RUHRLANDKLINIK
Westdeutsches Lungenzentrum
Universitätsmedizin Essen

General Information

1. Ensure all files are in standard .DICOM format

2. Only SUPINE position chest CT scans are supported. Scans obtained in PRONE position can NOT be analyzed.

3. The CT scans must not have a slice thickness greater than 1.5mm.

4. The input image should NOT be reconstructed with a slice spacing larger than the slice thickness (no gaps in the 3D volume are allowed).

5. The complete lungs must be present on the CT scan. If parts of the lung are missing, the output parameters will be compromised.

6. Ensure the CT scan is not of poor quality (e.g. movement artifacts, artifacts due to metal, high noise levels due to dose level etc.).

7. Please ensure the CT scan does NOT suffer from image artifacts such as streak artifacts from implants.

8. Scans taken from CT scanners with less than 16 detector rows are not recommended.

CT Scanner Specific Information

CT Scan Parameters WITHOUT Iterative Reconstruction

3-4mSv Dose Parameters	**Siemens**	**Philips**	**Toshiba**	**GE**
KV	120	120	120	120
Dose Modulation	CareDose ON CarekV OFF	Z-Dom ON	SURE Exposure ON	Smart mA ON
Pitch	Range: 0.8-1.2	Range: 0.8-1.2	Range: 0.8-1.0	Range: 0.9-1.375
Rotation or Gantry Speed (sec)	≤0.5	≤0.5	≤0.5	≤0.5
Kernel Standard	B35 or B31	B	FC 17	Standard
Slice Thickness	Range: 0.5 to 1.50mm	Range: 0.5 to 1.50mm	Range: 0.5 to 1.50mm	Range: 0.625 to 1.50mm Recon mode: Plus
Slice Spacing	20% less than slice thickness	20% less than slice thickness	20% less than slice thickness	20% less than slice thickness
Average mSv	<4.0	<4.0	<4.0	<4.0
Contrast	None	None	None	None

Parameters WITH Iterative Reconstruction

1-2mSv Dose Parameters	Siemens	Philips	Toshiba	GE
KV	120	120	120	120
Dose Modulation	CareDose ON CarekV OFF	V-Dom ON	SURE Exposure ON	Smart mA ON
Pitch	Range: 0.8-1.2	Range: 0.8-1.2	Range: 0.8-1.0	Range: 0.9-1.375
Rotation or Gantry Speed (sec)	≤0.5	≤0.5	≤0.5	≤0.5
Iterative Reconstruction	Use SAFIRE	Use IMR	Use ADIR 3D standard	Use VEO, ASiR
Iterative Strength	3	Routine 2	Standard	30-50
Iterative Kernel Standard	Q30 or I	N/A	FC 17	Standard
Iterative Kernel Sharp	Q70	N/A	FC 52	Bone or Bone+
Slice Thickness	Range: 0.5 to 1.50mm	Range: 0.5 to 1.50mm	Range: 0.5 to 1.50mm	Range: 0.625 to 1.50mm Recon mode: Plus
Slice Spacing	20% less than slice thickness	20% less than slice thickness	20% less than slice thickness	20% less than slice thickness
Average mSv	<2.0	<2.0	<2.0	<2.0
Contrast	None	None	None	None