

Table S1 Assessment of objective image quality

Anatomical region	Noncontrast phase				Arterial phase				Venous phase			
	Group 1	Group 2	P value	Effect size	Group 1	Group 2	P value	Effect size	Group 1	Group 2	P value	Effect size
Aortic arch												
SNR	6.67 (5.49, 8.09)	4.89 (3.78, 6.15)	<0.001 [†]	1.062	32.63 (27.58, 39.01)	18.71 (15.42, 24.46)	<0.001 [†]	1.809	NA	NA	NA	NA
CNR	151.14 (128.94, 176.96)	127.50 (102.60, 149.21)	<0.001 [†]	0.997	142.17 (129.65, 158.66)	90.14 (75.34, 111.48)	<0.001 [†]	1.843	NA	NA	NA	NA
FOM	3440.99 (2261.37, 5302.40)	1468.43 (925.07, 2140.70)	<0.001 [†]	1.82	3008.42 (2456.46, 4121.40)	730.62 (525.48, 1196.58)	<0.001 [†]	2.606	NA	NA	NA	NA
Erector spinae (aortic arch)												
SNR	6.25 (5.25, 7.71)	4.75 (3.41, 6.15)	<0.001 [†]	0.884	5.98±1.44	3.58±1.81	<0.001 [†]	1.468	NA	NA	NA	NA
CNR	150.68 (128.11, 176.54)	126.19 (102.03, 149.18)	<0.001 [†]	0.958	116.33 (104.38, 132.36)	71.68 (63.05, 92.30)	<0.001 [†]	1.89	NA	NA	NA	NA
FOM	3479.36 (2257.37, 5334.93)	1449.72 (918.66, 2119.10)	<0.001 [†]	1.801	1984.46 (1616.06, 2647.54)	488.27 (370.53, 777.29)	<0.001 [†]	2.558	NA	NA	NA	NA
Liver												
SNR	6.73 (5.55, 8.00)	6.20 (5.19, 7.63)	0.087	0.266	7.56 (6.00, 8.66)	6.90 (5.59, 8.27)	1 [†]	0.306	10.58 (9.43, 13.05)	10.10 (8.34, 12.01)	1 [†]	0.319
CNR	16.32 (13.62, 19.47)	16.90 (13.59, 19.88)	0.966	0.007	16.90±4.27	17.60±5.04	0.612	0.15	19.05 (16.91, 23.28)	18.58 (15.84, 22.26)	0.266	0.172
FOM	39.75 (27.81, 60.72)	25.35 (16.98, 37.10)	<0.001 [†]	0.87	41.69 (29.63, 56.75)	25.94 (17.45, 40.68)	<0.001 [†]	0.771	70.66 (52.81, 105.16)	44.02 (32.38, 67.26)	<0.001 [†]	0.867
Descending aorta												
SNR	4.35 (3.63, 5.31)	4.20 (3.56, 5.25)	0.564	0.089	28.27 (23.59, 33.68)	27.13 (21.13, 32.04)	0.166	0.215	15.24 (12.94, 19.31)	13.69 (11.59, 17.15)	1 [†]	0.381
CNR	13.79 (11.80, 17.09)	14.89 (11.91, 17.12)	0.534	0.096	38.13±9.36	38.28±11.88	0.596	0.014	23.44 (20.46, 29.33)	22.50 (19.73, 26.99)	0.097	0.257
FOM	28.01 (20.09, 45.08)	19.66 (12.90, 28.55)	<0.001 [†]	0.773	198.62 (153.72, 290.94)	126.37 (80.57, 169.61)	<0.001 [†]	0.945	114.24 (80.29, 177.02)	67.37 (49.47, 98.80)	<0.001 [†]	0.93
Erector spinae (porta hepatis)												
SNR	5.55 (4.65, 6.50)	5.44 (4.50, 6.21)	0.457	0.115	5.63 (4.56, 7.05)	5.63 (4.76, 7.00)	0.770	0.045	5.92 (5.10, 7.18)	5.62 (4.65, 6.98)	0.141	0.228
CNR	14.90 (13.18, 18.45)	16.25 (12.96, 18.13)	0.622	0.076	15.08±3.78	16.39±4.73	<0.001 [†]	0.305	14.34 (12.74, 17.21)	14.09 (12.13, 17.10)	0.607	0.079
FOM	33.85 (24.29, 53.80)	23.47 (15.55, 32.42)	<0.001 [†]	0.838	30.02 (22.66, 45.64)	23.35 (14.74, 34.37)	0.001 [†]	0.623	41.25 (29.22, 59.50)	26.77 (19.06, 39.13)	<0.001 [†]	0.827
Gluteus maximus												
SNR	5.03±1.44	4.73±1.23	0.143	0.227	NA	NA	NA	NA	5.25 (4.55, 5.92)	4.30 (3.65, 5.25)	<0.001 [†]	0.76
CNR	13.59 (11.33, 16.25)	14.11 (12.00, 16.28)	0.299	0.16	NA	NA	NA	NA	13.03 (11.55, 15.82)	12.33 (10.23, 14.45)	1 [†]	0.388
FOM	26.80 (18.58, 39.85)	18.13 (13.51, 23.39)	<0.001 [†]	0.803	NA	NA	NA	NA	33.36 (26.01, 48.47)	19.74 (14.62, 26.61)	<0.001 [†]	1.271
Bladder												
SNR	0.76±0.94	0.91±0.98	0.300	0.146	NA	NA	NA	NA	NA	NA	NA	NA
CNR	9.25 (7.92, 10.85)	10.36 (8.95, 12.31)	0.504 [†]	0.433	NA	NA	NA	NA	NA	NA	NA	NA
FOM	12.88 (9.09, 16.94)	9.76 (6.98, 13.47)	0.046 [†]	0.553	NA	NA	NA	NA	NA	NA	NA	NA
Iliac muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	6.29 (5.59, 7.33)	5.85 (5.10, 6.87)	0.595 [†]	0.421
CNR	NA	NA	NA	NA	NA	NA	NA	NA	14.41 (12.62, 16.35)	13.15 (11.21, 16.08)	1 [†]	0.338
FOM	NA	NA	NA	NA	NA	NA	NA	NA	40.19 (29.51, 51.46)	22.42 (17.38, 33.44)	<0.001 [†]	1.124
Obturator muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	4.72 (4.12, 5.65)	4.50 (3.98, 5.18)	0.142	0.26
CNR	NA	NA	NA	NA	NA	NA	NA	NA	13.37±3.47	13.05±3.14	0.536	0.095
FOM	NA	NA	NA	NA	NA	NA	NA	NA	32.57 (23.83, 48.83)	21.70 (15.77, 31.62)	<0.001 [†]	0.857

Normally distributed data are presented as mean ± standard deviation and compared using Student's *t*-test; non-normally distributed data are presented as median (interquartile range) and compared using Mann-Whitney test. [†], adjusted P value. CNR, contrast-to-noise ratio; FOM, figure of merit; NA, not applicable; SNR, signal-to-noise ratio.

Table S2 Subgroup analysis of subjective image quality, noise, scan time, and radiation metrics in Group 1 and Group 2

Characteristics	Group 1 (n=84)			Group 2 (n=85)			Group 1 vs. Group 2 (adjusted for confounding factors)		
	Subgroup 1 (n=40)	Subgroup 2 (n=44)	P value	Subgroup 3 (n=57)	Subgroup 4 (n=28)	P value	Subgroup 1 (n=40)	Subgroup 3 (n=57)	P value
Male/female	24/16	25/19	0.768	29/28	20/8	0.072	24/16	29/28	0.374
Age (years)	62.5±10.5	63.1±10.5	0.806	61.6±9.6	63.5±8.4	0.343	62.5±10.5	61.6±9.6	0.647
Height (cm)	1.60±0.08	1.59±0.08	0.560	1.59±0.07	1.61±0.07	0.267	1.60±0.08	1.59±0.07	0.670
Weight (kg)	54.74±7.75	53.55±7.88	0.486	55.26±6.17	55.96±8.22	0.691	54.74±7.75	55.26±6.17	0.724
Body mass index (kg/m²)	21.49±2.45	21.29±2.57	0.726	21.92±2.21	21.61±2.34	0.556	21.49±2.45	21.92±2.21	0.370
Assessment of subjective image quality									
Motion artifacts									
Lung	5 (5, 5)	5 (5, 5)	0.570	5 (5, 5)	5 (5, 5)	>0.999	5 (5, 5)	5 (5, 5)	0.059
Mediastinum	5 (5, 5)	5 (5, 5)	0.315	4 (3, 4)	4 (3, 4)	0.895	5 (5, 5)	4 (3, 4)	<0.001 [†]
Abdomen	5 (5, 5)	4.5 (5, 5)	0.139	5 (4, 5)	5 (4, 5)	0.719	5 (5, 5)	5 (4, 5)	>0.999 [†]
Pelvis	5 (5, 5)	5 (5, 5)	0.627	5 (5, 5)	5 (5, 5)	0.684	5 (5, 5)	5 (5, 5)	0.794
Overall image quality	4 (5, 5)	4 (4, 5)	0.115	4 (4, 4)	4 (4, 5)	0.316	5 (4, 5)	4 (4, 4)	0.054
Image noise	4 (5, 5)	4 (5, 5)	0.597	5 (4, 5)	5 (4, 5)	0.472	5 (4, 5)	5 (4, 5)	0.441
Organ enhancement	5 (5, 5)	5 (5, 5)	0.609	5 (5, 5)	5 (5, 5)	0.472	5 (5, 5)	5 (5, 5)	0.729
Lesion conspicuity	5 (5, 5)	5 (5, 5)	0.841	5 (5, 5)	5 (5, 5)	0.440	5 (5, 5)	5 (5, 5)	0.145
Assessment of noise, scan time, and radiation metrics									
Noncontrast phase									
Chest noise (HU)	6.75±1.74	6.93±2.11	0.666	8.53±2.27	8.86±2.43	0.549	6.75±1.74	8.53±2.27	0.002 [†]
Abdominal noise (HU)	9.98±2.90	9.50±2.18	0.403	9.89±2.43	9.61±2.20	0.587	9.98±2.90	9.89±2.43	0.887
Pelvic noise (HU)	10.95±2.70	10.23±2.35	0.196	10.02±2.20	10.43±2.25	0.429	10.95±2.70	10.02±2.20	0.075
Scan time (s)	1.75±0.09	1.74±0.09	0.442	9.41±0.43	9.39±0.41	0.782	1.75±0.09	9.41±0.43	<0.001 [†]
CTDI _{vol} (mGy)	6.69 (6.27, 7.10)	6.56±0.52	0.444	10.89 (10.00, 11.47)	10.53 (9.54, 12.33)	0.594	6.69 (6.27, 7.10)	10.89 (10.00, 11.47)	<0.001 [†]
DLP (mGy·cm)	458.89±51.59	451.56±47.05	0.500	735.53±92.98	703.7 (637.75, 814.00)	0.993	458.89±51.59	735.53±92.98	<0.001 [†]
ED (mSv)	6.88±0.77	6.77±0.71	0.500	11.03±1.39	10.56 (9.57, 12.21)	0.993	6.88±0.77	11.03±1.39	<0.001 [†]
Arterial phase									
Chest noise (HU)	8.80±1.54	9.00±1.64	0.566	14.12±3.75	12.96±3.84	0.194	8.80±1.54	14.12±3.75	<0.001 [†]
Abdominal noise (HU)	9.98±2.11	10.50±2.91	0.343	10.02±2.74	9.82±2.23	0.725	9.98±2.11	10.02±2.74	0.931
Scan time (s)	1.75±0.09	1.74±0.09	0.442	9.41±0.43	9.39±0.41	0.782	1.75±0.09	9.41±0.43	<0.001 [†]
CTDI _{vol} (mGy)	6.68 (6.27, 7.10)	6.55±0.52	0.465	10.83 (10.00, 11.43)	10.59 (9.51, 12.32)	0.677	6.68 (6.27, 7.10)	10.83 (10.00, 11.43)	<0.001 [†]
DLP (mGy·cm)	456.24±51.51	456.65 (413.10, 489.80)	0.522	728.65±98.70	701.60 (637.10, 812.30)	0.963	456.24±51.51	728.65±98.70	<0.001 [†]
ED (mSv)	6.84±0.77	6.85 (6.20, 7.35)	0.522	10.93±1.48	10.52 (9.56, 12.18)	0.963	6.84±0.77	10.93±1.48	<0.001 [†]
Venous phase									
Abdominal noise (HU)	10.38±2.63	10.18±1.96	0.706	11.05±2.67	10.89±2.10	0.764	10.38±2.63	11.05±2.67	0.218
Pelvic noise (HU)	10.68±2.42	10.89±2.41	0.690	12.05±2.70	11.82±2.23	0.677	10.68±2.42	12.05±2.70	0.571 [†]
Scan time (s)	1.35±0.09	1.35 (1.28, 1.38)	0.964	7.03±0.44	6.97±0.56	0.618	1.35±0.09	7.03±0.44	<0.001 [†]
CTDI _{vol} (mGy)	6.55 (6.15, 7.11)	6.46±0.56	0.465	9.77 (9.04, 10.70)	9.47 (8.64, 11.44)	0.812	6.55 (6.15, 7.11)	9.77 (9.04, 10.70)	<0.001 [†]
DLP (mGy·cm)	346.73±55.93	340.12±43.24	0.549	495.36±80.62	505.56±102.90	0.648	346.73±55.93	495.36±80.62	<0.001 [†]
ED (mSv)	5.20±0.84	5.10±0.65	0.549	7.43±1.21	7.58±1.54	0.648	5.20±0.84	7.43±1.21	<0.001 [†]
Overall									
DLP (mGy·cm)	1626.67±204.68	1597.52±186.35	0.498	2477.37±341.34	2516.32±447.70	0.687	1626.67±204.68	2477.37±341.34	<0.001 [†]
ED (mSv)	24.40±3.07	23.96±2.80	0.498	37.16±5.12	37.74±6.72	0.687	24.40±3.07	37.16±5.12	<0.001 [†]

Normally distributed data are presented as mean ± standard deviation and compared using Student's *t*-test; non-normally distributed data are presented as median (interquartile range) and compared using Mann-Whitney test. Group 1, high-pitch examination; Group 2, standard-pitch examination. Subgroup 1, Group 1 without confounders; Subgroup 2, Group 1 with confounders; Subgroup 3, Group 2 without confounders; Subgroup 4, Group 2 with confounders. [†], adjusted P value. HU, Hounsfield unit; CTDI_{vol}, computed tomography dose index volume; DLP, dose-length product; ED, effective dose; mGy, milligray; mSv, millisievert.

Table S3 Subgroup analysis of SNR, CNR, and FOM in Group 1

Anatomical region	Noncontrast phase				Arterial phase				Venous phase			
	Subgroup 1 (n=40)	Subgroup 2 (n=44)	P value	Effect size	Subgroup 1 (n=40)	Subgroup 2 (n=44)	P value	Effect size	Subgroup 1 (n=40)	Subgroup 2 (n=44)	P value	Effect size
Aortic arch												
SNR	6.83 (5.77, 7.85)	6.55 (5.35, 8.46)	0.622	0.108	32.63 (27.67, 36.71)	32.54 (26.89, 40.34)	0.946	0.015	NA	NA	NA	NA
CNR	152.64 (131.94, 176.58)	150.71 (117.89, 209.50)	0.563	0.126	143.28 (138.33, 158.56)	139.60 (128.05, 158.56)	0.471	0.158	NA	NA	NA	NA
FOM	3352.22 (2551.45, 4461.98)	3491.71 (2009.32, 6269.66)	0.629	0.106	3067.50 (2581.02, 4110.26)	3008.42 (2368.86, 4098.28)	0.667	0.094	NA	NA	NA	NA
Erector spinae (aortic arch)												
SNR	6.13 (5.09, 7.22)	6.36 (5.31, 8.59)	0.366	0.198	5.94 (5.06, 6.65)	5.89 (5.25, 6.88)	0.510	0.144	NA	NA	NA	NA
CNR	151.25 (131.03, 175.75)	150.25 (118.17, 210.30)	0.837	0.045	117.36 (109.03, 131.88)	115.14 (104.18, 133.09)	0.594	0.116	NA	NA	NA	NA
FOM	3407.41 (2471.15, 4442.34)	3479.36 (2001.47, 6336.97)	0.734	0.074	2028.98 (1674.29, 2640.59)	1960.34 (1510.86, 2775.13)	0.573	0.123	NA	NA	NA	NA
Liver												
SNR	6.51 (5.29, 8.13)	6.83 (5.61, 8.00)	0.320	0.218	7.56 (6.12, 8.85)	7.58 (5.96, 8.65)	0.840	0.044	10.10 (9.23, 12.81)	10.76 (9.77, 13.04)	0.395	0.186
CNR	16.28 (13.48, 19.31)	16.32 (14.09, 19.44)	0.993	0.002	17.36±4.43	16.48±4.13	0.354	0.204	19.00 (16.50, 23.56)	19.24 (17.17, 22.49)	0.854	0.040
FOM	38.76 (24.66, 57.76)	40.40 (29.60, 61.45)	0.747	0.070	42.30 (29.21, 56.51)	40.99 (30.04, 55.81)	0.929	0.020	70.17 (50.33, 105.08)	70.66 (55.80, 105.06)	0.830	0.047
Descending aorta												
SNR	4.29 (3.54, 5.44)	4.47 (3.66, 5.00)	0.717	0.079	27.79 (23.58, 34.03)	28.95 (23.63, 33.53)	0.861	0.038	15.15 (12.33, 19.29)	16.57 (13.60, 19.39)	0.463	0.161
CNR	14.48 (11.94, 17.17)	13.67 (11.86, 16.67)	0.648	0.100	37.69 (31.77, 43.71)	37.60 (32.02, 43.89)	0.939	0.017	23.44 (19.58, 29.67)	23.55 (21.58, 28.89)	0.730	0.075
FOM	28.95 (19.36, 47.01)	28.01 (20.84, 44.50)	0.986	0.004	194.88 (155.80, 273.57)	210.42 (153.29, 298.34)	0.837	0.045	109.68 (66.37, 175.08)	118.92 (82.39, 173.97)	0.616	0.110
Erector spinae (porta hepatis)												
SNR	5.43 (4.59, 6.50)	5.56 (4.79, 6.58)	0.645	0.101	5.63 (4.58, 7.07)	5.67 (4.54, 6.81)	0.591	0.117	5.72 (4.94, 7.54)	6.15 (5.39, 6.94)	0.579	0.121
CNR	15.86 (13.02, 18.34)	14.69 (13.23, 18.38)	0.799	0.056	14.71 (12.16, 18.22)	14.03 (12.04, 17.43)	0.482	0.154	14.34 (12.80, 17.97)	14.38 (12.68, 16.71)	0.954	0.013
FOM	35.71 (23.86, 54.79)	33.44 (25.03, 51.37)	0.907	0.025	30.40 (21.96, 47.76)	29.26 (24.76, 44.86)	0.674	0.092	40.80 (29.17, 62.32)	41.25 (29.26, 58.75)	0.964	0.010
Gluteus maximus												
SNR	4.96±1.57	5.10±1.34	0.661	0.096	NA	NA	NA	NA	5.40 (4.61, 5.94)	5.11 (4.54, 5.89)	0.513	0.143
CNR	13.72±3.53	14.22±3.59	0.516	0.142	NA	NA	NA	NA	13.65 (12.16, 16.14)	12.73 (11.20, 15.06)	0.227	0.266
FOM	25.67 (19.04, 38.26)	28.48 (18.64, 42.31)	0.629	0.106	NA	NA	NA	NA	37.04 (27.32, 51.67)	31.97 (24.37, 47.31)	0.375	0.194
Bladder												
SNR	0.69±0.97	0.81±0.92	0.552	0.131	NA	NA	NA	NA	NA	NA	NA	NA
CNR	9.45±2.50	9.94±2.58	0.379	0.193	NA	NA	NA	NA	NA	NA	NA	NA
FOM	12.17 (8.96, 16.63)	12.99 (9.33, 18.12)	0.410	0.181	NA	NA	NA	NA	NA	NA	NA	NA
Iliac muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	6.25 (5.56, 7.16)	6.33 (5.67, 7.50)	0.585	0.119
CNR	NA	NA	NA	NA	NA	NA	NA	NA	14.41 (12.42, 16.20)	14.35 (12.69, 16.30)	0.971	0.008
FOM	NA	NA	NA	NA	NA	NA	NA	NA	40.12 (30.08, 49.97)	40.19 (29.58, 52.03)	0.802	0.055
Obturator muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	4.73 (4.11, 5.64)	4.65 (4.11, 5.64)	0.690	0.087
CNR	NA	NA	NA	NA	NA	NA	NA	NA	13.02 (11.63, 15.09)	12.26 (10.98, 15.46)	0.433	0.172
FOM	NA	NA	NA	NA	NA	NA	NA	NA	33.98 (25.91, 49.12)	31.09 (23.15, 48.57)	0.415	0.179

Normally distributed data are presented as mean ± standard deviation and compared using Student’s *t*-test; non-normally distributed data are presented as median (interquartile range) and compared using Mann-Whitney test. Group 1, high-pitch examination; Subgroup 1, Group 1 without confounders; Subgroup 2, Group 1 with confounders. [†], adjusted P value. CNR, contrast-to-noise ratio; FOM, figure of merit; NA, not applicable; SNR, signal-to-noise ratio.

Table S4 Subgroup analysis of SNR, CNR, and FOM in Group 2

Anatomical region	Noncontrast phase				Arterial phase				Venous phase			
	Subgroup 3 (n=57)	Subgroup 4 (n=28)	P value	Effect size	Subgroup 3 (n=57)	Subgroup 4 (n=28)	P value	Effect size	Subgroup 3 (n=57)	Subgroup 4 (n=28)	P value	Effect size
Aortic arch												
SNR	4.90 (4.13, 6.00)	4.60 (3.55, 6.71)	0.674	0.091	18.64 (14.94, 23.14)	18.98 (16.41, 26.38)	0.203	0.279	NA	NA	NA	NA
CNR	117.11 (104.50, 149.43)	127.88 (93.55, 148.43)	0.486	0.152	88.93 (73.53, 109.00)	99.13 (77.47, 114.86)	0.224	0.266	NA	NA	NA	NA
FOM	1455.37 (976.85, 2218.18)	1578.31 (824.14, 1909.94)	0.432	0.171	714.33 (508.42, 1110.79)	754.93 (616.22, 1301.15)	0.181	0.293	NA	NA	NA	NA
Erector spinae (aortic arch)												
SNR	4.88 (4.00, 6.08)	4.46 (3.25, 6.06)	0.438	0.169	3.13 (2.57, 3.79)	3.40 (2.75, 4.15)	0.222	0.267	NA	NA	NA	NA
CNR	117.11 (104.60, 148.64)	128.16 (93.34, 148.68)	0.432	0.171	71.46 (62.69, 89.05)	82.90 (64.22, 93.82)	0.289	0.232	NA	NA	NA	NA
FOM	1437.29 (987.56, 2256.26)	1537.93 (823.90, 1963.57)	0.438	0.169	464.27 (357.03, 691.82)	527.42 (408.34, 862.86)	0.210	0.274	NA	NA	NA	NA
Liver												
SNR	6.51±1.72	6.58±1.94	0.874	0.037	7.00 (5.45, 8.38)	6.76 (5.68, 7.79)	0.885	0.031	10.40 (7.87, 12.33)	9.81 (8.55, 10.80)	0.578	0.121
CNR	16.90 (13.83, 20.00)	16.70 (13.52, 19.54)	0.948	0.014	16.90 (13.82, 21.63)	16.58 (14.21, 20.38)	>0.999	0	19.54±5.27	19.02±4.68	0.646	0.107
FOM	24.80 (15.87, 39.85)	25.51 (17.75, 31.72)	0.911	0.024	26.40 (17.50, 41.92)	25.61 (18.22, 36.90)	0.881	0.032	45.47 (30.72, 67.52)	41.51 (34.27, 59.17)	0.674	0.091
Descending aorta												
SNR	4.20 (3.71, 5.22)	4.06 (3.41, 5.34)	0.914	0.023	27.33 (21.00, 31.25)	25.52 (21.44, 34.00)	0.743	0.071	14.46±4.17	14.70±3.35	0.780	0.065
CNR	14.89 (11.75, 16.88)	14.85 (12.09, 17.31)	0.914	0.023	37.56 (29.82, 43.63)	35.24 (30.00, 46.19)	0.844	0.043	23.45±6.20	23.43±5.20	0.985	0.004
FOM	19.49 (12.51, 28.36)	19.84 (14.66, 26.09)	0.963	0.010	133.72 (81.56, 169.29)	120.79 (83.67, 173.85)	0.985	0.004	71.15 (45.23, 101.01)	66.35 (52.34, 85.10)	0.993	0.002
Erector spinae (porta hepatis)												
SNR	5.39 (4.55, 6.00)	5.68 (4.38, 7.15)	0.607	0.112	5.70 (4.80, 6.94)	5.59 (4.76, 7.22)	0.786	0.059	5.55 (4.75, 7.15)	5.91 (4.54, 6.68)	0.826	0.048
CNR	16.00 (12.96, 17.81)	16.26 (12.93, 19.38)	0.848	0.042	15.70 (12.77, 19.44)	15.33 (13.16, 19.69)	0.815	0.051	13.96 (12.40, 17.00)	14.27 (11.79, 16.85)	0.970	0.008
FOM	23.47 (14.65, 32.40)	23.38 (16.29, 31.15)	0.911	0.024	24.06 (14.96, 34.93)	23.26 (14.74, 32.63)	0.993	0.002	26.79 (19.33, 40.60)	26.17 (18.65, 36.17)	0.736	0.073
Gluteus maximus												
SNR	4.61 (3.88, 5.28)	4.28 (3.89, 5.32)	0.790	0.058	NA	NA	NA	NA	4.44±1.20	4.51±0.98	0.799	0.059
CNR	14.11 (12.77, 16.22)	13.14 (11.57, 16.33)	0.421	0.175	NA	NA	NA	NA	12.47±3.02	12.50±2.72	0.967	0.009
FOM	18.94 (14.39, 23.22)	14.77 (12.11, 24.39)	0.326	0.214	NA	NA	NA	NA	20.16 (14.19, 27.14)	19.46 (16.70, 24.59)	0.911	0.024
Bladder												
SNR	0.88±0.91	0.97±1.14	0.707	0.087	NA	NA	NA	NA	NA	NA	NA	NA
CNR	10.60 (9.20, 12.25)	10.13 (8.56, 12.17)	0.553	0.129	NA	NA	NA	NA	NA	NA	NA	NA
FOM	10.23 (7.89, 12.98)	8.20 (6.30, 14.04)	0.416	0.177	NA	NA	NA	NA	NA	NA	NA	NA
Iliac muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	6.06±1.30	5.71±1.12	0.204	0.297
CNR	NA	NA	NA	NA	NA	NA	NA	NA	14.00±3.16	13.07±2.83	0.175	0.317
FOM	NA	NA	NA	NA	NA	NA	NA	NA	23.98 (18.51, 37.78)	21.07 (16.73, 27.98)	0.153	0.314
Obturator muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	4.78±1.10	4.40±0.93	0.103	0.381
CNR	NA	NA	NA	NA	NA	NA	NA	NA	13.24±3.27	12.67±2.87	0.421	0.187
FOM	NA	NA	NA	NA	NA	NA	NA	NA	22.61 (15.67, 32.59)	21.38 (16.51, 27.43)	0.374	0.194

Normally distributed data are presented as mean ± standard deviation and compared using Student’s *t*-test; non-normally distributed data are presented as median (interquartile range) and compared using Mann-Whitney test. Group 2, standard-pitch examination; Subgroup 3, Group 2 without confounders; Subgroup 4, Group 2 with confounders. [†], adjusted P value. CNR, contrast-to-noise ratio; FOM, figure of merit; NA, not applicable; SNR, signal-to-noise ratio.

Table S5 Subgroup analysis of SNR, CNR, and FOM between Group 1 and Group 2 adjusted for confounding factors

Anatomical region	Noncontrast phase				Arterial phase				Venous phase			
	Subgroup 1 (n=40)	Subgroup 3 (n=57)	P value	Effect size	Subgroup 1 (n=40)	Subgroup 3 (n=57)	P value	Effect size	Subgroup 1 (n=40)	Subgroup 3 (n=57)	P value	Effect size
Aortic arch												
SNR	6.83 (5.77, 7.85)	4.90 (4.13, 6.00)	<0.001 [†]	1.131	32.63 (27.67, 36.71)	18.64 (14.94, 23.14)	<0.001 [†]	2.007	NA	NA	NA	NA
CNR	152.64 (131.94, 176.58)	117.11 (104.50, 149.43)	<0.001 [†]	1.082	143.28 (138.33, 158.56)	88.93 (75.53, 109.00)	<0.001 [†]	2.016	NA	NA	NA	NA
FOM	3352.22 (2551.45, 4461.98)	1455.37 (976.85, 2218.18)	<0.001 [†]	1.929	3067.50 (2581.02, 4110.26)	714.33 (508.42, 1100.79)	<0.001 [†]	2.566	NA	NA	NA	NA
Erector spinae (aortic arch)												
SNR	6.13 (5.09, 7.22)	4.88 (4.00, 6.08)	0.001 [†]	0.705	5.94 (5.06, 6.65)	3.13 (2.57, 3.79)	<0.001 [†]	1.992	NA	NA	NA	NA
CNR	151.25 (131.03, 175.75)	117.11 (104.60, 148.64)	<0.001 [†]	1.016	117.36 (109.03, 131.88)	71.46 (62.69, 89.05)	<0.001 [†]	2.079	NA	NA	NA	NA
FOM	3407.41 (2471.15, 4442.34)	1437.29 (987.56, 2256.26)	<0.001 [†]	1.890	2028.98 (1674.29, 2640.59)	464.27 (357.03, 691.82)	<0.001 [†]	2.522	NA	NA	NA	NA
Liver												
SNR	6.51 (5.29, 8.13)	6.40 (5.18, 7.75)	0.524	0.130	7.56 (6.12, 8.85)	7.00 (5.45, 8.38)	0.151	0.295	10.10 (9.23, 12.81)	10.40 (7.87, 12.33)	0.346	0.192
CNR	17.44±5.45	17.10±4.24	0.739	0.069	17.36±4.43	17.60±5.13	0.809	0.050	19.00 (16.50, 23.56)	18.91 (15.82, 22.30)	0.514	0.133
FOM	38.76 (24.66, 57.76)	24.80 (15.87, 39.85)	0.026 [†]	0.761	42.30 (29.21, 56.51)	26.40 (17.50, 41.92)	0.029 [†]	0.754	70.17 (50.33, 105.08)	45.47 (30.72, 67.52)	0.030 [†]	0.752
Descending aorta												
SNR	4.57±1.51	4.37±1.03	0.478	0.147	27.79 (23.58, 34.03)	27.33 (21.00, 31.25)	0.280	0.221	15.15 (12.33, 19.29)	13.27 (11.45, 17.10)	0.169	0.282
CNR	15.01±4.59	14.96±3.57	0.960	0.011	37.69 (31.77, 43.71)	37.56 (29.82, 43.63)	0.605	0.105	23.44 (19.58, 29.67)	22.50 (19.40, 27.10)	0.326	0.200
FOM	28.95 (19.36, 47.01)	19.49 (12.51, 28.36)	<0.001 [†]	0.714	194.88 (155.80, 273.57)	133.72 (81.56, 169.29)	0.001 [†]	0.963	109.68 (66.37, 175.08)	71.15 (45.23, 101.01)	0.021 [†]	0.776
Erector spinae (porta hepatis)												
SNR	5.43 (4.59, 6.50)	5.39 (4.55, 6.00)	0.603	0.106	5.63 (4.58, 7.07)	5.70 (4.80, 6.94)	0.832	0.043	5.72 (4.94, 7.54)	5.55 (4.75, 7.15)	0.358	0.188
CNR	16.14±4.71	16.10±3.81	0.965	0.009	14.71 (12.16, 18.22)	15.70 (12.77, 19.44)	0.605	0.105	14.34 (12.80, 17.97)	13.96 (12.40, 17.00)	0.676	0.085
FOM	35.71 (23.86, 54.79)	23.47 (14.65, 32.40)	0.016 [†]	0.792	30.40 (21.96, 47.76)	24.06 (14.96, 34.93)	0.003 [†]	0.627	40.80 (29.17, 62.32)	26.79 (19.33, 40.60)	0.034 [†]	0.743
Gluteus maximus												
SNR	4.73 (3.83, 5.98)	4.61 (3.88, 5.28)	0.639	0.095	NA	NA	NA	NA	5.40 (4.61, 5.94)	4.30 (3.61, 5.20)	0.018 [†]	0.785
CNR	13.72±3.53	14.62±3.24	0.206	0.263	NA	NA	NA	NA	14.11±3.13	12.47±3.02	0.666 [†]	0.532
FOM	25.67 (19.04, 38.26)	18.94 (14.39, 23.22)	0.001 [†]	0.684	NA	NA	NA	NA	37.04 (27.32, 51.67)	20.16 (14.19, 27.14)	<0.001 [†]	1.319
Bladder												
SNR	0.69±0.97	0.88±0.91	0.336	0.199	NA	NA	NA	NA	NA	NA	NA	NA
CNR	9.45±2.50	10.74±2.44	0.734 [†]	0.524	NA	NA	NA	NA	NA	NA	NA	NA
FOM	12.17 (8.96, 16.63)	10.23 (7.89, 12.98)	0.051	0.405	NA	NA	NA	NA	NA	NA	NA	NA
Iliac muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	6.25 (5.56, 7.16)	5.85 (5.11, 7.15)	0.258	0.231
CNR	NA	NA	NA	NA	NA	NA	NA	NA	14.41 (12.42, 16.20)	13.38 (11.50, 16.55)	0.288	0.217
FOM	NA	NA	NA	NA	NA	NA	NA	NA	40.12 (30.08, 49.97)	23.98 (18.51, 37.78)	0.003 [†]	0.895
Obturator muscle												
SNR	NA	NA	NA	NA	NA	NA	NA	NA	5.07±1.45	4.78±1.10	0.279	0.225
CNR	NA	NA	NA	NA	NA	NA	NA	NA	13.02 (11.63, 15.09)	13.10 (11.00, 14.85)	0.682	0.083
FOM	NA	NA	NA	NA	NA	NA	NA	NA	33.98 (25.91, 49.12)	22.61 (15.67, 32.59)	0.006 [†]	0.856

Normally distributed data are presented as mean ± standard deviation and compared using Student's *t*-test; non-normally distributed data are presented as median (interquartile range) and compared using Mann-Whitney test. Group 1, high-pitch examination; Group 2, standard-pitch examination. Subgroup 1, Group 1 without confounders; Subgroup 2, Group 1 with confounders; Subgroup 3, Group 2 without confounders; Subgroup 4, Group 2 with confounders. [†], adjusted P value. CNR, contrast-to-noise ratio; FOM, figure of merit; NA, not applicable; SNR, signal-to-noise ratio.