Supplementary

Table S1 Visual grading analysis results from four radiologists

Nodule type	Tube input*	ASiR-V			DLIR		
		30	50	70	Low	Medium	High
Solid	70 kVp, 20 mAs	2.75 [2, 3]	3.50 [3, 4]	3.75 [3, 5]	4.00 [3, 5]	4.25 [4, 5]	5.00 [5, 5]
Solid	70 kVp, 50 mAs	3.00 [3, 3]	3.50 [3, 4]	4.25 [4, 5]	4.00 [4, 5]	4.75 [4, 5]	5.00 [5, 5]
Solid	80 kVp, 20 mAs	3.50 [3, 4]	3.75 [3, 4]	4.50 [4, 5]	3.00 [3, 3]	4.25 [4, 5]	4.75 [4, 5]
Solid	80 kVp, 50 mAs	3.25 [3, 4]	3.25 [3, 4]	4.50 [4, 5]	3.75 [3, 5]	5.00 [5, 5]	4.75 [4, 5]
Solid	100 kVp, 20 mAs	3.75 [3, 4]	3.25 [3, 4]	4.25 [4, 5]	4.00 [3, 5]	5.00 [5, 5]	4.75 [4, 5]
Solid	100 kVp, 50 mAs	3.50 [3, 4]	4.00 [4, 4]	4.25 [4, 5]	3.75 [3, 4]	4.75 [4, 5]	4.75 [4, 5]
Solid	120 kVp, 20 mAs	3.00 [3, 3]	3.50 [3, 4]	3.75 [3, 4]	4.25 [4, 5]	4.75 [4, 5]	4.75 [4, 5]
Solid	120 kVp, 50 mAs	3.50 [3, 4]	3.75 [3, 4]	4.25 [4, 5]	4.25 [4, 5]	4.75 [4, 5]	4.75 [4, 5]
Sub-solid	70 kVp, 20 mAs	3.50 [3, 4]	3.25 [2, 4]	3.50 [3, 4]	3.00 [3, 3]	4.50 [4, 5]	5.00 [5, 5]
Sub-solid	70 kVp, 50 mAs	3.75 [3, 4]	3.75 [3, 4]	4.00 [4, 4]	3.50 [3, 4]	4.50 [4, 5]	5.00 [5, 5]
Sub-solid	80 kVp, 20 mAs	3.75 [3, 4]	3.75 [3, 5]	4.25 [4, 5]	3.25 [3, 4]	4.00 [3, 5]	5.00 [5, 5]
Sub-solid	80 kVp, 50 mAs	3.50 [3, 4]	4.00 [3, 5]	4.00 [4, 4]	4.25 [4, 5]	4.25 [3, 5]	5.00 [5, 5]
Sub-solid	100 kVp, 20 mAs	3.50 [3, 4]	3.50 [3, 4]	4.25 [4, 5]	4.00 [4, 4]	4.50 [4, 5]	5.00 [5, 5]
Sub-solid	100 kVp, 50 mAs	3.75 [3, 4]	4.25 [4, 5]	4.25 [4, 5]	4.00 [4, 4]	4.75 [4, 5]	4.75 [4, 5]
Sub-solid	120 kVp, 20 mAs	3.50 [3, 4]	4.00 [4, 4]	4.50 [4, 5]	3.50 [3, 4]	4.25 [4, 5]	5.00 [5, 5]
Sub-solid	120 kVp, 50 mAs	4.00 [4, 4]	4.00 [3, 5]	4.00 [4, 4]	4.25 [4, 5]	5.00 [5, 5]	4.75 [4, 5]
Pure	70 kVp, 20 mAs	3.75 [3, 4]	3.75 [3, 4]	3.75 [3, 4]	4.25 [4, 5]	3.50 [3, 4]	4.75 [4, 5]
Pure	70 kVp, 50 mAs	3.50 [3, 4]	4.00 [4, 4]	4.00 [4, 4]	3.75 [3, 4]	4.75 [4, 5]	5.00 [5, 5]
Pure	80 kVp, 20 mAs	3.00 [3, 3]	4.00 [4, 4]	4.25 [4, 5]	3.25 [3, 4]	4.25 [4, 5]	4.50 [4, 5]
Pure	80 kVp, 50 mAs	3.50 [3, 4]	4.25 [4, 5]	4.25 [4, 5]	3.75 [3, 4]	4.50 [4, 5]	4.75 [4, 5]
Pure	100 kVp, 20 mAs	3.75 [3, 4]	3.75 [3, 4]	4.75 [4, 5]	3.75 [3, 4]	4.25 [4, 5]	4.75 [4, 5]
Pure	100 kVp, 50 mAs	3.75 [3, 4]	4.00 [4, 4]	4.00 [4, 4]	4.50 [4, 5]	4.25 [4, 5]	5.00 [5, 5]
Pure	120 kVp, 20 mAs	4.00 [3, 5]	4.00 [4, 4]	4.25 [4, 5]	4.00 [4, 4]	4.75 [4, 5]	4.75 [4, 5]
Pure	120 kVp, 50 mAs	3.75 [3, 4]	4.25 [4, 5]	4.75 [4, 5]	4.50 [4, 5]	4.50 [4, 5]	4.75 [4, 5]
Total	–	3.52	3.78	4.18	3.85	4.50	4.84

Evaluation results are expressed as mean [min, max]. *, $CTDI_{vol}$ values were 0.24, 0.63, 0.38, 0.96, 0.61, 1.53, 0.99 and 2.47 mGy for (70 kVp, 20 mAs), (70 kVp, 50 mAs), (80 kVp, 20 mAs), (80 kVp, 50 mAs), (100 kVp, 20 mAs), (100 kVp, 50 mAs), (120 kVp, 20 mAs), and (120 kVp, 50 mAs), respectively. ASiR-V, adaptive statistical iterative reconstruction; DLIR, deep learning-based image reconstruction; $CTDI_{vol}$, computerized tomography dose index volume.

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Table S2 Visual grading analysis to find an appropriate dose level for DLIR images

Test	Reconstruction mode	kVp	mAs	Radiologist 1	Radiologist 2	Radiologist 3	Radiologist 4	Mean
1	DLIR-Low	70	15	2	4	2	1	2.25
			20	3	4	1	1	2.25
			25	3	5	1	2	2.75
			50	4	5	2	3	3.50
2	DLIR-Low	80	15	2	2	2	1	1.75
			20	3	3	2	2	2.50
			25	4	4	3	2	3.25
			50	5	5	3	3	4.00
3	DLIR-Low	100	15	3	4	2	3	3.00
			20	3	4	2	3	3.00
			25	4	4	2	3	3.25
			50	5	5	4	3	4.25
4	DLIR-Low	120	15	3	4	2	3	3.00
			20	3	4	3	3	3.25
			25	4	4	3	3	3.50
			50	4	5	5	4	4.50
5	DLIR-Medium	70	15	3	4	1	3	2.75
			20	3	4	1	3	2.75
			25	4	5	2	2	3.25
			50	4	5	2	3	3.50
6	DLIR-Medium	80	15	4	3	2	2	2.75
			20	5	4	2	2	3.25
			25	5	4	2	3	3.50
			50	5	5	3	3	4.00
7	DLIR-Medium	100	15	4	4	2	3	3.25
			20	5	4	2	3	3.50
			25	5	4	3	3	3.75
			50	5	5	4	3	4.25
8	DLIR-Medium	120	15	3	4	2	3	3.00
			20	4	4	2	3	3.25
			25	4	4	4	3	3.75
			50	5	5	5	3	4.50
9	DLIR-High	70	15	4	4	3	2	3.25
			20	4	4	3	2	3.50
			25	4	5	2	2	3.25
			50	5	5	2	3	3.75
10	DLIR-High	80	15	4	4	1	1	2.50
			20	5	5	1	2	3.25
			25	5	5	2	2	3.50
			50	5	5	3	3	4.00
11	DLIR-High	100	15	5	4	3	2	3.50
			20	5	4	2	3	3.50
			25	5	5	2	3	3.75
			50	5	5	3	3	4.00
12	DLIR-High	120	15	5	4	3	3	3.75
			20	5	4	4	3	4.00
			25	5	5	4	3	4.25
			50	5	5	5	3	4.50

DLIR, deep learning-based image reconstruction.

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