.9 [5.1 : 22.2]	8.3 [4.2 : 22.8]	15.1 [7.6 : 36.1]	6.9 [3.5 : 15.3]
Lymph	0.9 [0.3 : 1.8]	1.3 [0.8 : 2.4]	1.3 [0.8 : 2.5]	1.9 [0.9 : 3.8]	1.4 [0.7 : 3.6]	2.5 [1.4 : 6.2]	1.3 [0.7 : 2.8]
Oesophagus	3.3 [1.1 : 6.7]	4.6 [2.7 : 8]	4.2 [2.4 : 8.1]	6 [3.1 : 12.8]	4.9 [2.6 : 12.2]	9.1 [5.2 : 21.4]	4.7 [2.4 : 9.5]
Thyroid	0.3 [0.1 : 0.7]	0.3 [0.2 : 0.6]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.3]	0.2 [0.1 : 0.4]	0.3 [0.1 : 0.5]
Liver	1.4 [0.5 : 2.7]	2.4 [1.4 : 4.4]	2.1 [0.9 : 4.1]	2.5 [0.9 : 5.5]	1.5 [0.7 : 8]	4.5 [1.7 : 8.8]	2.1 [0.9 : 4.6]
Stomach	0.7 [0.3 : 1.5]	1.1 [0.7 : 1.9]	1 [0.5 : 2]	1.1 [0.5 : 2]	0.8 [0.4 : 1.8]	1.4 [0.8 : 3.4]	1 [0.5 : 1.9]
n	223	193	114	167	55	50	802

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.4 [1.5 : 3.9]	3 [1.6 : 4.7]	3.9 [2.2 : 7.1]	4.1 [1.9 : 7.1]	4.1 [2.1 : 9]	7 [5.2 : 10.4]	3 [1.7 : 5.2]
Bone marrow	0.9 [0.6 : 1.5]	1.1 [0.6 : 1.8]	1.6 [0.8 : 3]	2.1 [1.1 : 4.6]	3.2 [1.3 : 4.8]	4.7 [3.7 : 9]	1.2 [0.7 : 2.2]
Breasts	6.2 [3.8 : 10]	7.8 [4.2 : 12.2]	10.6 [5.8 : 19.8]	11.3 [5.3 : 20.1]	11.4 [5.8 : 23.7]	18.2 [13.4 : 30.1]	8 [4.3 : 14.1]
Heart	5.8 [3.6 : 9.3]	6.6 [3.5 : 10.5]	8.4 [4.7 : 15.6]	8 [3.9 : 14.3]	8.2 [4.2 : 18]	13.8 [10.1 : 20]	6.8 [3.7 : 11]
Lungs	7.1 [4.4 : 11.4]	9 [4.8 : 14]	11.6 [6.4 : 21.2]	12.7 [6.2 : 23.2]	12.4 [6.4 : 27.5]	22.1 [14.3 : 28.4]	8.8 [4.8 : 15.3]
Lymph	1.5 [0.9 : 2.4]	1.8 [1 : 2.8]	2.2 [1.3 : 4]	2 [1 : 3.6]	2 [1 : 4.6]	3.5 [2.5 : 4.9]	1.8 [1 : 2.8]
Oesophagus	5.3 [3.3 : 8.7]	5.9 [3.2 : 9.4]	7.1 [4.2 : 12.7]	6.6 [3.2 : 11.9]	6.7 [3.3 : 14.3]	11.7 [8.4 : 16.8]	6.1 [3.4 : 9.8]
Thyroid	0.5 [0.3 : 0.8]	0.4 [0.2 : 0.7]	0.4 [0.2 : 0.7]	0.3 [0.1 : 0.5]	0.2 [0.1 : 0.5]	0.3 [0.1 : 0.5]	0.4 [0.2 : 0.7]
Liver	2.2 [1.4 : 3.6]	3.1 [1.7 : 4.9]	3.8 [2.2 : 7]	3.8 [1.8 : 6.8]	4.1 [1.9 : 8.1]	6.7 [5 : 11]	2.9 [1.6 : 5]
Stomach	1.2 [0.8 : 2]	1.4 [0.8 : 2.3]	1.6 [1 : 2.8]	1.2 [0.6 : 2.2]	1.2 [0.6 : 2.5]	1.8 [1.4 : 2.7]	1.4 [0.8 : 2.2]
n	176	158	52	63	16	14	479

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		1.1 [0.9 : 1.4]	1.2 [0.8 : 2.5]	2.9 [1.8 : 5.6]	1.9 [1.6 : 8.1]	2.5 [1.4 : 5.2]	1.6 [1.1 : 3.4]
Bone marrow		0.6 [0.4 : 0.7]	0.7 [0.4 : 1.5]	2.4 [1.6 : 5.4]	2.5 [1.8 : 10.8]	2.7 [1.4 : 5.6]	1.2 [0.6 : 2.5]
Breasts		2 [1.6 : 2.6]	2.2 [1.3 : 3.8]	4.4 [2.2 : 6.7]	2.3 [1.9 : 9.7]	2.8 [1.9 : 6.1]	2.4 [1.6 : 5.1]
Heart		2.5 [1.9 : 3.1]	2.8 [1.8 : 6]	6.7 [4.4 : 14.4]	5.1 [4 : 21.7]	5.8 [3.3 : 12.5]	3.9 [2.4 : 7.8]
Lungs		3.8 [2.9 : 4.8]	4.2 [2.6 : 8.8]	10.5 [6.6 : 18]	6 [5.9 : 25.6]	9.3 [5.4 : 17.1]	5.9 [3.7 : 11.7]
Lymph		0.8 [0.6 : 1]	0.8 [0.5 : 1.7]	1.9 [1.2 : 3.6]	1.2 [1 : 5.2]	1.6 [0.9 : 3.4]	1.1 [0.7 : 2.3]
Oesophagus		2.5 [1.9 : 3.1]	2.7 [1.7 : 5.4]	6.4 [4.2 : 13]	4.8 [3.9 : 20.4]	5.7 [3.1 : 12.3]	3.5 [2.3 : 7.2]
Thyroid		0.1 [0.1 : 0.2]	0.1 [0.1 : 0.2]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.2]	0.1 [0.1 : 0.2]	0.1 [0.1 : 0.3]
Liver		0.9 [0.7 : 1.2]	1 [0.6 : 2]	2.2 [1.4 : 4.5]	1.6 [1.2 : 6.8]	1.8 [1 : 3.9]	1.2 [0.8 : 2.7]
Stomach		0.7 [0.5 : 0.9]	0.7 [0.4 : 1.3]	1.4 [0.8 : 2.6]	0.9 [0.7 : 3.8]	1 [0.6 : 2.2]	0.8 [0.5 : 1.8]
n	0	17	40	20	3	14	94

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2 [1.2 : 2.8]	1.9 [1.2 : 2.5]	2.1 [1.5 : 4.9]	4.2 [3 : 5.2]	6.2 [6.1 : 6.3]	7.7	2 [1.3 : 3.2]
Bone marrow	0.6 [0.4 : 0.9]	0.6 [0.4 : 0.8]	0.7 [0.5 : 1.7]	1.8 [1.2 : 2.7]	3.3 [3.2 : 3.4]	4.4	0.7 [0.4 : 1.1]
Breasts	5.5 [3.5 : 7.9]	5.3 [3.6 : 7.2]	6.5 [4.8 : 15.7]	12.9 [10.5 : 17.2]	18.9 [18.8 : 18.9]	24.1	5.8 [3.8 : 9.7]
Heart	4.9 [3.1 : 7.3]	4.6 [2.8 : 5.9]	4.9 [3.4 : 11.1]	8.5 [6.6 : 10.9]	12.1 [11.7 : 12.6]	14.7	4.9 [3.1 : 7]
Lungs	5.4 [3.4 : 7.8]	5.3 [3.4 : 6.9]	6 [4.2 : 13.7]	13.1 [8.3 : 16.3]	18.9 [18.3 : 19.5]	23.1	5.7 [3.6 : 8.5]
Lymph	1.2 [0.7 : 1.7]	1.1 [0.7 : 1.5]	1.1 [0.8 : 2.7]	2.1 [1.5 : 2.6]	2.9 [2.8 : 3]	3.6	1.2 [0.8 : 1.7]
Oesophagus	4.3 [2.7 : 6.4]	4 [2.4 : 5]	3.6 [2.7 : 9]	6.4 [4.5 : 8.1]	9.2 [8.9 : 9.5]	11.2	4.1 [2.6 : 6]
Thyroid	0.4 [0.3 : 0.6]	0.3 [0.2 : 0.4]	0.2 [0.2 : 0.6]	0.3 [0.2 : 0.4]	0.4 [0.3 : 0.4]	0.4	0.3 [0.2 : 0.4]
Liver	2.1 [1.3 : 2.9]	2 [1.3 : 2.8]	2.3 [1.6 : 5.3]	4.3 [2.9 : 5.4]	6.3 [6.3 : 6.3]	8.1	2.3 [1.5 : 3.3]
Stomach	1 [0.6 : 1.4]	0.9 [0.6 : 1.2]	0.8 [0.6 : 1.9]	1 [0.8 : 1.5]	1.4 [1.3 : 1.5]	1.7	0.9 [0.6 : 1.3]
n	33	86	17	13	2	1	152

<b>Pulm valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.4 [0.8 : 2.4]	2.3 [1.4 : 3]	3.8 [1.6 : 4.9]	7.7 [4 : 9.7]	2.5	8.6 [4.4 : 12.9]	1.7 [1.1 : 2.9]
Bone marrow	0.5 [0.3 : 0.9]	0.9 [0.5 : 1.1]	2 [0.7 : 2.1]	5.2 [2.6 : 6.6]	1.7	7.1 [3.4 : 10.9]	0.7 [0.4 : 1.2]
Breasts	3.5 [2.1 : 6]	5.8 [3.5 : 7.6]	10.8 [4.6 : 14]	21.1 [10.7 : 25.3]	6.1	23.9 [11.8 : 36.1]	4.4 [2.7 : 7.3]
Heart	3.3 [2 : 5.7]	5.2 [3.1 : 6.6]	8.1 [3.5 : 10.8]	15.9 [8 : 19.9]	5	17.1 [8.9 : 25.3]	4.1 [2.5 : 6.9]
Lungs	4 [2.4 : 6.9]	6.6 [4.1 : 8.8]	11.6 [4.7 : 14.5]	24 [12.1 : 31.2]	8.3	24.8 [13.6 : 36.1]	5 [3.1 : 8.6]
Lymph	0.8 [0.5 : 1.4]	1.4 [0.8 : 1.8]	2 [0.9 : 2.7]	4 [2 : 5]	1.3	4.2 [2.2 : 6.2]	1.1 [0.6 : 1.8]
Oesophagus	3.1 [1.9 : 5.3]	4.8 [2.8 : 6]	6.1 [2.9 : 8.8]	13 [6.7 : 16.4]	4.3	14.5 [7.5 : 21.5]	3.8 [2.2 : 6.2]
Thyroid	0.3 [0.2 : 0.5]	0.4 [0.2 : 0.5]	0.3 [0.2 : 0.5]	0.4 [0.2 : 0.6]	0.1	0.3 [0.2 : 0.3]	0.3 [0.2 : 0.5]
Liver	1.2 [0.8 : 2.1]	2.3 [1.4 : 3.1]	3.4 [1.5 : 4.8]	7.5 [4 : 9.1]	2.3	9 [4.5 : 13.6]	1.7 [1 : 2.7]
Stomach	0.7 [0.4 : 1.2]	1.2 [0.7 : 1.5]	1.2 [0.6 : 2]	2.3 [1.1 : 2.8]	0.7	2.3 [1.2 : 3.5]	0.9 [0.5 : 1.3]
n	42	7	5	4	1	2	61

<b>Aortic valvuloplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.6 [1 : 2.1]	3 [2.4 : 4.5]	3 [2.5 : 4.2]	4.4 [3.6 : 6.6]		2.1	2.5 [1.6 : 4.2]
Bone marrow	0.6 [0.4 : 0.8]	1.1 [0.9 : 1.7]	1.2 [1 : 2]	3 [2 : 4.9]		1.4	1.1 [0.6 : 2]
Breasts	4.1 [2.6 : 5.4]	7.9 [6.2 : 11.9]	8.3 [6.7 : 11.9]	13 [9.2 : 17.5]		5.2	7 [4.1 : 11]
Heart	3.7 [2.5 : 5.2]	6.8 [5.3 : 10]	6.6 [5.5 : 8.9]	9.6 [7.3 : 13.3]		4.3	5.6 [3.8 : 8.9]
Lungs	4.7 [2.9 : 6.1]	9 [7 : 13.4]	8.9 [7.4 : 12.7]	14.9 [11.3 : 20.4]		7.2	7.7 [4.7 : 12.7]
Lymph	1 [0.6 : 1.3]	1.8 [1.4 : 2.7]	1.7 [1.4 : 2.2]	2.3 [1.9 : 3.3]		1.1	1.4 [1 : 2.3]
Oesophagus	3.4 [2.3 : 4.9]	6.1 [4.7 : 8.9]	5.6 [4.6 : 6.8]	7.7 [6.1 : 11.2]		3.7	5.1 [3.4 : 6.9]
Thyroid	0.3 [0.2 : 0.5]	0.5 [0.4 : 0.6]	0.3 [0.3 : 0.4]	0.3 [0.3 : 0.4]		0.1	0.3 [0.2 : 0.5]
Liver	1.4 [0.9 : 1.9]	3.2 [2.5 : 4.6]	3 [2.4 : 3.8]	4.2 [3.3 : 6.6]		2	2.5 [1.6 : 3.8]
Stomach	0.8 [0.5 : 1.1]	1.5 [1.2 : 2.1]	1.3 [1 : 1.5]	1.5 [1.2 : 1.8]		0.6	1.1 [0.8 : 1.5]
n	21	7	10	11	0	1	50

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	3.4 [1.3 : 4.6]	5.7 [3 : 8.5]	5.7 [4.3 : 7.3]	9.5 [4.7 : 16.1]	7.6	7.2 [5 : 15.8]	5.6 [3.4 : 8.8]
Bone marrow	1.1 [0.4 : 1.5]	1.8 [0.9 : 2.6]	2 [1.5 : 2.4]	4.3 [1.7 : 5.9]	5.1	3.8 [2.9 : 10.5]	1.9 [1.2 : 3.3]
Breasts	9.5 [3.6 : 13.3]	16.6 [8.7 : 25]	19.2 [14.9 : 23.4]	32.2 [16.9 : 57.8]	27.1	23.5 [16.5 : 56.5]	17.1 [10.6 : 28.1]
Heart	8.4 [3 : 11.1]	12.7 [6.8 : 19.2]	12.3 [9.2 : 15.9]	20.3 [9.8 : 34]	12.5	13.7 [8.8 : 26.1]	12 [7.6 : 19.6]
Lungs	9.2 [3.5 : 12.8]	15.8 [8.3 : 23.7]	15.8 [11.7 : 20.4]	25.9 [12.5 : 43.1]	19.3	21.2 [14 : 40.2]	15.3 [9.5 : 24.5]
Lymph	2 [0.7 : 2.7]	3.2 [1.7 : 4.8]	3 [2.1 : 3.9]	4.8 [2.2 : 7.7]	3.1	3.3 [2.2 : 6.4]	2.9 [1.9 : 4.8]
Oesophagus	7.5 [2.7 : 9.7]	10.9 [5.8 : 16.4]	9.9 [6.9 : 13.3]	15.5 [6.8 : 24]	9.7	10.4 [6.8 : 20.3]	9.7 [6.1 : 16.3]
Thyroid	0.7 [0.2 : 0.9]	0.8 [0.4 : 1.2]	0.6 [0.4 : 0.8]	0.8 [0.3 : 1.3]	0.1	0.3 [0.3 : 0.4]	0.6 [0.3 : 1.1]
Liver	3.4 [1.3 : 5.1]	6.5 [3.4 : 9.8]	6.2 [4.4 : 8.1]	9.9 [4.6 : 16]	9	7.6 [5.5 : 18.6]	6 [3.5 : 9.9]
Stomach	1.6 [0.6 : 2.2]	2.4 [1.3 : 3.7]	2 [1.4 : 2.7]	3.1 [1.4 : 4.8]	1.4	1.6 [1 : 2.9]	2 [1.2 : 3.4]
n	12	37	13	11	1	6	80

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.7 [1 : 3.5]	1.9 [1.6 : 2.9]	2.5 [2.1 : 78.7]	7.9 [6.6 : 10.9]	8.9 [8 : 10.7]	5.3 [4.5 : 6.1]	4.4 [1.8 : 8.9]
Bone marrow	0.7 [0.4 : 1.5]	0.8 [0.6 : 1.2]	1 [0.9 : 41.1]	5.3 [4 : 6.9]	6.4 [6 : 8.5]	3.9 [3 : 4.7]	2.3 [0.7 : 6]
Breasts	3.6 [2.1 : 7.5]	4.3 [3.7 : 7.2]	6.1 [5.4 : 220]	20.3 [16.8 : 28.3]	23 [21.2 : 28.4]	13.3 [10.6 : 16]	10.2 [4 : 23]
Heart	4.1 [2.3 : 8.7]	4.3 [3.6 : 6.4]	5.4 [4.7 : 164.3]	15.7 [13.2 : 21.9]	16.4 [14.4 : 19.6]	9.7 [8.5 : 11]	10.2 [4.4 : 16.4]
Lungs	5.2 [3 : 11]	6 [5 : 9.2]	7.9 [6.7 : 246.8]	27 [22.3 : 35.9]	28.9 [24 : 33.6]	17.2 [15.5 : 18.8]	14.6 [5.6 : 28]
Lymph	1.1 [0.6 : 2.3]	1.2 [1 : 1.7]	1.5 [1.2 : 40.9]	4.1 [3.5 : 5.7]	4.4 [3.8 : 5.2]	2.6 [2.3 : 2.9]	2.7 [1.2 : 4.4]
Oesophagus	4 [2.2 : 8.4]	4.1 [3.3 : 5.8]	5 [4.1 : 129.2]	13.4 [11.3 : 18.3]	14.7 [12.8 : 17.5]	8.7 [7.6 : 9.9]	9.7 [3.8 : 14.7]
Thyroid	0.4 [0.2 : 0.8]	0.3 [0.2 : 0.3]	0.3 [0.2 : 5.9]	0.5 [0.4 : 0.7]	0.4 [0.3 : 0.6]	0.3 [0.2 : 0.3]	0.4 [0.2 : 0.7]
Liver	1.8 [1.1 : 3.9]	2.4 [1.9 : 3.4]	2.9 [2.5 : 83]	8.5 [7.1 : 11.7]	10 [9.4 : 12.5]	5.9 [4.8 : 7.1]	5.1 [2.1 : 9.9]
Stomach	0.8 [0.5 : 1.7]	0.9 [0.7 : 1.1]	1 [0.8 : 22.8]	2 [1.6 : 2.8]	2 [1.8 : 2.4]	1.2 [1 : 1.3]	1.5 [0.8 : 2.3]
n	16	6	3	16	7	2	50

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.1 [0.2 : 2]	1.2 [0.8 : 1.9]	0.6 [0.4 : 0.9]	1.3 [0.7 : 2.6]	1.2 [0.6 : 1.9]	2.1 [1.3 : 5]	1.2 [0.6 : 2.1]
Bone marrow	0.7 [0.2 : 1.2]	0.7 [0.5 : 1.2]	0.4 [0.3 : 0.6]	1.1 [0.7 : 2.1]	1.1 [0.6 : 1.9]	2.2 [1.2 : 5.4]	1 [0.6 : 2]
Breasts	1.1 [0.2 : 1.9]	0.8 [0.6 : 1.3]	0.4 [0.3 : 0.6]	0.6 [0.4 : 1.2]	0.5 [0.2 : 0.8]	0.9 [0.5 : 2.2]	0.6 [0.3 : 1.1]
Heart	4.4 [1 : 7.9]	4.6 [3.1 : 7.9]	2.4 [1.6 : 3.9]	5.4 [3.1 : 10.6]	5 [2.3 : 7.9]	9 [5.2 : 21.4]	5 [2.5 : 9.1]
Lungs	4.1 [0.9 : 7.3]	4.5 [3.1 : 7.5]	2.3 [1.6 : 3.7]	5.5 [3.3 : 11.1]	5.2 [2.5 : 8.3]	8.5 [5.5 : 21.4]	5.1 [2.6 : 9.3]
Lymph	0.9 [0.2 : 1.6]	1 [0.7 : 1.6]	0.5 [0.3 : 0.7]	1 [0.6 : 2]	0.9 [0.4 : 1.5]	1.6 [1 : 3.8]	0.9 [0.5 : 1.7]
Oesophagus	3.5 [0.8 : 6.2]	3.7 [2.6 : 5.9]	1.7 [1.1 : 2.5]	3.3 [2 : 6.8]	3.2 [1.5 : 5]	5.5 [3.4 : 13.4]	3.2 [1.7 : 5.9]
Thyroid	0.3 [0.1 : 0.6]	0.2 [0.2 : 0.3]	0.1 [0.1 : 0.1]	0.1 [0.1 : 0.2]	0.1 [0 : 0.1]	0.1 [0.1 : 0.3]	0.1 [0.1 : 0.2]
Liver	0.9 [0.2 : 1.5]	1.1 [0.8 : 1.7]	0.5 [0.3 : 0.8]	0.9 [0.5 : 1.8]	0.8 [0.4 : 1.4]	1.7 [0.9 : 3.8]	0.9 [0.5 : 1.6]
Stomach	0.6 [0.1 : 1.1]	0.8 [0.6 : 1.2]	0.3 [0.2 : 0.5]	0.6 [0.3 : 1.1]	0.5 [0.2 : 0.8]	0.9 [0.5 : 2]	0.5 [0.3 : 0.9]
n	2	6	13	72	33	12	138

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		0.1 [0 : 0.2]	0.3 [0 : 0.7]	0.2 [0.1 : 0.7]	0.1 [0 : 0.2]	0.2 [0 : 1.9]	0.2 [0 : 0.5]
Bone marrow		0.1 [0 : 0.1]	0.2 [0 : 0.5]	0.3 [0.1 : 1]	0.1 [0 : 0.4]	0.4 [0 : 2.5]	0.2 [0 : 0.6]
Breasts		0.2 [0 : 0.3]	0.5 [0 : 1]	0.2 [0.1 : 0.6]	0 [0 : 0.1]	0.1 [0 : 1.5]	0.2 [0 : 0.5]
Heart		0.3 [0.1 : 0.5]	1.1 [0.1 : 2.3]	0.9 [0.4 : 2.8]	0.3 [0 : 0.9]	0.9 [0.1 : 7.1]	0.7 [0.1 : 2]
Lungs		0.4 [0.1 : 0.6]	1.1 [0.1 : 2.4]	0.9 [0.3 : 2.4]	0.2 [0 : 0.6]	0.9 [0.1 : 6.7]	0.7 [0.1 : 1.9]
Lymph		0.1 [0 : 0.1]	0.2 [0 : 0.5]	0.2 [0.1 : 0.5]	0.1 [0 : 0.2]	0.2 [0 : 1.4]	0.1 [0 : 0.4]
Oesophagus		0.3 [0.1 : 0.5]	0.9 [0 : 1.9]	0.7 [0.3 : 2.4]	0.3 [0 : 0.8]	0.8 [0.1 : 6]	0.6 [0.1 : 1.6]
Thyroid		0 [0 : 0]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0]	0 [0 : 0.1]	0 [0 : 0]
Liver		0.1 [0 : 0.1]	0.2 [0 : 0.5]	0.2 [0.1 : 0.4]	0 [0 : 0.1]	0.2 [0 : 1.1]	0.1 [0 : 0.3]
Stomach		0.1 [0 : 0.1]	0.2 [0 : 0.4]	0.1 [0 : 0.3]	0 [0 : 0.1]	0.1 [0 : 0.9]	0.1 [0 : 0.3]
n	0	7	20	25	19	9	80

<b>Atrial septostomy *</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0 [0 : 0]						0 [0 : 0]
Bone marrow	0 [0 : 0]						0 [0 : 0]
Breasts	0 [0 : 0]						0 [0 : 0]
Heart	0 [0 : 0]						0 [0 : 0]
Lungs	0 [0 : 0]						0 [0 : 0]
Lymph	0 [0 : 0]						0 [0 : 0]
Oesophagus	0 [0 : 0]						0 [0 : 0]
Thyroid	0 [0 : 0]						0 [0 : 0]
Liver	0 [0 : 0]						0 [0 : 0]
Stomach	0 [0 : 0]						0 [0 : 0]
n	51	0	0	0	0	0	51

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	8.7 [4.8 : 13]	8 [4.2 : 14.8]	6.9 [3.9 : 11.2]	8.6 [4 : 14.9]	5.2 [3.1 : 10.7]	9.6	7.9 [4.2 : 13.5]
Bone marrow	3.5 [2 : 5.1]	3.1 [1.6 : 5.6]	2.8 [1.6 : 4.5]	5 [2.3 : 8.5]	3.8 [2.5 : 6.1]	6.7	3.2 [1.8 : 6]
Breasts	21.9 [12.1 : 32.9]	21.2 [11.3 : 38.9]	19.9 [11.4 : 31.3]	26.1 [11.7 : 48.6]	14.4 [8.6 : 32.8]	25.3	21.5 [11.5 : 38.2]
Heart	18.3 [10.7 : 28]	15.6 [8.2 : 29]	13.1 [7.5 : 21.3]	15.4 [7.2 : 26.9]	9 [5.5 : 19.1]	16.9	15.9 [8.2 : 26.9]
Lungs	27.2 [14.9 : 40.8]	25 [13.3 : 46.2]	21 [12.3 : 34.9]	27.3 [13 : 47.6]	15.9 [10.4 : 33.2]	32.7	24.6 [13.2 : 41.7]
Lymph	5 [2.8 : 7.4]	4.5 [2.4 : 8.4]	3.4 [2.1 : 5.8]	4 [1.9 : 7]	2.4 [1.5 : 4.9]	4.6	4.3 [2.2 : 7.2]
Oesophagus	16.8 [9.8 : 26]	14 [7.4 : 26.2]	10.6 [6.3 : 17.7]	11.9 [5.6 : 20.6]	7.5 [4.6 : 14.4]	14.2	14.1 [7.1 : 23.4]
Thyroid	1.4 [0.8 : 2.2]	0.9 [0.5 : 1.7]	0.5 [0.3 : 0.9]	0.4 [0.2 : 0.8]	0.2 [0.1 : 0.5]	0.4	0.8 [0.4 : 1.6]
Liver	7 [3.9 : 10.8]	7.4 [3.9 : 13.7]	5.5 [3.4 : 9.5]	6.5 [3 : 11.2]	4.4 [2.6 : 8]	7.4	6.7 [3.6 : 11.3]
Stomach	3.7 [2 : 5.4]	3.2 [1.7 : 6.1]	2.3 [1.3 : 3.8]	2.1 [1.1 : 3.8]	1.2 [0.7 : 2.6]	2.1	3 [1.5 : 5.1]
n	197	212	133	128	11	1	682

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	5.8 [4.1 : 9.4]	4.5 [2.6 : 8.8]	4.1 [2.2 : 8.4]	4.8 [2.4 : 13]	1.9		4.7 [2.7 : 9.2]
Bone marrow	2.3 [1.7 : 3.8]	1.8 [1 : 3.4]	1.7 [0.9 : 3.9]	2.7 [1.4 : 6.3]	1.2		2 [1.2 : 4.3]
Breasts	15 [10.4 : 23.2]	12.4 [7 : 23.6]	11.7 [6.3 : 28.3]	14.6 [7.1 : 40.9]	5.4		12.8 [8.1 : 27.7]
Heart	12.3 [9 : 20.5]	8.8 [5 : 17.2]	7.8 [4.3 : 15.3]	8.5 [4.3 : 23.5]	3.4		9.3 [5.1 : 19.1]
Lungs	18.3 [12.8 : 29.2]	14.2 [8.2 : 27.8]	12.9 [6.9 : 24.4]	14.8 [7.4 : 38.8]	6.2		14.8 [8.5 : 27.8]
Lymph	3.3 [2.4 : 5.4]	2.5 [1.4 : 4.9]	2.2 [1.2 : 3.8]	2.2 [1.1 : 6]	0.9		2.5 [1.5 : 5.1]
Oesophagus	11.6 [8.5 : 19.1]	7.7 [4.5 : 15.5]	6.7 [3.6 : 10.8]	6.4 [3.2 : 17.2]	2.7		8.2 [4.4 : 16.5]
Thyroid	1 [0.7 : 1.6]	0.5 [0.3 : 0.9]	0.3 [0.2 : 0.5]	0.2 [0.1 : 0.7]	0.1		0.5 [0.2 : 1]
Liver	5.1 [3.4 : 7.6]	4.1 [2.4 : 8.2]	3.6 [1.9 : 6.2]	3.5 [1.8 : 9.7]	1.4		4 [2.4 : 8.2]
Stomach	2.5 [1.7 : 4]	1.8 [1 : 3.5]	1.4 [0.8 : 2.3]	1.2 [0.6 : 3.5]	0.4		1.7 [1 : 3.5]
n	25	42	19	27	1	0	114

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		9 [6.3 : 10.9]	42.9	8.6 [5 : 12.2]	3.1 [1.4 : 4.8]		8.6 [4.9 : 11.9]
Bone marrow		3.4 [2.4 : 4.1]	16.3	4.3 [2.8 : 7.9]	3 [1.2 : 4.8]		4.3 [2.6 : 7.8]
Breasts		26.1 [18.5 : 29.4]	140	27.7 [18.3 : 32.5]	8.4 [3.2 : 13.6]		26.1 [15.5 : 31.9]
Heart		20 [14 : 21.9]	93	17.4 [10.1 : 26.6]	6.3 [3.1 : 9.5]		17.4 [9.8 : 24]
Lungs		28.3 [19.8 : 34.2]	129.1	24.3 [15 : 41.8]	9.4 [5 : 13.9]		24.3 [14.6 : 38.2]
Lymph		4.8 [3.4 : 6.1]	21.1	3.9 [2.2 : 6.1]	1.4 [0.7 : 2.1]		3.9 [2.2 : 6.5]
Oesophagus		16.9 [11.8 : 19.4]	74	12.2 [7.1 : 20.3]	4.8 [2.4 : 7.3]		12.2 [7.2 : 20.7]
Thyroid		0.7 [0.5 : 1.2]	2.4	0.4 [0.2 : 0.5]	0.1 [0.1 : 0.1]		0.4 [0.2 : 0.7]
Liver		7.7 [5.4 : 10]	32.1	5.8 [3.1 : 8.8]	2.5 [0.9 : 4]		5.8 [3.3 : 9.7]
Stomach		2.7 [1.9 : 4.2]	10.4	1.5 [0.9 : 2.1]	0.4 [0.2 : 0.7]		1.6 [0.8 : 2.7]
n	0	3	1	15	2	0	21

<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose				8.6	3.1		8.5 [4.8 : 12.2]
Bone marrow				4	3		3.8 [2.6 : 7.9]
Breasts				25.9	8.4		21.3 [14.8 : 32.5]
Heart				17.5	6.3		17.4 [9.8 : 26.6]
Lungs				24.1	9.4		24 [14.1 : 41.8]
Lymph				3.8	1.4		3.8 [2.1 : 6.1]
Oesophagus				12.3	4.8		12 [7.1 : 20.5]
Thyroid				0.4	0.1		0.4 [0.2 : 0.7]
Liver				5.7	2.5		5.6 [3.1 : 9.1]
Stomach				1.5	0.4		1.5 [0.7 : 2.5]
n	0	2	1	14	2	0	19

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.9 [1.3 : 4.3]	3.4 [1.7 : 5.5]	2.9 [1.6 : 7.3]	4.3 [2.7 : 10]	3.1 [2.4 : 3.8]		2.8 [1.5 : 5.9]
Bone marrow	0.8 [0.5 : 1.7]	1.3 [0.7 : 2.1]	1.3 [0.7 : 3.1]	2.5 [1.7 : 5.7]	2.3 [1.8 : 2.8]		1.3 [0.6 : 2.5]
Breasts	4.7 [3.3 : 10.7]	8.4 [4.3 : 13.6]	7.7 [4.2 : 19.3]	12.2 [7.4 : 26.1]	7.3 [5.6 : 8.9]		7.4 [3.8 : 14.6]
Heart	4.6 [3.1 : 9.8]	7.4 [3.8 : 12.3]	6.4 [3.5 : 15.9]	9.5 [5.9 : 21.5]	6.4 [4.9 : 7.8]		6.4 [3.6 : 13.5]
Lungs	5.7 [4 : 12.9]	10.1 [5.2 : 16.4]	8.7 [4.7 : 22.6]	13.8 [8.4 : 31.9]	10.3 [7.9 : 12.7]		8.6 [4.6 : 17.5]
Lymph	1.2 [0.8 : 2.7]	2.1 [1 : 3.4]	1.6 [0.9 : 4]	2.4 [1.5 : 5.3]	1.6 [1.3 : 2]		1.7 [0.9 : 3.6]
Oesophagus	4.3 [2.9 : 9.1]	6.8 [3.4 : 11.3]	5.4 [2.8 : 13.1]	7.6 [4.6 : 17]	5.6 [4.3 : 6.8]		5.6 [3.1 : 12]
Thyroid	0.4 [0.3 : 0.8]	0.5 [0.2 : 0.9]	0.3 [0.2 : 0.8]	0.3 [0.2 : 0.7]	0.2 [0.1 : 0.2]		0.4 [0.2 : 0.8]
Liver	1.7 [1.2 : 4]	3.4 [1.7 : 5.5]	2.7 [1.5 : 6.7]	4 [2.4 : 8.9]	2.9 [2.2 : 3.5]		2.7 [1.4 : 5.5]
Stomach	1 [0.7 : 2.3]	1.7 [0.8 : 2.9]	1.2 [0.7 : 2.9]	1.6 [0.9 : 3.3]	0.9 [0.7 : 1.1]		1.3 [0.7 : 2.7]
n	94	93	40	43	2	0	272

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.6 [0.9 : 2.9]	2.3 [1.1 : 3.6]	1.6 [0.8 : 2.7]	4.9 [1.5 : 7.3]			2 [1 : 3.6]
Bone marrow	0.7 [0.4 : 1.2]	0.9 [0.4 : 1.4]	0.7 [0.4 : 1.1]	2.3 [0.8 : 4.6]			0.8 [0.4 : 1.4]
Breasts	3.9 [2.3 : 7]	5.6 [2.6 : 9.2]	4.4 [2.1 : 7.3]	13.7 [2.4 : 19.7]			5 [2.4 : 9]
Heart	3.9 [2.1 : 6.9]	5.2 [2.3 : 8.3]	3.6 [1.8 : 6]	10.8 [3.3 : 18.6]			4.8 [2.3 : 8.4]
Lungs	4.7 [2.8 : 8.6]	7 [3.2 : 11]	5 [2.5 : 8.3]	15 [4.9 : 24.3]			5.9 [3.2 : 10.8]
Lymph	1 [0.6 : 1.8]	1.4 [0.6 : 2.2]	1 [0.5 : 1.6]	2.6 [0.8 : 4.1]			1.2 [0.6 : 2.2]
Oesophagus	3.7 [2.1 : 6.6]	4.8 [2.1 : 7.9]	3.2 [1.6 : 5.5]	7.9 [2.9 : 13.8]			4.3 [2.1 : 7.8]
Thyroid	0.4 [0.2 : 0.6]	0.4 [0.2 : 0.5]	0.2 [0.1 : 0.4]	0.4 [0.1 : 0.5]			0.3 [0.1 : 0.5]
Liver	1.6 [0.9 : 2.9]	2.3 [1.1 : 4]	1.6 [0.7 : 2.7]	4.3 [1.3 : 5.7]			1.9 [1 : 3.6]
Stomach	0.8 [0.5 : 1.5]	1.2 [0.5 : 1.8]	0.7 [0.4 : 1.3]	1.5 [0.6 : 2.1]			1 [0.5 : 1.7]
n	34	54	24	13	0	0	125

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.8 [2 : 5]	4.6 [3.1 : 6]	2.9 [1.9 : 4.6]	3.7 [2.4 : 5.1]	2.2 [0.9 : 4.5]		3.4 [2.1 : 5.1]
Bone marrow	1.1 [0.8 : 2.1]	1.9 [1.3 : 2.3]	1.4 [0.7 : 1.8]	2.4 [1.7 : 3.3]	1.8 [0.7 : 2.9]		1.9 [1.1 : 2.8]
Breasts	6.9 [5 : 12.2]	11.7 [8.4 : 15.1]	7.8 [5.3 : 12.3]	10.1 [5.2 : 15]	4.6 [1.8 : 12.2]		9.8 [5.2 : 14.1]
Heart	6.2 [4.8 : 12.1]	11.5 [8 : 13.2]	6.7 [4.8 : 10.7]	9 [6.4 : 12.6]	5.8 [2.3 : 11.3]		8.5 [5 : 12.7]
Lungs	8.3 [6.1 : 14.7]	14.3 [9.6 : 18.2]	8.6 [5.6 : 14]	11.2 [8.1 : 16.2]	7.9 [3.1 : 14.2]		11.2 [6.3 : 15.9]
Lymph	1.7 [1.3 : 3.1]	2.8 [1.8 : 3.7]	1.7 [1 : 2.7]	1.8 [1.4 : 2.7]	1.2 [0.5 : 2.4]		1.9 [1.3 : 2.9]
Oesophagus	5.8 [4.6 : 11.6]	10.1 [6.7 : 12]	5.7 [3.8 : 9.5]	6.8 [4.6 : 8.9]	4.5 [1.8 : 8.2]		6.8 [4 : 10.1]
Thyroid	0.5 [0.4 : 1.1]	0.6 [0.4 : 0.9]	0.3 [0.2 : 0.5]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]		0.3 [0.2 : 0.6]
Liver	2.7 [1.8 : 4.2]	4.3 [2.9 : 6.1]	2.5 [1.6 : 4.1]	2.7 [1.8 : 4.3]	1.6 [0.6 : 3.3]		2.9 [1.8 : 4.4]
Stomach	1.4 [1 : 2.5]	2 [1.2 : 3]	1 [0.6 : 1.7]	0.8 [0.5 : 1.5]	0.4 [0.2 : 1]		1 [0.6 : 1.9]
n	10	16	26	43	4	0	99

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		0.6 [0.6 : 2.1]	0.9 [0.5 : 6]	1.5 [1 : 1.8]			0.9 [0.6 : 1.8]
Bone marrow		0.3 [0.3 : 1.1]	0.5 [0.3 : 3.2]	0.9 [0.7 : 1.9]			0.5 [0.3 : 1.2]
Breasts		1 [1 : 4]	1.5 [0.8 : 10.3]	2.1 [1.4 : 2.4]			1.5 [1 : 2.4]
Heart		1.3 [1.2 : 4.4]	2 [1.1 : 13.6]	3.5 [2.3 : 4.4]			2 [1.3 : 4.4]
Lungs		2 [1.9 : 7]	3 [1.7 : 20.7]	5.2 [3.6 : 6.7]			3.1 [2 : 6.7]
Lymph		0.4 [0.4 : 1.4]	0.6 [0.3 : 4.1]	1 [0.6 : 1.2]			0.6 [0.4 : 1.2]
Oesophagus		1.3 [1.2 : 4.4]	1.9 [1.1 : 13.4]	3.3 [2.1 : 4.3]			1.9 [1.3 : 4.3]
Thyroid		0.1 [0.1 : 0.3]	0.1 [0.1 : 0.8]	0.1 [0.1 : 0.2]			0.1 [0.1 : 0.2]
Liver		0.5 [0.4 : 1.7]	0.7 [0.4 : 4.8]	1.2 [0.7 : 1.4]			0.7 [0.5 : 1.4]
Stomach		0.4 [0.3 : 1.3]	0.5 [0.3 : 3.6]	0.9 [0.5 : 0.9]			0.5 [0.4 : 0.9]
n	0	3	5	3	0	0	11

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.9 [1.9 : 3.8]	2.8 [2.2 : 4.5]	1.7 [1 : 2.2]	5.3			2.7 [1.9 : 4.2]
Bone marrow	1 [0.7 : 1.3]	0.9 [0.7 : 1.5]	0.6 [0.4 : 0.8]	2.3			0.9 [0.7 : 1.4]
Breasts	7.9 [5.2 : 10.6]	7.8 [6 : 12.7]	5.2 [3.1 : 6.6]	17.9			7.4 [5.2 : 12.3]
Heart	7 [4.8 : 9.1]	6.7 [5.2 : 10.6]	3.9 [2.4 : 4.9]	11.6			6.3 [4.8 : 9.7]
Lungs	8.1 [5.4 : 10.9]	8.1 [6.2 : 12.9]	4.8 [3 : 6.1]	15			7.6 [5.4 : 12.1]
Lymph	1.7 [1.2 : 2.3]	1.7 [1.3 : 2.7]	0.9 [0.6 : 1.2]	2.6			1.6 [1.1 : 2.4]
Oesophagus	6 [4.3 : 7.8]	5.8 [4.5 : 9.1]	3.2 [2 : 4]	7.9			5.4 [3.8 : 7.9]
Thyroid	0.5 [0.4 : 0.6]	0.4 [0.3 : 0.7]	0.2 [0.1 : 0.2]	0.4			0.4 [0.2 : 0.6]
Liver	3.1 [1.9 : 4.3]	3.2 [2.5 : 5.1]	1.8 [1.1 : 2.3]	5			3 [1.9 : 4.6]
Stomach	1.4 [1 : 1.9]	1.4 [1.1 : 2.2]	0.7 [0.4 : 0.9]	1.6			1.3 [0.8 : 1.9]
n	2	11	4	1	0	0	18



<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
<b>Effective dose</b>		4.6 [3.1 : 6.3]	2.6 [1.7 : 4.4]	3.7 [2.5 : 5.9]	2.2		3.4 [2 : 5.2]
<b>Bone marrow</b>		1.9 [1.2 : 2.6]	1.3 [0.7 : 1.8]	2.4 [1.9 : 3.3]	1.8		2 [1.2 : 3]
<b>Breasts</b>		11.1 [8.2 : 15.4]	7.7 [5.1 : 12.5]	10.2 [5.5 : 15.2]	4.6		9.3 [5.2 : 14.7]
<b>Heart</b>		12 [7.8 : 16.3]	6.7 [4.4 : 11.3]	9 [6.5 : 14.5]	5.8		8.6 [4.8 : 13.2]
<b>Lungs</b>		14.3 [9.2 : 19.7]	7.8 [5.1 : 13.2]	11.4 [8.6 : 16.8]	7.9		10.6 [5.8 : 15.9]
<b>Lymph</b>		2.8 [1.7 : 3.9]	1.4 [1 : 2.5]	1.9 [1.4 : 2.9]	1.2		1.8 [1 : 2.9]
<b>Oesophagus</b>		10.2 [6.3 : 14.3]	5.2 [3.6 : 9.1]	6.8 [5 : 9.5]	4.5		6.7 [3.8 : 9.9]
<b>Thyroid</b>		0.6 [0.3 : 1]	0.3 [0.2 : 0.5]	0.2 [0.1 : 0.4]	0.1		0.3 [0.2 : 0.4]
<b>Liver</b>		4.3 [2.7 : 6.3]	2.2 [1.5 : 3.8]	2.7 [1.9 : 4.3]	1.6		2.7 [1.6 : 4.3]
<b>Stomach</b>		1.8 [1.1 : 2.7]	0.9 [0.6 : 1.5]	0.8 [0.5 : 1.5]	0.4		0.9 [0.5 : 1.5]
<b>n</b>	0	7	20	38	4	0	69

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
<b>Effective dose</b>	0.9 [0.6 : 2.5]	0.5 [0.1 : 2.2]	0.6 [0.2 : 2.2]	0.6 [0.2 : 0.9]	1.1 [0.9 : 1.4]	0.2 [0 : 0.5]	0.7 [0.3 : 2]
<b>Bone marrow</b>	0.4 [0.2 : 1]	0.2 [0 : 8.3]	0.3 [0.1 : 0.9]	0.3 [0.1 : 0.7]	0.8 [0.7 : 0.9]	0.2 [0 : 0.4]	0.3 [0.2 : 0.8]
<b>Breasts</b>	2.3 [1.6 : 6.2]	1.4 [0.3 : 57.5]	1.8 [0.5 : 6]	1.5 [0.4 : 1.9]	2.6 [1.8 : 3.4]	0.5 [0 : 1]	1.8 [1 : 5.1]
<b>Heart</b>	2.2 [1.5 : 6]	1.2 [0.3 : 48.7]	1.4 [0.4 : 4.8]	1.2 [0.5 : 2.5]	2.6 [2.4 : 2.8]	0.6 [0 : 1.3]	2 [0.8 : 4.9]
<b>Lungs</b>	2.6 [1.8 : 7.1]	1.6 [0.3 : 65.2]	1.8 [0.4 : 6.5]	1.7 [0.7 : 3]	3.8 [3 : 4.6]	0.8 [0 : 1.6]	2.5 [1 : 5.6]
<b>Lymph</b>	0.5 [0.4 : 1.5]	0.3 [0.1 : 13.1]	0.3 [0.1 : 1.2]	0.3 [0.1 : 0.5]	0.6 [0.5 : 0.7]	0.1 [0 : 0.3]	0.4 [0.2 : 1.1]
<b>Oesophagus</b>	2.1 [1.5 : 5.7]	1.1 [0.2 : 43.7]	1.2 [0.3 : 4.1]	0.9 [0.4 : 1.9]	2.1 [1.9 : 2.4]	0.5 [0 : 1]	1.7 [0.6 : 4.1]
<b>Thyroid</b>	0.2 [0.1 : 0.6]	0.1 [0 : 3.1]	0.1 [0 : 0.2]	0 [0 : 0.1]	0.1 [0.1 : 0.1]	0 [0 : 0]	0.1 [0 : 0.4]
<b>Liver</b>	0.8 [0.5 : 2.1]	0.5 [0.1 : 22.8]	0.6 [0.1 : 2.2]	0.5 [0.1 : 0.7]	1 [0.7 : 1.3]	0.2 [0 : 0.4]	0.6 [0.3 : 1.6]
<b>Stomach</b>	0.5 [0.3 : 1.2]	0.3 [0 : 10.6]	0.2 [0 : 0.9]	0.2 [0 : 0.2]	0.3 [0.2 : 0.4]	0.1 [0 : 0.1]	0.3 [0.1 : 0.9]
<b>n</b>	27	4	4	17	2	2	56

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.2 [0.9 : 4.5]	1.9 [0.9 : 4.4]	1.1 [0.4 : 3.5]	1 [0.4 : 5.5]	0.9 [0.4 : 4.1]	9.2 [0.7 : 18.4]	1.6 [0.6 : 4.5]
Bone marrow	0.7 [0.4 : 1.9]	0.7 [0.3 : 1.5]	0.6 [0.2 : 1.5]	0.6 [0.2 : 3]	0.8 [0.3 : 3.3]	6.4 [0.5 : 10.3]	0.7 [0.3 : 2]
Breasts	5.6 [2 : 9.8]	4.9 [2.2 : 10.7]	2.1 [1 : 10.7]	2.8 [1 : 13.3]	1.4 [0.8 : 9.4]	22.6 [1.4 : 56.9]	4.1 [1.5 : 11]
Heart	5.2 [2.4 : 11.2]	4.3 [1.9 : 9.9]	2.6 [0.9 : 8.1]	2.4 [1 : 12]	2.3 [1.2 : 10.2]	17.3 [1.8 : 35.5]	3.9 [1.5 : 11]
Lungs	6.1 [2.9 : 13.8]	5.6 [2.5 : 12.8]	3.6 [1.1 : 10.8]	2.9 [1.1 : 17.2]	3.2 [1.4 : 14.3]	31 [2.2 : 55.9]	4.8 [1.9 : 13.9]
Lymph	1.3 [0.6 : 2.9]	1.1 [0.5 : 2.6]	0.7 [0.2 : 2.1]	0.5 [0.2 : 2.9]	0.5 [0.2 : 2.4]	4.7 [0.4 : 8.6]	0.9 [0.4 : 2.8]
Oesophagus	4.8 [2.3 : 10.8]	3.8 [1.7 : 8.8]	2.3 [0.7 : 6.5]	1.8 [0.6 : 9.2]	1.9 [0.9 : 8.9]	15.5 [1.4 : 27.1]	3.4 [1.3 : 9.7]
Thyroid	0.4 [0.2 : 1.1]	0.3 [0.1 : 0.6]	0.1 [0 : 0.4]	0.1 [0 : 0.4]	0.1 [0 : 0.3]	0.5 [0 : 1]	0.2 [0.1 : 0.6]
Liver	2.2 [0.9 : 4.5]	2.1 [0.9 : 4.9]	0.9 [0.3 : 3.7]	0.8 [0.3 : 5.2]	0.7 [0.3 : 3.6]	10.1 [0.5 : 19.1]	1.6 [0.6 : 4.6]
Stomach	1.1 [0.5 : 2.3]	0.9 [0.4 : 2]	0.6 [0.2 : 1.5]	0.2 [0.1 : 1.4]	0.3 [0.1 : 1]	2.1 [0.1 : 4.1]	0.7 [0.2 : 1.9]
n	135	138	82	104	40	14	513

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.6 [1.6 : 5.6]	4 [1.4 : 10]	5.2 [3 : 9.5]	9.1 [3.6 : 19]	14	16.4 [4.7 : 38.8]	4 [1.8 : 9.4]
Bone marrow	1 [0.6 : 2.1]	1.5 [0.5 : 3.8]	2.1 [1.3 : 3.9]	5.2 [1.8 : 9.3]	9.5	11.5 [3.3 : 30.6]	1.6 [0.7 : 4]
Breasts	6.6 [4.3 : 14.3]	10.6 [4.1 : 26.4]	14.6 [9.5 : 27.2]	26.7 [10.9 : 58.7]	35.2	41.8 [11.8 : 90.2]	10.5 [4.7 : 26.5]
Heart	6.3 [4.2 : 13.3]	9.1 [3.6 : 21.8]	11.3 [6.9 : 20.6]	20.7 [7.6 : 40.6]	27.8	32.4 [9.6 : 96.8]	9.4 [4.2 : 21.5]
Lungs	7.6 [4.8 : 16.4]	12 [4.2 : 29.7]	15.5 [8.6 : 28.3]	28 [10.7 : 55.9]	47	54 [15.5 : 133.7]	11.8 [5.3 : 28.5]
Lymph	1.6 [1 : 3.4]	2.4 [0.8 : 5.9]	2.9 [1.5 : 5.3]	4.6 [1.8 : 9.6]	7.2	8.4 [2.4 : 21.1]	2.4 [1.1 : 5]
Oesophagus	5.7 [3.7 : 12]	7.9 [2.9 : 19.6]	9.7 [5 : 17.3]	15 [5.5 : 29]	23.7	27.7 [8 : 74.7]	7.9 [3.8 : 16.9]
Thyroid	0.5 [0.3 : 1.1]	0.6 [0.2 : 1.3]	0.6 [0.2 : 1]	0.6 [0.3 : 1.3]	0.8	0.9 [0.2 : 2.1]	0.6 [0.3 : 1.2]
Liver	2.4 [1.3 : 5.3]	4.2 [1.3 : 10.2]	5.1 [2.5 : 9.2]	6.8 [3.2 : 15]	13	15.5 [4.3 : 30.7]	4 [1.6 : 8.6]
Stomach	1.3 [0.7 : 2.8]	1.9 [0.6 : 4.6]	2.2 [1 : 3.8]	2.2 [1.2 : 5]	3.7	4.3 [1.2 : 7.6]	1.7 [0.7 : 3.7]
n	44	42	12	18	1	3	120

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.9	1.1 [0.5 : 2.8]	1.1 [0.6 : 2.5]	4.9 [1.6 : 8.2]	0.8 [0.7 : 1.9]	1.3	1.1 [0.6 : 2.5]
Bone marrow	0.5	0.6 [0.3 : 1.5]	0.6 [0.3 : 1.5]	4.2 [1.2 : 7.2]	0.8 [0.7 : 2]	1.3	0.7 [0.3 : 1.5]
Breasts	1.8	2 [0.9 : 5.1]	1.9 [1 : 4.3]	7.2 [2.8 : 11.7]	0.9 [0.8 : 2.2]	1.5	1.8 [0.9 : 4.5]
Heart	2.1	2.3 [1.1 : 6.1]	2.4 [1.3 : 5.8]	11.7 [3.9 : 19.5]	1.8 [1.7 : 4.5]	3	2.4 [1.3 : 5.8]
Lungs	2.9	3.7 [1.7 : 9.5]	3.6 [1.9 : 8.5]	18.2 [5.6 : 30.8]	3.1 [2.8 : 7.5]	4.9	3.8 [1.9 : 8.6]
Lymph	0.6	0.7 [0.3 : 1.9]	0.7 [0.4 : 1.6]	3.1 [1 : 5.3]	0.5 [0.5 : 1.2]	0.8	0.7 [0.4 : 1.7]
Oesophagus	2.2	2.3 [1.1 : 6.1]	2.3 [1.1 : 5.2]	10.3 [3 : 17.5]	1.8 [1.7 : 4.5]	3	2.4 [1.2 : 5.4]
Thyroid	0.2	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.3]	0.4 [0.1 : 0.6]	0 [0 : 0.1]	0.1	0.1 [0.1 : 0.3]
Liver	0.7	0.9 [0.4 : 2.3]	0.8 [0.4 : 1.9]	3.6 [1.2 : 6]	0.6 [0.5 : 1.4]	0.9	0.9 [0.5 : 2]
Stomach	0.5	0.7 [0.3 : 1.7]	0.6 [0.3 : 1.4]	2.3 [0.8 : 3.7]	0.3 [0.3 : 0.8]	0.5	0.6 [0.3 : 1.5]
n	1	26	26	2	5	1	61

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.2 [1.4 : 3.2]	1.5 [0.8 : 2.9]	1.7 [0.6 : 3.1]	4 [1.5 : 8.6]	3.4 [2.9 : 3.8]	21.6 [18.4 : 24.7]	1.9 [1 : 3.3]
Bone marrow	0.7 [0.4 : 1]	0.5 [0.3 : 0.9]	0.6 [0.2 : 1]	1.7 [0.8 : 3.5]	1.8 [1.5 : 2.1]	12 [10.3 : 13.8]	0.6 [0.3 : 1.1]
Breasts	6.1 [3.9 : 9]	4.5 [2.3 : 8.5]	5.4 [1.9 : 9.6]	13.4 [4.4 : 29.7]	10.1 [8.6 : 11.6]	66.6 [56.9 : 76.3]	5.6 [3 : 9.4]
Heart	5.4 [3.4 : 8]	3.6 [1.9 : 6.9]	3.9 [1.3 : 6.9]	8.4 [2.9 : 18.2]	6.6 [5.6 : 7.5]	41.7 [35.5 : 47.8]	4.6 [2.2 : 7.5]
Lungs	6 [3.8 : 8.9]	4.3 [2.2 : 8.2]	4.8 [1.6 : 8.5]	11.4 [4.7 : 23.8]	10.4 [9 : 11.9]	65.6 [55.9 : 75.2]	5.4 [2.8 : 9.1]
Lymph	1.3 [0.8 : 1.9]	0.9 [0.5 : 1.7]	0.9 [0.3 : 1.6]	1.9 [0.7 : 4.1]	1.6 [1.4 : 1.8]	10.1 [8.6 : 11.6]	1.1 [0.5 : 1.9]
Oesophagus	4.7 [3 : 6.9]	3 [1.6 : 5.8]	3.2 [0.9 : 5.5]	5.8 [2.2 : 12.4]	5 [4.3 : 5.7]	31.7 [27.1 : 36.4]	3.9 [1.8 : 6.3]
Thyroid	0.4 [0.3 : 0.6]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.3]	0.3 [0.1 : 0.6]	0.2 [0.2 : 0.2]	1.1 [1 : 1.3]	0.3 [0.1 : 0.5]
Liver	2.4 [1.5 : 3.5]	1.7 [0.9 : 3.3]	1.9 [0.6 : 3.3]	3.9 [1.5 : 8.2]	3.4 [2.9 : 3.9]	22.4 [19.1 : 25.6]	2.1 [1.1 : 3.6]
Stomach	1.1 [0.7 : 1.6]	0.7 [0.4 : 1.3]	0.7 [0.2 : 1.1]	1.1 [0.3 : 2.4]	0.8 [0.6 : 0.9]	4.8 [4.1 : 5.5]	0.8 [0.4 : 1.4]
n	27	68	17	7	2	2	123

<b>PA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	6.4 [4.4 : 11.9]	6.7	5.4	11.8	12.8 [9.8 : 15.9]		8.2 [5.9 : 12.8]
Bone marrow	2.1 [1.4 : 3.8]	2.1	1.7	5.1	6.8 [5.2 : 8.4]		3.2 [1.9 : 5.2]
Breasts	17.9 [12.6 : 34]	19.7	16.9	40.3	39.3 [30 : 48.5]		24.9 [17.4 : 39.8]
Heart	16.3 [10.7 : 28.7]	15.1	11.8	23.8	24.3 [18.6 : 30]		17.4 [13.5 : 26.9]
Lungs	17.3 [12.2 : 32.8]	18.6	15.1	33.7	40 [30.6 : 49.4]		24.6 [16.2 : 35.8]
Lymph	3.8 [2.6 : 7]	3.8	2.9	5.5	6.1 [4.6 : 7.5]		4.2 [3.3 : 6.5]
Oesophagus	14.6 [9.4 : 25.2]	12.9	10	17	19 [14.5 : 23.5]		14.6 [11.5 : 20.2]
Thyroid	1.5 [0.8 : 2.2]	1	0.6	0.8	0.8 [0.6 : 0.9]		0.9 [0.6 : 1.2]
Liver	6.1 [4.7 : 12.8]	7.7	6	11.8	13.4 [10.2 : 16.5]		9 [6 : 13.4]
Stomach	3 [2.1 : 5.6]	2.9	2	3	2.7 [2.1 : 3.3]		3 [2 : 3.2]
n	3	1	1	1	2	0	8

<b>COA angioplasty</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.9 [1.4 : 4.6]	4.4 [3.3 : 7.7]	19.6 [1 : 38.3]	7.4 [3.8 : 21.3]	9.5	10.1 [9.2 : 17.3]	4.4 [2.4 : 10.5]
Bone marrow	1.3 [0.6 : 1.9]	1.8 [1.3 : 3.1]	9.3 [0.4 : 18.1]	4.1 [2.3 : 12.3]	6.5	7.1 [6.4 : 12]	2.1 [1 : 6.9]
Breasts	6.2 [2.9 : 9.7]	10.2 [7.4 : 17.9]	54.6 [2.5 : 106.8]	20 [9.8 : 56]	23.1	24.9 [22.6 : 42.3]	10.2 [5.2 : 25.7]
Heart	7.5 [3.3 : 11.5]	9.9 [7.6 : 17.3]	42.3 [2.1 : 82.6]	15.2 [7.6 : 43.1]	18.1	19 [17.3 : 32.6]	11.2 [6.1 : 20.2]
Lungs	9.1 [4.2 : 14.2]	13.9 [10.5 : 24.4]	60.6 [3 : 118.2]	23.7 [12.7 : 69.7]	32.7	34.1 [31 : 58.6]	13.9 [7.6 : 35.6]
Lymph	1.9 [0.9 : 3]	2.7 [2.1 : 4.8]	10.6 [0.5 : 20.6]	3.8 [2 : 11.1]	4.9	5.2 [4.7 : 8.9]	2.9 [1.6 : 5.5]
Oesophagus	7.3 [3.2 : 11.2]	9.3 [7.1 : 16.1]	33.9 [1.8 : 66]	12.2 [6.4 : 35.6]	16.2	17.1 [15.5 : 29.3]	9.3 [5.8 : 18.4]
Thyroid	0.7 [0.3 : 1.1]	0.6 [0.5 : 1.1]	1.7 [0.1 : 3.3]	0.5 [0.3 : 1.5]	0.6	0.6 [0.5 : 1]	0.6 [0.3 : 1.2]
Liver	3 [1.5 : 4.8]	5.4 [4.1 : 9.4]	21.3 [1.1 : 41.6]	7.8 [4 : 22.6]	10.3	11.1 [10.1 : 18.9]	4.8 [2.5 : 11.6]
Stomach	1.5 [0.7 : 2.3]	2 [1.6 : 3.4]	6.5 [0.3 : 12.6]	2 [1 : 5.7]	2.1	2.3 [2.1 : 3.9]	2 [0.9 : 3.3]
n	18	3	2	11	1	4	39

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	40.5 [5.6 : 75.4]	0.2 [0.1 : 0.8]	0.3 [0.1 : 0.4]	0.5 [0.3 : 1]	0.5 [0.3 : 1.2]	0.2 [0.1 : 0.6]	0.5 [0.2 : 1]
Bone marrow	16.5 [2.3 : 30.8]	0.1 [0 : 0.3]	0.1 [0.1 : 0.2]	0.4 [0.2 : 0.7]	0.4 [0.2 : 0.9]	0.2 [0.1 : 0.5]	0.3 [0.1 : 0.7]
Breasts	109.8 [15.2 : 204.4]	0.5 [0.3 : 2.2]	0.9 [0.4 : 1.3]	1.5 [0.6 : 2.9]	1 [0.7 : 2.5]	0.5 [0.2 : 1.3]	1.1 [0.5 : 2.7]
Heart	122.2 [16.9 : 227.4]	0.5 [0.3 : 2.2]	0.7 [0.4 : 1.1]	1.5 [0.7 : 2.8]	1.3 [0.9 : 3.4]	0.7 [0.2 : 1.7]	1.2 [0.6 : 2.7]
Lungs	117.4 [16.3 : 218.6]	0.5 [0.4 : 2.4]	0.8 [0.4 : 1.1]	1.9 [0.8 : 3.3]	1.6 [1.1 : 4.2]	0.8 [0.3 : 2.1]	1.4 [0.7 : 3.3]
Lymph	25 [3.5 : 46.5]	0.1 [0.1 : 0.5]	0.1 [0.1 : 0.2]	0.3 [0.1 : 0.6]	0.3 [0.2 : 0.7]	0.1 [0 : 0.3]	0.3 [0.1 : 0.6]
Oesophagus	89.9 [12.4 : 167.3]	0.4 [0.3 : 1.8]	0.5 [0.3 : 0.8]	1.2 [0.5 : 2]	1 [0.7 : 2.6]	0.5 [0.2 : 1.3]	0.9 [0.5 : 2.1]
Thyroid	9 [1.2 : 16.7]	0 [0 : 0.1]	0 [0 : 0]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0]	0 [0 : 0.1]
Liver	29.4 [4.1 : 54.8]	0.2 [0.1 : 0.8]	0.2 [0.1 : 0.3]	0.4 [0.2 : 0.8]	0.4 [0.3 : 1]	0.2 [0.1 : 0.5]	0.4 [0.2 : 0.8]
Stomach	16.6 [2.3 : 30.8]	0.1 [0 : 0.3]	0.1 [0 : 0.1]	0.1 [0.1 : 0.3]	0.1 [0.1 : 0.3]	0.1 [0 : 0.1]	0.1 [0.1 : 0.2]
n	2	7	21	81	27	7	145

<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		2.2 [1.4 : 6.2]	16.2 [6.2 : 22.8]	9.3 [3.9 : 17.8]		23.5 [0.8 : 46.3]	2.8 [1.4 : 9.3]
Bone marrow		0.8 [0.5 : 2.3]	5.9 [2.4 : 9.5]	5.3 [2.3 : 10.3]		18.8 [0.6 : 37]	1.3 [0.6 : 5.3]
Breasts		5.6 [3.9 : 16.9]	50 [19.8 : 75.4]	28.6 [11.8 : 54.2]		54 [1.7 : 106.3]	8.1 [3.9 : 28.6]
Heart		5.6 [3.5 : 15.9]	40.9 [15.7 : 56.3]	23.1 [9.7 : 44.2]		60.1 [2 : 118.2]	7.3 [3.6 : 23.1]
Lungs		6.6 [4 : 18.7]	47 [18 : 64.2]	28.2 [11.9 : 54.3]		81.5 [2.7 : 160.3]	8.6 [4.3 : 28.2]
Lymph		1.3 [0.8 : 3.6]	8.8 [3.3 : 11.6]	4.7 [2 : 9]		12.8 [0.4 : 25.3]	1.5 [0.8 : 4.7]
Oesophagus		4.8 [2.8 : 13.4]	32 [11.9 : 40]	15.8 [6.7 : 30.4]		45.9 [1.5 : 90.4]	5.3 [2.9 : 15.8]
Thyroid		0.3 [0.2 : 0.8]	1.6 [0.6 : 1.9]	0.6 [0.2 : 1.1]		1.3 [0 : 2.5]	0.4 [0.2 : 0.8]
Liver		2.2 [1.2 : 6]	13.5 [5.1 : 17.7]	6.8 [2.8 : 13]		18.2 [0.6 : 35.7]	2.3 [1.2 : 6.8]
Stomach		0.9 [0.5 : 2.4]	5.1 [1.9 : 6.4]	2.1 [0.9 : 3.9]		4.4 [0.1 : 8.7]	0.9 [0.5 : 2.1]
n		7	3	7	0	2	30

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0.1 : 0.3]	0.1 [0 : 0.2]	0 [0 : 0.1]	0.1 [0 : 0.2]
Bone marrow	0	0 [0 : 0]	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0 : 0.2]	0 [0 : 0.1]	0.1 [0 : 0.1]
Breasts	0	0.3 [0.1 : 0.4]	0.4 [0.2 : 0.8]	0.3 [0.1 : 0.9]	0.3 [0.1 : 0.5]	0.1 [0 : 0.3]	0.3 [0.1 : 0.6]
Heart	0	0.3 [0.1 : 0.3]	0.3 [0.1 : 0.6]	0.4 [0.2 : 0.8]	0.4 [0.1 : 0.7]	0.1 [0 : 0.3]	0.3 [0.1 : 0.6]
Lungs	0	0.3 [0.1 : 0.4]	0.4 [0.1 : 0.6]	0.4 [0.2 : 0.9]	0.5 [0.1 : 0.8]	0.2 [0 : 0.4]	0.4 [0.1 : 0.7]
Lymph	0	0.1 [0 : 0.1]	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0 : 0.1]	0 [0 : 0.1]	0.1 [0 : 0.1]
Oesophagus	0	0.2 [0.1 : 0.3]	0.3 [0.1 : 0.4]	0.3 [0.1 : 0.5]	0.3 [0.1 : 0.5]	0.1 [0 : 0.3]	0.2 [0.1 : 0.4]
Thyroid	0	0 [0 : 0]	0 [0 : 0]	0 [0 : 0]	0 [0 : 0]	0 [0 : 0]	0 [0 : 0]
Liver	0	0.1 [0 : 0.1]	0.1 [0 : 0.2]	0.1 [0 : 0.2]	0.1 [0 : 0.2]	0 [0 : 0.1]	0.1 [0 : 0.2]
Stomach	0	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0]	0 [0 : 0.1]
n	1	3	10	18	9	6	47

<b>Atrial septostomy</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.3 [0 : 1.1]	2 [1.3 : 5.4]					0.9 [0 : 2]
Bone marrow	0.1 [0 : 0.5]	0.8 [0.5 : 2.2]					0.4 [0 : 0.8]
Breasts	0.7 [0 : 2.4]	4.5 [2.9 : 11.9]					1.9 [0 : 4.5]
Heart	0.9 [0 : 2.9]	4.7 [3 : 12.4]					2.3 [0 : 4.7]
Lungs	1.1 [0 : 3.5]	6.4 [4.2 : 17]					2.8 [0 : 6.4]
Lymph	0.2 [0 : 0.7]	1.3 [0.8 : 3.5]					0.6 [0 : 1.3]
Oesophagus	0.8 [0 : 2.8]	4.4 [2.8 : 11.7]					2.3 [0 : 4.4]
Thyroid	0.1 [0 : 0.3]	0.3 [0.2 : 0.9]					0.2 [0 : 0.3]
Liver	0.3 [0 : 1.2]	2.5 [1.6 : 6.7]					0.9 [0 : 2.5]
Stomach	0.2 [0 : 0.6]	1 [0.6 : 2.6]					0.5 [0 : 1]
n	15	3	0	0	0	0	18

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<b>Other</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2 [1 : 3.1]	1.4 [0.8 : 2.4]	1.1 [0.7 : 2.6]	0.6 [0.1 : 3.9]	0.2 [0 : 1.2]	1.2 [0 : 2.6]	1.3 [0.7 : 2.6]
Bone marrow	0.8 [0.4 : 1.2]	0.5 [0.3 : 0.9]	0.4 [0.3 : 1.1]	0.3 [0.1 : 2.4]	0.1 [0 : 0.8]	0.8 [0 : 1.8]	0.6 [0.3 : 1.1]
Breasts	5 [2.6 : 7.9]	3.5 [2 : 6.3]	3.1 [1.9 : 7.3]	1.6 [0.4 : 10.4]	0.4 [0.1 : 3]	3 [0 : 6.5]	3.4 [1.9 : 7.1]
Heart	4.8 [2.3 : 7.5]	3.1 [1.7 : 5.4]	2.4 [1.6 : 5.7]	1.2 [0.3 : 8.2]	0.3 [0.1 : 2.5]	2.4 [0 : 5.2]	3.1 [1.6 : 6.1]
Lungs	5.7 [3 : 9.1]	4.1 [2.3 : 7.2]	3.2 [2.1 : 7.7]	1.8 [0.4 : 12.7]	0.6 [0.2 : 4.1]	3.9 [0 : 8.4]	4.1 [2.1 : 7.8]
Lymph	1.2 [0.6 : 1.9]	0.8 [0.5 : 1.5]	0.6 [0.4 : 1.5]	0.3 [0.1 : 2.1]	0.1 [0 : 0.6]	0.6 [0 : 1.3]	0.8 [0.4 : 1.6]
Oesophagus	4.5 [2.1 : 7]	2.8 [1.5 : 4.8]	1.9 [1.3 : 4.7]	0.9 [0.2 : 6.6]	0.3 [0.1 : 2.1]	2.1 [0 : 4.4]	2.8 [1.4 : 5.3]
Thyroid	0.4 [0.2 : 0.6]	0.2 [0.1 : 0.4]	0.1 [0.1 : 0.3]	0 [0 : 0.3]	0 [0 : 0.1]	0.1 [0 : 0.1]	0.2 [0.1 : 0.4]
Liver	1.7 [0.9 : 3]	1.4 [0.8 : 2.5]	1 [0.7 : 2.5]	0.5 [0.1 : 3.6]	0.2 [0 : 1.2]	1.1 [0 : 2.5]	1.3 [0.7 : 2.6]
Stomach	1 [0.5 : 1.6]	0.7 [0.4 : 1.2]	0.4 [0.3 : 1.1]	0.2 [0.1 : 1.2]	0 [0 : 0.3]	0.3 [0 : 0.7]	0.6 [0.3 : 1.2]
n	38	47	15	10	6	9	125

<b>Interventional</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2 [1 : 3]	1 [0.7 : 2]	1.1 [0.4 : 1.9]	0.4 [0.3 : 1.8]	0.4 [0.2 : 0.7]	0.9 [0.4 : 1.6]	1 [0.4 : 1.9]
Bone marrow	0.7 [0.3 : 1]	0.4 [0.3 : 0.8]	0.5 [0.2 : 0.8]	0.3 [0.2 : 1.1]	0.3 [0.1 : 0.6]	0.7 [0.3 : 1.3]	0.5 [0.3 : 1.1]
Breasts	5.5 [2.7 : 8.2]	2.8 [2.1 : 5.3]	3.1 [0.7 : 5.4]	1.1 [0.5 : 5.3]	0.9 [0.4 : 1.6]	2.1 [0.8 : 3.6]	2.7 [1 : 5.4]
Heart	5 [2.4 : 7.5]	2.3 [1.7 : 4.5]	2.5 [1 : 4.2]	1 [0.7 : 3.9]	1.2 [0.5 : 2.1]	2.3 [1 : 4.4]	2.4 [1.2 : 4.5]
Lungs	5.8 [2.7 : 8.4]	3.1 [2 : 6]	3.4 [1.5 : 5.7]	1.4 [0.9 : 5.6]	1.5 [0.6 : 2.6]	3 [1.2 : 5.5]	3.2 [1.6 : 5.9]
Lymph	1.2 [0.6 : 1.8]	0.6 [0.4 : 1.2]	0.7 [0.3 : 1.1]	0.2 [0.2 : 0.9]	0.2 [0.1 : 0.4]	0.5 [0.2 : 0.9]	0.6 [0.3 : 1.1]
Oesophagus	4.6 [2.1 : 6.6]	2.1 [1.5 : 4]	2.2 [0.9 : 3.5]	0.8 [0.5 : 3]	0.9 [0.4 : 1.6]	1.8 [0.8 : 3.4]	2.1 [1 : 3.8]
Thyroid	0.4 [0.2 : 0.6]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.2]	0 [0 : 0.1]	0 [0 : 0.1]	0.1 [0 : 0.1]	0.1 [0 : 0.2]
Liver	2 [1 : 2.9]	1.1 [0.8 : 2.1]	1.1 [0.3 : 1.9]	0.3 [0.2 : 1.7]	0.3 [0.1 : 0.6]	0.8 [0.3 : 1.4]	1.1 [0.4 : 1.8]
Stomach	1 [0.5 : 1.5]	0.5 [0.4 : 1]	0.6 [0.2 : 0.8]	0.2 [0.1 : 0.6]	0.1 [0 : 0.2]	0.2 [0.1 : 0.4]	0.4 [0.2 : 0.8]
n	18	15	11	7	8	26	85

<b>Diagnostic</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	2.2 [1.3 : 3]	1.4 [0.8 : 3]	1.7 [1.3 : 3.4]	2 [1.1 : 5.1]	1.1 [0.5 : 2.1]	1.1 [1 : 1.7]	1.7 [1 : 3]
Bone marrow	0.9 [0.5 : 1.1]	0.5 [0.3 : 1.1]	0.8 [0.5 : 1.4]	1.1 [0.7 : 2.9]	0.8 [0.3 : 1.5]	0.8 [0.8 : 1.3]	0.8 [0.5 : 1.3]
Breasts	5.9 [3.5 : 7.6]	3.7 [2 : 7.9]	5.2 [3.8 : 9.2]	5.8 [3.1 : 14.4]	2.8 [1.2 : 5.4]	2.8 [2.4 : 4.3]	4.7 [2.7 : 7.8]
Heart	5.7 [3.3 : 6.9]	3.2 [1.7 : 6.6]	3.8 [3.1 : 7.6]	4.9 [2.3 : 10.6]	2.2 [1 : 4.1]	2.7 [2.2 : 4]	4 [2.2 : 6.7]
Lungs	6.6 [4 : 8.7]	4.3 [2.3 : 8.9]	5.1 [3.8 : 10.4]	6.3 [3.7 : 16.1]	3.7 [1.6 : 6.9]	3.7 [3.6 : 5.5]	5.3 [3.2 : 8.9]
Lymph	1.3 [0.8 : 1.8]	0.9 [0.5 : 1.8]	0.9 [0.7 : 1.9]	1 [0.6 : 2.6]	0.6 [0.3 : 1.1]	0.6 [0.6 : 0.9]	1 [0.6 : 1.8]
Oesophagus	5 [3 : 6.3]	2.9 [1.6 : 5.9]	2.9 [2.6 : 6.2]	3.5 [1.9 : 8.2]	1.9 [0.8 : 3.5]	2 [1.8 : 3.1]	3.3 [1.9 : 6.1]
Thyroid	0.5 [0.3 : 0.5]	0.2 [0.1 : 0.4]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]	0.1 [0 : 0.1]	0.1 [0.1 : 0.1]	0.2 [0.1 : 0.5]
Liver	2 [1.2 : 2.8]	1.5 [0.8 : 3.1]	1.6 [1.2 : 2.9]	1.8 [1 : 4.6]	1 [0.5 : 2]	1 [0.8 : 1.6]	1.6 [1 : 2.9]
Stomach	1.1 [0.6 : 1.5]	0.7 [0.4 : 1.4]	0.7 [0.5 : 1.1]	0.6 [0.3 : 1.5]	0.3 [0.1 : 0.5]	0.3 [0.2 : 0.4]	0.7 [0.4 : 1.3]
n	35	49	13	19	7	10	133

<b>ASD occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		0.6	0.4 [0.3 : 0.6]	0.2 [0.1 : 0.3]	0	0.2 [0.1 : 1.3]	0.3 [0.1 : 0.5]
Bone marrow		0.3	0.2 [0.2 : 0.3]	0.2 [0.1 : 0.3]	0	0.2 [0.1 : 1.3]	0.2 [0.1 : 0.3]
Breasts		1	0.7 [0.5 : 1]	0.4 [0.1 : 0.6]	0	0.3 [0.1 : 1.5]	0.5 [0.2 : 0.9]
Heart		1.2	0.9 [0.6 : 1.4]	0.6 [0.2 : 0.8]	0.1	0.5 [0.1 : 3]	0.7 [0.3 : 1.1]
Lungs		1.9	1.4 [0.9 : 2]	0.9 [0.3 : 1.3]	0.1	0.9 [0.2 : 4.8]	1 [0.5 : 1.7]
Lymph		0.4	0.3 [0.2 : 0.4]	0.2 [0 : 0.2]	0	0.1 [0 : 0.8]	0.2 [0.1 : 0.3]
Oesophagus		1.2	0.9 [0.6 : 1.3]	0.5 [0.2 : 0.7]	0.1	0.5 [0.1 : 3]	0.6 [0.3 : 1.1]
Thyroid		0.1	0 [0 : 0.1]	0 [0 : 0]	0	0 [0 : 0.1]	0 [0 : 0.1]
Liver		0.5	0.3 [0.2 : 0.5]	0.2 [0.1 : 0.3]	0	0.2 [0 : 0.9]	0.2 [0.1 : 0.4]
Stomach		0.3	0.2 [0.2 : 0.3]	0.1 [0 : 0.2]	0	0.1 [0 : 0.5]	0.2 [0.1 : 0.3]
n	0	1	5	3	1	3	13

<b>PDA occlusion</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	1.2 [1 : 2.7]	0.7 [0.6 : 0.9]				0.7	1 [0.7 : 1.4]
Bone marrow	0.4 [0.3 : 0.9]	0.2 [0.2 : 0.3]				0.4	0.3 [0.2 : 0.5]
Breasts	3.3 [2.7 : 7.6]	2 [1.7 : 2.5]				2.3	2.7 [2.1 : 4]
Heart	3 [2.5 : 6.9]	1.6 [1.4 : 2.1]				1.4	2.3 [1.6 : 3.6]
Lungs	3.2 [2.7 : 7.5]	1.9 [1.7 : 2.4]				2.2	2.7 [2 : 3.9]
Lymph	0.7 [0.6 : 1.6]	0.4 [0.3 : 0.5]				0.3	0.6 [0.4 : 0.9]
Oesophagus	2.6 [2.1 : 6]	1.4 [1.2 : 1.8]				1.1	2 [1.4 : 3.2]
Thyroid	0.2 [0.2 : 0.5]	0.1 [0.1 : 0.1]				0	0.2 [0.1 : 0.3]
Liver	1.2 [1 : 2.8]	0.8 [0.7 : 1]				0.8	1 [0.8 : 1.4]
Stomach	0.6 [0.5 : 1.4]	0.3 [0.3 : 0.4]				0.2	0.5 [0.3 : 0.7]
n	7	5	0	0	0	1	13

<b>EPS ± RFA</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	11.4			0.4	0.5 [0.3 : 0.8]	0.7 [0.3 : 1.5]	0.6 [0.3 : 1.4]
Bone marrow	4.6			0.2	0.4 [0.2 : 0.6]	0.6 [0.3 : 1.2]	0.5 [0.3 : 1.1]
Breasts	30.5			1.1	1 [0.7 : 1.7]	1.5 [0.7 : 3.2]	1.2 [0.8 : 3.1]
Heart	33.8			1	1.3 [0.9 : 2.3]	2 [0.9 : 4.2]	1.7 [1 : 4]
Lungs	33.3			1.2	1.6 [1.1 : 2.8]	2.4 [1.2 : 5.1]	2.1 [1.2 : 4.9]
Lymph	7.1			0.2	0.3 [0.2 : 0.5]	0.4 [0.2 : 0.9]	0.3 [0.2 : 0.8]
Oesophagus	25.6			0.7	1 [0.7 : 1.8]	1.5 [0.7 : 3.2]	1.3 [0.7 : 3.1]
Thyroid	2.4			0	0 [0 : 0.1]	0 [0 : 0.1]	0 [0 : 0.1]
Liver	8.9			0.3	0.4 [0.2 : 0.7]	0.6 [0.3 : 1.2]	0.5 [0.3 : 1.2]
Stomach	4.8			0.1	0.1 [0.1 : 0.2]	0.2 [0.1 : 0.3]	0.1 [0.1 : 0.3]
n	1	0	0	1	7	16	25

<b>Coronary angiography</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		2.2 [1.1 : 3.4]	2.5 [0.8 : 3.7]	6.8 [3.1 : 8.5]	44	1 [0.9 : 1.3]	1.8 [1.1 : 3.7]
Bone marrow		0.9 [0.4 : 1.3]	1 [0.3 : 1.5]	3.2 [1.7 : 6.1]	34.5	0.8 [0.7 : 1.1]	1.1 [0.6 : 1.5]
Breasts		5.8 [2.7 : 8.8]	7.9 [2.4 : 12.3]	20 [8.9 : 22.9]	98.7	2.4 [2.1 : 3.1]	4.6 [2.5 : 12.3]
Heart		5.7 [2.7 : 8.7]	6.3 [2 : 9.2]	16.3 [7.7 : 21.7]	113.8	2.7 [2.4 : 3.4]	4.5 [2.7 : 9.2]
Lungs		6.8 [3.2 : 10.4]	7.2 [2.3 : 10.5]	18.7 [9.4 : 28.9]	155.4	3.6 [3.3 : 4.6]	5.9 [3.6 : 10.5]
Lymph		1.3 [0.6 : 2]	1.3 [0.4 : 1.9]	3.2 [1.6 : 4.6]	24.4	0.6 [0.5 : 0.7]	0.9 [0.6 : 2]
Oesophagus		5 [2.4 : 7.6]	4.4 [1.6 : 6.5]	10.4 [5.2 : 16.1]	86.8	2 [1.8 : 2.6]	3.3 [2.2 : 7.2]
Thyroid		0.3 [0.2 : 0.5]	0.2 [0.1 : 0.3]	0.4 [0.2 : 0.5]	2.5	0.1 [0.1 : 0.1]	0.2 [0.1 : 0.4]
Liver		2.3 [1.1 : 3.4]	2 [0.7 : 2.9]	4.9 [2.3 : 6.2]	33	0.8 [0.7 : 1]	1.3 [0.9 : 3.2]
Stomach		0.9 [0.4 : 1.4]	0.7 [0.3 : 1]	1.6 [0.7 : 1.7]	8.4	0.2 [0.2 : 0.2]	0.5 [0.2 : 1.3]
n		2	4	3	1	4	16

<b>Pressure studies, PVR</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose	0.7	0.6 [0 : 1.2]	3.3	2.4 [2.3 : 2.4]	1.4	5.2	1.9 [0.9 : 2.8]
Bone marrow	0.3	0.2 [0 : 0.5]	1.3	1.1 [1.1 : 1.2]	0.9	3.7	1 [0.4 : 1.3]
Breasts	1.5	1.3 [0 : 2.7]	8.2	6.8 [6.5 : 7.1]	3.4	13	4.9 [2.1 : 7.7]
Heart	1.5	1.4 [0 : 2.8]	7	5 [4.9 : 5]	2.6	9.6	3.8 [2.1 : 6]
Lungs	2.1	1.9 [0 : 3.8]	10.3	7.3 [7.1 : 7.5]	4.9	17.5	6 [3 : 8.9]
Lymph	0.4	0.4 [0 : 0.8]	1.9	1.2 [1.2 : 1.2]	0.7	2.6	1 [0.6 : 1.6]
Oesophagus	1.4	1.3 [0 : 2.6]	6.3	3.9 [3.8 : 3.9]	2.3	8.5	3.2 [1.9 : 5.1]
Thyroid	0.1	0.1 [0 : 0.2]	0.4	0.2 [0.2 : 0.2]	0.1	0.3	0.2 [0.1 : 0.2]
Liver	0.8	0.8 [0 : 1.5]	3.8	2.5 [2.5 : 2.5]	1.5	5.6	2 [1.2 : 3.2]
Stomach	0.3	0.3 [0 : 0.6]	1.2	0.7 [0.7 : 0.7]	0.3	1.1	0.6 [0.3 : 0.9]
n	1	2	1	2	1	1	8

<b>Pacemaker studies</b>	<b>&lt;1 year</b>	<b>1-5 years</b>	<b>5-10 years</b>	<b>10-16 years</b>	<b>16-18 years</b>	<b>18-22 years</b>	<b>All</b>
Effective dose		0.1	0 [0 : 0.1]	0 [0 : 0.6]	0.1 [0 : 0.1]	1.1 [0.6 : 1.7]	0.1 [0 : 0.5]
Bone marrow		0.1	0 [0 : 0]	0 [0 : 0.4]	0.1 [0 : 0.1]	0.9 [0.5 : 1.4]	0 [0 : 0.4]
Breasts		0.4	0.1 [0 : 0.2]	0 [0 : 1.9]	0.1 [0.1 : 0.2]	2.5 [1.2 : 3.7]	0.2 [0 : 1]
Heart		0.4	0.1 [0 : 0.1]	0 [0 : 1.7]	0.2 [0.1 : 0.3]	3.2 [1.6 : 4.8]	0.1 [0 : 1.3]
Lungs		0.4	0.1 [0 : 0.2]	0 [0 : 1.9]	0.2 [0.1 : 0.3]	3.9 [1.9 : 5.9]	0.2 [0 : 1.5]
Lymph		0.1	0 [0 : 0]	0 [0 : 0.3]	0 [0 : 0.1]	0.7 [0.3 : 1]	0 [0 : 0.3]
Oesophagus		0.3	0.1 [0 : 0.1]	0 [0 : 1.2]	0.2 [0.1 : 0.2]	2.5 [1.2 : 3.7]	0.1 [0 : 1]
Thyroid		0	0 [0 : 0]	0 [0 : 0]	0 [0 : 0]	0.1 [0 : 0.1]	0 [0 : 0]
Liver		0.1	0 [0 : 0]	0 [0 : 0.5]	0.1 [0 : 0.1]	1 [0.5 : 1.4]	0 [0 : 0.4]
Stomach		0.1	0 [0 : 0]	0 [0 : 0.2]	0 [0 : 0]	0.3 [0.1 : 0.4]	0 [0 : 0.1]
n	0	1	2	4	2	2	11

Notes: Pulm = pulmonary, PA = pulmonary artery, COA = coarctation, EPS = electrophysiology studies, RFA = radiofrequency ablation.



## Appendix 4: MATLAB code for Cardiodose:

```
%This function provides dose estimates for cardiac catheterizations in an
input file. The input file matrix columns are:(1)Patient number, (2)Total
DAP in cGycm^2, (3)Rotational beam angle (around the patient), (4)Cranio-
caudal beam angle (angle in head to foot direction)(5)Patient mass (in kg),
(6)Beam quality (in half value layer of Al), (7)Examination type (see list
below), (8)Field size, (27) patient age.
```

```
%If beam angle isn't known, leave these columns blank. The function will
%set beam angle based on exam type. If the exam type isn't known, use type
%0 as exam type (non-specific cardiac catheterization) which assumes 60% of
total DAP in straight PA projection and 40% in straight lateral.
```

```
%Exam types: 1-ASD occlusion, 2-PDA occlusion, 3-Pulmonary valvuloplasty,
4-Aortic valvuloplasty, 5-Pulmonary artery angioplasty, 6-Coarctation
plasty, 7-EPS/RFA, 8-heart biopsy, 9-Coronaries, 10-PVR/pressures, 11-valve
replacement, 12-pacemaker insertion, 13-septostomy
```

```
%Beam quality is measured in half value layer of aluminium. Typical values
%for modern equipment are 4-7 mm (5.5 is a reasonable central figure)
```

```
%A field size of 0 is 'standard' and collimated to the heart. A field size
of 2 is a larger size that includes the pulmonary vessels.
```

```
function [Dosetable]=cardiodose6(cardiolist)
q=size(cardiolist); %number of entry rows in input data
rows=q(1);
projDose=zeros(rows,21); %pre-allocation of matrices (speeds function up)
examDose=zeros(rows,10);
Dose=zeros(1,11);
vq=zeros(6,1);
vqa=zeros(6,1);
HVLcf=zeros(6,1);
orgHVL=0;
orgAngle=0;
startLine=1; %first line of input data
```

```
t=0.2; %dose reduction factor for attenuation of table.
```

```
mass=[3.4,9.2,19,32.4,56.3,73.2]';%simulated mass levels (in kilograms).
agestrat=[0,1,5,10,15,30]'; %simulated age levels (in years).
```

```
load refStandard.mat %Reference data - dose as function of beam angle in
table form
load refPlus1.mat %Reference data for 1 cm larger fields
load refPlus2.mat %Reference data for 2 cm larger fields
load refBig.mat %Reference data for max size fields
load AllHVLpoly.mat %Polynomials to correct for beam quality:
```

```
for j=1:rows(1)%for loop to go from first to last row of input data
DAP=cardiolist(j,2); %Specified total dose area product
biDAP=[cardiolist(j,9),cardiolist(j,10)];
m=cardiolist(j,5); %Specified mass
hvl=cardiolist(j,6); %Specified beam quality in mm of Al
exam=cardiolist(j,7); %Examination type
a=cardiolist(j,27); %Patient age
```

```

dataset=cardiolist(j,28);
table=cardiolist(j,11);

%Picks the specified field size:
fieldSize=cardiolist(j,8); %Field size
fieldSizeNaN=isnan(cardiolist(j,8));
if fieldSize==0 || fieldSizeNaN==1
    ref=refStandard;
elseif fieldSize==1
    ref=refPlus1;
elseif fieldSize==2
    ref=refPlus2;
elseif fieldSize==3
    ref=refBig;
end

u=isnan(cardiolist(j,3))||isnan(cardiolist(j,4)); %Check to see if beam
angle is specified:
biplane=isnan(cardiolist(j,9))||isnan(cardiolist(j,10)); %check to see
if biplane DAP figures are quoted.

%If beam angles are specified, these are used in dose calculation,
%regardless of whether an exam type is specified
if u==0
    angles=[cardiolist(j,3),cardiolist(j,4),1,t];
end

% If the patient mass is over 80 kg, the patient is assigned a mass of 80
kg. This prevents doses going very low or even negative were mass is large.
if m>80;
    m=80;
end

%If no beam angles are specified in the input data, angles are
automatically assigned, based on exam
%type. These are assigned in the form of an n x 4 matrix. The first
%column is the rotational beam angle, the second is the cranio-caudal
%beam angle, the third column is the proportion of total DAP in that
%angle. The fourth column is a dose reduction factor that allows for
%correction for the beam passing through the x-ray table.

%***Negative cranio-caudal angles mean 'cranial angulation', i.e. the
%beam points towards the head. In PCXMC, this angulation is referred to
%as 'caudal x-ray tube'. Postive angles mean 'caudal angulation',
referred to as 'cranial x-ray tube' in PCXMC***

if u==1 && exam==0 && biplane==1 %Non-specified cardiac
catheterizations
    angles=[90,0,0.6,t; 180,0,0.4,0]; %Proportions based on
average values
elseif u==1 && exam==1 && biplane==1
    angles=[90,0,0.93,t; 180,0,0.07, 0]; %ASD occlusion
elseif u==1 && exam==2 && biplane==1
    angles=[90,0,0.3,t; 180,0,0.6,0; 60,0,0.1,t]; %PDA
occlusion
elseif u==1 && exam==2 && biplane==0
    angles=[90,0,0.75 ,t; 180,0,1,0; 60,0,0.25 ,t]; %PDA
occlusion with biplane info

```

```

        biDAP(3)=biDAP(1); %the dose applied in the third beam
angle comes from the PA tube
    elseif u==1 && exam==3 && biplane==1
        angles=[90,0,0.6,t; 180,0,0.4,0]; %PV plasty
    elseif u==1 && exam==4 && biplane==1
        angles=[90,0,0.6,t; 180,0,0.4,0]; %AV plasty
    elseif u==1 && exam==5 && biplane==1
        angles=[90,0,0.25,t; 180,0,0.4,0; 115,-25,0.25,1; 65,-
25,0.1,1]; %PA plasty. Angulation is cranial for the last 2 projection.
    elseif u==1 && exam==5 && biplane==0
        angles=[90,0,0.4,t; 180,0,1,0; 115,-25,0.4,1; 65,-
25,0.2,1]; %PA plasty with biplane info
        biDAP(3)=biDAP(1); % dose applied in the third beam angle
comes from the PA tube
        biDAP(4)=biDAP(1); % As above
    elseif u==1 && exam==6 && biplane==1 && dataset>2 && dataset<7
        angles=[90,0,0.6,t; 180,0,0.4,0]; %COA plasty
    elseif u==1 && exam==6 && biplane==1 && dataset<3 || dataset>6
        angles=[105,0,0.6,t; 180,0,0.4,0]; %COA plasty at GOSH
    elseif u==1 && exam==7 && biplane==1
        angles=[60,0,0.5,t; 130,0,0.5,t]; %EPS
    elseif u==1 && exam==7 && biplane==0
        angles=[60,0,1,t; 130,0,1,0]; %EPS with biplane info
    elseif u==1 && exam==8 && biplane==1
        angles=[90,0,0.89,t; 180,0,0.11,0]; %Biopsy
    elseif u==1 && exam==9
        angles=[125,0,0.2,t; 90,-30,0.2,t; 130,25,0.15,t;
60,0,0.15,t; 90,25,0.15,t; 55,-35,0.15,t]; %Coronary angiography
    elseif u==1 && exam==10 && biplane==1
        angles=[90,0,0.75,t; 180,0,0.25,0]; %PVR study
    elseif u==1 && exam==11 && biplane==1
        angles=[90,0,0.65,t; 180,0,0.35,0]; %Valve replacement
    elseif u==1 && exam==12 && biplane==1
        angles=[90,0,1,t]; %Pacemaker insertion
    elseif u==1 && exam==13 && biplane==1
        angles=[90,0,0.75,t; 180,0,0.25,0]; %septostomy

    elseif u==1 && (exam~=9 && exam~=2 && exam~=5) && biplane==0
        angles=[90,0,1,t; 180,0,1,0];
end

    if isnan(m)==0 %define which way of describing patient size (either age
or mass)
        sizestrat=mass;
    elseif isnan(m)==1
        sizestrat=agestrat;
        m=a;
    end

    proj=size(angles); %number of rows in angle matrix

    for k=1:proj(1)

        if biplane==0 && (exam==0 || exam==1 || exam==2 || exam==3 ||
exam==4 || exam==5 || exam==6 || exam==7 || exam==8 || exam==10 || exam==11
|| exam==12 || exam==13);
            DAP=biDAP(k); % uses biplane DAP figures for PA and lateral
projections if given.
        end
    end

```

```

        xy=angles(k,1); %Picks rotational beam angle from angle matrix
        xy2=(xy/5)+1; %rotational beam angle (in degrees) fitted to
corresponding column of data
        z=angles(k,2); %Picks cranio-caudal beam angle from angle
matrix
        zz=(z+60)/5; %cranio-caudal angle(in degrees) fitted to
corresponding row of data

%Calculates organ doses (E, ABM, breasts, heart, lungs, lymph, oesophagus,
%;thyroid, liver, stomach, mean whole body dose):

        for organ=1:11
            s=0;
            for n=1:6
                HVLcf(n)=polyval(AllHVLpoly( round(zz*72-
71)+s+round(xy2-1),1+orgHVL:5+orgHVL),hvl);
                s=s+1656;
            end
%Linear interpolation of specified angle from simulation data:
            r=0;
            for age=1:6
                f=ref(1+r+orgAngle:23+r+orgAngle,1:72);
                vq(age)=interp2(1:72,1:23,f,xy2,zz);
                r=r+23;
            end
            for n=1:6
                vqa(n,1)=vq(n)*HVLcf(n); %applies HVL correction for
each age
            end
%Interpolates between different simulated phantoms to give dose at
specified mass
            sizeFit=fit(sizestrat,vqa,'linearinterp');
            Dose(organ)=sizeFit(m);
            orgHVL=orgHVL+5;
            orgAngle=orgAngle+138;
        end

        orgAngle=0; %Resets table index points ready for the next examination
        orgHVL=0;

%Sets the proportion of DAP from each beam angle. If biplane figures are
used, then the proportions are as given.
        if biplane==1
            prop=angles(k,3);
        elseif biplane==0 && (exam==0 || exam==1 || exam==3 || exam==4
|| exam==6 || exam==7 || exam==8 || exam==10 || exam==11 || exam==12 ||
exam==13);
            prop=1;
        elseif biplane==0 && (exam==2 ||exam==9 || exam==5)
            prop=angles(k,3);
        end

%Takes the dose per unit DAP for each organ and multiplies it by the DAP
(given in cGycm^2. if DAP is in Gycm^2, remove the /100 term)
        projDose(k,1:11)=Dose*((DAP/100)*prop);
        %Applies dose reduction factor (e.g. due to table)
        DoseReducFac=angles(k,4)*table;
        projDose(k,1:11)=projDose(k,1:11)-
DoseReducFac*projDose(k,1:11);

```

```

end

%Sums together doses from each projection in the examination:
for n=1:11
    examDose(startLine,n)=sum(projDose(1:k,n));
end

%Resets doses ready for the next examination:
projDose=0;
startLine=startLine+1;

end
Dosetable=examDose;
%final table - the new data are added to the original input table as extra
%columns. Automatically saves this as an Excel file, saved in MATLAB
folder.
xlswrite('cardiolist.xlsx', examDose, 'Sheet2', 'L2');

```

Example of input file for cardiodose (the central columns in which calculated organ doses are added have been omitted):

ID	P <sub>Ka</sub>	Rot beam angle	CC beam angle	MASS	HVL	Exam	Field size	PA DAP	LAT DAP	Table	m/f	Cat	Type	Multi	Age
1	100			19.0	5.5	1	2	95	5	1	0	1	1	0	5
2	150	90	0	32	5.4		1			0	0				
3	700				5.0	0	2			1	1	0	0	0	15

Appendix 5: Overall upper and lower dose uncertainties, based on combination of uncertainties due to field size, beam energy and projection angles.

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	19%	24%	41%	34%	17%	17%	18%	20%	32%	22%	17%
	Lower	-18%	-24%	-35%	-20%	-16%	-17%	-19%	-21%	-32%	-27%	-17%
1-5 y (9.2-19 kg)	Upper	21%	22%	42%	30%	17%	19%	23%	25%	40%	24%	17%
	Lower	-20%	-22%	-40%	-24%	-17%	-19%	-20%	-25%	-28%	-26%	-17%
5-10 y (19-32.4)	Upper	25%	23%	59%	41%	18%	20%	24%	24%	44%	27%	19%
	Lower	-22%	-22%	-47%	-24%	-18%	-20%	-21%	-24%	-34%	-31%	-18%
10-15 y (32.4-56.3 kg)	Upper	26%	26%	64%	37%	19%	21%	24%	27%	49%	31%	19%
	Lower	-23%	-26%	-56%	-24%	-19%	-21%	-22%	-27%	-37%	-35%	-19%
15-18 y (>56.3 kg)	Upper	24%	28%	66%	42%	20%	22%	28%	31%	58%	37%	20%
	Lower	-24%	-26%	-63%	-26%	-22%	-23%	-25%	-33%	-47%	-42%	-19%
>18 y (>70 kg)	Upper	25%	28%	70%	41%	21%	23%	28%	30%	61%	40%	20%
	Lower	-24%	-26%	-65%	-26%	-22%	-23%	-28%	-32%	-42%	-47%	-19%

ASD occlusion

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	21%	36%	46%	34%	16%	18%	21%	21%	24%	20%	17%
	Lower	-28%	-31%	-72%	-27%	-16%	-18%	-20%	-24%	-35%	-28%	-17%
1-5 y (9.2-19 kg)	Upper	24%	32%	49%	31%	17%	20%	23%	24%	32%	23%	18%
	Lower	-32%	-28%	-76%	-34%	-18%	-22%	-24%	-28%	-38%	-28%	-18%
5-10 y (19-32.4)	Upper	30%	32%	62%	39%	19%	21%	23%	26%	34%	25%	18%
	Lower	-38%	-28%	-78%	-34%	-22%	-24%	-24%	-33%	-44%	-31%	-19%
10-15 y (32.4-56.3 kg)	Upper	32%	39%	66%	35%	20%	22%	27%	26%	34%	29%	20%
	Lower	-40%	-33%	-83%	-32%	-24%	-25%	-28%	-35%	-45%	-35%	-20%
15-18 y (>56.3 kg)	Upper	28%	41%	64%	40%	23%	24%	28%	31%	37%	34%	20%
	Lower	-36%	-34%	-89%	-34%	-35%	-29%	-31%	-49%	-56%	-45%	-21%
>18 y (>70 kg)	Upper	28%	42%	68%	40%	24%	25%	31%	34%	38%	39%	20%
	Lower	-37%	-35%	-92%	-30%	-37%	-28%	-36%	-53%	-54%	-50%	-21%

PDA occlusion

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	22%	23%	46%	34%	17%	18%	19%	20%	26%	20%	17%
	Lower	-19%	-35%	-29%	-19%	-16%	-18%	-23%	-22%	-30%	-24%	-17%
1-5 y (9.2-19 kg)	Upper	24%	22%	44%	29%	19%	19%	23%	24%	32%	23%	18%
	Lower	-20%	-30%	-26%	-22%	-17%	-20%	-22%	-28%	-25%	-26%	-18%
5-10 y (19-32.4)	Upper	31%	22%	58%	42%	21%	22%	25%	25%	33%	24%	19%
	Lower	-22%	-29%	-29%	-24%	-19%	-22%	-24%	-29%	-31%	-29%	-19%
10-15 y (32.4-56.3 kg)	Upper	30%	24%	55%	38%	19%	23%	24%	25%	35%	27%	19%
	Lower	-23%	-34%	-31%	-25%	-20%	-24%	-28%	-32%	-35%	-36%	-20%
15-18 y (>56.3 kg)	Upper	23%	26%	45%	46%	21%	25%	29%	30%	38%	34%	20%
	Lower	-26%	-35%	-35%	-30%	-26%	-27%	-31%	-43%	-47%	-45%	-21%
>18 y (>70 kg)	Upper	24%	26%	45%	45%	21%	25%	29%	28%	39%	37%	20%
	Lower	-25%	-36%	-33%	-31%	-24%	-28%	-36%	-43%	-41%	-52%	-21%

Pulmonary valvuloplasty

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	18%	29%	29%	21%	17%	17%	18%	21%	27%	20%	17%
	Lower	-18%	-29%	-37%	-21%	-17%	-18%	-18%	-22%	-27%	-20%	-17%
1-5 y (9.2-19 kg)	Upper	20%	25%	36%	25%	17%	19%	21%	23%	34%	23%	18%
	Lower	-21%	-26%	-48%	-26%	-17%	-20%	-22%	-28%	-35%	-25%	-18%
5-10 y (19-32.4)	Upper	22%	25%	45%	23%	17%	20%	21%	26%	36%	26%	18%
	Lower	-23%	-26%	-61%	-25%	-18%	-22%	-23%	-30%	-37%	-30%	-19%
10-15 y (32.4-56.3 kg)	Upper	24%	30%	53%	22%	18%	21%	23%	26%	36%	30%	20%
	Lower	-25%	-31%	-73%	-25%	-19%	-24%	-27%	-32%	-38%	-34%	-21%
15-18 y (>56.3 kg)	Upper	24%	30%	61%	23%	20%	22%	26%	31%	40%	36%	19%
	Lower	-26%	-32%	-85%	-29%	-21%	-27%	-32%	-43%	-43%	-43%	-21%
>18 y (>70 kg)	Upper	25%	31%	65%	24%	20%	24%	31%	28%	40%	42%	20%
	Lower	-27%	-33%	-89%	-29%	-22%	-28%	-37%	-42%	-43%	-48%	-22%

Aortic valvuloplasty

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	18%	26%	32%	21%	17%	17%	18%	21%	29%	20%	17%
	Lower	-18%	-29%	-34%	-20%	-17%	-18%	-18%	-22%	-27%	-20%	-17%
1-5 y (9.2-19 kg)	Upper	21%	24%	41%	26%	17%	19%	21%	24%	38%	22%	18%
	Lower	-20%	-27%	-44%	-26%	-17%	-20%	-22%	-28%	-34%	-25%	-18%
5-10 y (19-32.4)	Upper	22%	24%	52%	23%	18%	20%	21%	27%	40%	26%	18%
	Lower	-22%	-27%	-56%	-25%	-18%	-22%	-23%	-30%	-37%	-30%	-19%
10-15 y (32.4-56.3 kg)	Upper	25%	28%	64%	23%	18%	21%	23%	26%	40%	28%	19%
	Lower	-25%	-32%	-70%	-25%	-19%	-24%	-27%	-32%	-38%	-34%	-21%
15-18 y (>56.3 kg)	Upper	25%	28%	76%	23%	20%	22%	26%	32%	45%	34%	19%
	Lower	-26%	-32%	-82%	-29%	-21%	-27%	-32%	-42%	-43%	-44%	-21%
>18 y (>70 kg)	Upper	26%	29%	81%	24%	20%	23%	30%	28%	45%	38%	20%
	Lower	-27%	-34%	-87%	-30%	-22%	-29%	-37%	-42%	-43%	-48%	-22%

Pulmonary artery ballooning/stenting

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	23%	32%	61%	37%	17%	24%	22%	20%	30%	74%	18%
	Lower	-22%	-24%	-67%	-25%	-18%	-18%	-22%	-25%	-40%	-31%	-17%
1-5 y (9.2-19 kg)	Upper	25%	27%	60%	34%	19%	26%	24%	24%	23%	64%	18%
	Lower	-26%	-23%	-72%	-31%	-19%	-21%	-24%	-32%	-30%	-33%	-18%
5-10 y (19-32.4)	Upper	33%	29%	73%	45%	20%	26%	26%	26%	26%	71%	19%
	Lower	-30%	-24%	-76%	-32%	-21%	-24%	-24%	-34%	-37%	-35%	-19%
10-15 y (32.4-56.3 kg)	Upper	33%	38%	76%	40%	20%	25%	24%	27%	34%	91%	20%
	Lower	-32%	-27%	-82%	-32%	-22%	-25%	-28%	-38%	-46%	-40%	-20%
15-18 y (>56.3 kg)	Upper	25%	32%	67%	46%	21%	26%	28%	31%	53%	104%	20%
	Lower	-31%	-28%	-80%	-39%	-29%	-30%	-30%	-52%	-57%	-50%	-21%
>18 y (>70 kg)	Upper	26%	38%	72%	43%	24%	27%	30%	31%	34%	118%	20%
	Lower	-28%	-29%	-83%	-33%	-26%	-28%	-33%	-48%	-51%	-52%	-21%



Coarctation ballooning/stenting

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	18%	31%	32%	22%	17%	17%	18%	21%	30%	20%	17%
	Lower	-18%	-32%	-39%	-22%	-17%	-18%	-18%	-22%	-29%	-20%	-17%
1-5 y (9.2-19 kg)	Upper	21%	27%	40%	27%	17%	19%	21%	24%	38%	23%	18%
	Lower	-21%	-28%	-50%	-27%	-17%	-20%	-23%	-28%	-37%	-26%	-18%
5-10 y (19-32.4)	Upper	23%	27%	50%	24%	18%	20%	21%	27%	40%	27%	18%
	Lower	-23%	-28%	-63%	-25%	-18%	-22%	-23%	-31%	-40%	-31%	-19%
10-15 y (32.4-56.3 kg)	Upper	26%	32%	59%	23%	18%	21%	23%	26%	40%	31%	20%
	Lower	-26%	-34%	-75%	-26%	-19%	-24%	-27%	-32%	-40%	-36%	-21%
15-18 y (>56.3 kg)	Upper	25%	33%	69%	24%	20%	22%	27%	32%	44%	38%	20%
	Lower	-27%	-35%	-87%	-29%	-21%	-27%	-32%	-43%	-46%	-46%	-21%
>18 y (>70 kg)	Upper	26%	34%	72%	25%	20%	24%	33%	28%	44%	46%	20%
	Lower	-28%	-36%	-92%	-30%	-22%	-29%	-39%	-42%	-46%	-52%	-22%

EPS/ablation

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	21%	26%	108%	22%	18%	21%	21%	25%	84%	37%	18%
	Lower	-16%	-21%	-19%	-33%	-22%	-18%	-16%	-17%	-16%	-41%	-15%
1-5 y (9.2-19 kg)	Upper	21%	25%	23%	25%	19%	24%	24%	30%	125%	33%	20%
	Lower	-17%	-18%	-22%	-30%	-19%	-20%	-19%	-18%	-17%	-54%	-15%
5-10 y (19-32.4)	Upper	23%	30%	28%	28%	21%	27%	29%	37%	142%	39%	23%
	Lower	-18%	-19%	-19%	-40%	-23%	-24%	-22%	-22%	-16%	-58%	-15%
10-15 y (32.4-56.3 kg)	Upper	23%	34%	27%	29%	23%	29%	32%	38%	187%	39%	24%
	Lower	-17%	-20%	-30%	-39%	-22%	-24%	-20%	-18%	-16%	-64%	-15%
15-18 y (>56.3 kg)	Upper	26%	31%	24%	32%	25%	30%	34%	48%	222%	43%	24%
	Lower	-18%	-20%	-20%	-43%	-24%	-25%	-20%	-24%	-16%	-69%	-15%
>18 y (>70 kg)	Upper	26%	33%	23%	33%	26%	31%	35%	41%	285%	41%	25%
	Lower	-17%	-22%	-18%	-45%	-22%	-26%	-20%	-21%	-16%	-74%	-15%

## Heart biopsy

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	34%	22%	125%	33%	17%	20%	22%	28%	49%	23%	18%
	Lower	-17%	-42%	-40%	-17%	-15%	-15%	-19%	-16%	-20%	-15%	-16%
1-5 y (9.2-19 kg)	Upper	41%	23%	134%	44%	21%	25%	29%	31%	76%	27%	20%
	Lower	-19%	-35%	-43%	-19%	-15%	-16%	-16%	-16%	-27%	-17%	-15%
5-10 y (19-32.4)	Upper	58%	26%	179%	38%	29%	29%	30%	41%	83%	32%	23%
	Lower	-22%	-35%	-56%	-17%	-16%	-16%	-16%	-17%	-28%	-20%	-16%
10-15 y (32.4-56.3 kg)	Upper	69%	28%	244%	34%	29%	29%	32%	41%	79%	35%	24%
	Lower	-25%	-42%	-76%	-17%	-16%	-16%	-19%	-17%	-27%	-25%	-18%
15-18 y (>56.3 kg)	Upper	52%	29%	263%	35%	44%	32%	34%	57%	92%	39%	24%
	Lower	-21%	-43%	-81%	-16%	-19%	-16%	-22%	-21%	-31%	-30%	-16%
>18 y (>70 kg)	Upper	56%	29%	305%	33%	48%	31%	36%	60%	97%	40%	25%
	Lower	-22%	-44%	-94%	-18%	-20%	-16%	-31%	-22%	-32%	-42%	-17%

## Coronary angiography

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	18%	20%	43%	22%	21%	20%	19%	28%	45%	42%	17%
	Lower	-17%	-19%	-26%	-30%	-20%	-21%	-20%	-25%	-23%	-38%	-16%
1-5 y (9.2-19 kg)	Upper	18%	20%	60%	27%	20%	20%	22%	29%	42%	32%	17%
	Lower	-19%	-20%	-26%	-31%	-20%	-22%	-25%	-30%	-27%	-36%	-18%
5-10 y (19-32.4)	Upper	20%	19%	63%	28%	24%	22%	23%	32%	49%	35%	18%
	Lower	-21%	-21%	-32%	-38%	-23%	-25%	-27%	-32%	-29%	-38%	-19%
10-15 y (32.4-56.3 kg)	Upper	20%	21%	47%	32%	26%	22%	25%	34%	58%	42%	19%
	Lower	-21%	-23%	-32%	-38%	-26%	-27%	-30%	-37%	-35%	-45%	-20%
15-18 y (>56.3 kg)	Upper	22%	21%	35%	32%	28%	24%	26%	41%	74%	51%	19%
	Lower	-25%	-24%	-28%	-43%	-32%	-30%	-33%	-47%	-40%	-53%	-21%
>18 y (>70 kg)	Upper	21%	22%	29%	33%	28%	24%	27%	44%	68%	49%	19%
	Lower	-25%	-25%	-28%	-43%	-31%	-30%	-34%	-48%	-40%	-55%	-21%

PVR and pressures

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<b>&lt;1 y (&lt;9.2 kg)</b>	<b>Upper</b>	19%	23%	52%	28%	16%	17%	18%	22%	46%	19%	17%
	<b>Lower</b>	-18%	-40%	-28%	-20%	-18%	-18%	-18%	-21%	-26%	-21%	-18%
<b>1-5 y (9.2-19 kg)</b>	<b>Upper</b>	26%	22%	74%	38%	17%	20%	24%	25%	65%	22%	18%
	<b>Lower</b>	-20%	-34%	-36%	-25%	-17%	-20%	-22%	-28%	-34%	-27%	-18%
<b>5-10 y (19-32.4)</b>	<b>Upper</b>	29%	22%	102%	28%	18%	20%	21%	31%	70%	25%	18%
	<b>Lower</b>	-22%	-34%	-48%	-24%	-18%	-22%	-23%	-30%	-37%	-35%	-20%
<b>10-15 y (32.4-56.3 kg)</b>	<b>Upper</b>	36%	25%	135%	25%	18%	21%	23%	29%	68%	27%	19%
	<b>Lower</b>	-24%	-41%	-62%	-25%	-19%	-24%	-27%	-32%	-37%	-41%	-23%
<b>15-18 y (&gt;56.3 kg)</b>	<b>Upper</b>	33%	25%	171%	24%	20%	22%	25%	37%	79%	31%	19%
	<b>Lower</b>	-26%	-42%	-78%	-28%	-21%	-27%	-35%	-42%	-44%	-52%	-22%
<b>&gt;18 y (&gt;70 kg)</b>	<b>Upper</b>	35%	26%	187%	24%	20%	23%	28%	29%	78%	33%	20%
	<b>Lower</b>	-26%	-44%	-84%	-31%	-22%	-30%	-44%	-42%	-43%	-60%	-23%

Valve insertion

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<b>&lt;1 y (&lt;9.2 kg)</b>	<b>Upper</b>	17%	23%	27%	20%	16%	17%	18%	20%	25%	19%	17%
	<b>Lower</b>	-17%	-26%	-36%	-19%	-16%	-18%	-18%	-21%	-22%	-20%	-17%
<b>1-5 y (9.2-19 kg)</b>	<b>Upper</b>	20%	22%	32%	24%	17%	19%	20%	23%	31%	22%	17%
	<b>Lower</b>	-19%	-25%	-46%	-23%	-17%	-20%	-22%	-28%	-27%	-25%	-18%
<b>5-10 y (19-32.4)</b>	<b>Upper</b>	21%	22%	39%	22%	17%	20%	21%	26%	33%	24%	18%
	<b>Lower</b>	-21%	-25%	-57%	-24%	-18%	-22%	-23%	-29%	-30%	-29%	-19%
<b>10-15 y (32.4-56.3 kg)</b>	<b>Upper</b>	23%	25%	46%	22%	18%	21%	23%	26%	33%	27%	19%
	<b>Lower</b>	-22%	-29%	-69%	-25%	-19%	-24%	-27%	-32%	-31%	-33%	-21%
<b>15-18 y (&gt;56.3 kg)</b>	<b>Upper</b>	23%	25%	53%	23%	20%	22%	25%	30%	37%	31%	19%
	<b>Lower</b>	-24%	-30%	-79%	-28%	-21%	-27%	-31%	-42%	-36%	-42%	-21%
<b>&gt;18 y (&gt;70 kg)</b>	<b>Upper</b>	24%	26%	55%	24%	20%	23%	28%	28%	36%	34%	19%
	<b>Lower</b>	-25%	-31%	-83%	-29%	-22%	-28%	-36%	-42%	-35%	-46%	-22%

Pacemaker studies

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	20%	19%	31%	20%	17%	20%	21%	25%	33%	32%	18%
	Lower	-15%	-16%	-15%	-26%	-15%	-15%	-16%	-16%	-15%	-15%	-15%
1-5 y (9.2-19 kg)	Upper	21%	21%	31%	23%	19%	23%	24%	30%	26%	30%	20%
	Lower	-15%	-16%	-15%	-22%	-15%	-15%	-18%	-16%	-15%	-16%	-15%
5-10 y (19-32.4)	Upper	24%	24%	21%	28%	23%	27%	29%	35%	37%	37%	23%
	Lower	-15%	-16%	-15%	-28%	-15%	-15%	-17%	-16%	-15%	-16%	-15%
10-15 y (32.4-56.3 kg)	Upper	26%	26%	44%	29%	27%	29%	32%	37%	41%	39%	24%
	Lower	-15%	-18%	-15%	-26%	-15%	-16%	-20%	-16%	-16%	-16%	-16%
15-18 y (>56.3 kg)	Upper	31%	26%	68%	32%	39%	32%	34%	46%	59%	48%	24%
	Lower	-15%	-20%	-15%	-28%	-15%	-16%	-18%	-17%	-16%	-17%	-16%
>18 y (>70 kg)	Upper	32%	27%	87%	33%	41%	32%	35%	56%	52%	47%	25%
	Lower	-15%	-19%	-15%	-27%	-15%	-16%	-17%	-17%	-16%	-17%	-16%

Atrial septostomy

Patient age (mass)	Limit	Effective dose	ABM	Breasts	Heart	Lungs	Lymph	Oesophagus	Thyroid	Liver	Stomach	Average dose
<1 y (<9.2 kg)	Upper	18%	30%	36%	23%	17%	17%	18%	21%	33%	20%	17%
	Lower	-18%	-31%	-35%	-22%	-17%	-18%	-18%	-22%	-32%	-20%	-17%
1-5 y (9.2-19 kg)	Upper	22%	26%	48%	29%	17%	19%	22%	24%	44%	23%	18%
	Lower	-22%	-28%	-46%	-29%	-17%	-20%	-23%	-28%	-42%	-26%	-18%
5-10 y (19-32.4)	Upper	24%	26%	63%	24%	18%	20%	21%	28%	47%	27%	19%
	Lower	-24%	-28%	-60%	-26%	-18%	-22%	-23%	-31%	-45%	-31%	-19%
10-15 y (32.4-56.3 kg)	Upper	28%	31%	80%	23%	18%	21%	23%	27%	46%	31%	20%
	Lower	-28%	-34%	-75%	-26%	-19%	-24%	-27%	-33%	-45%	-36%	-21%
15-18 y (>56.3 kg)	Upper	27%	31%	96%	24%	20%	22%	27%	33%	52%	37%	20%
	Lower	-28%	-35%	-91%	-29%	-21%	-27%	-33%	-44%	-52%	-46%	-22%
>18 y (>70 kg)	Upper	28%	32%	103%	25%	20%	24%	32%	28%	52%	43%	20%
	Lower	-29%	-36%	-97%	-30%	-22%	-29%	-39%	-42%	-52%	-50%	-22%