

## REFERENCE VALUES

STRUCTURE	MODALITY	TECHNIQUE of MEASUREMENT	NORMAL VALUE(S)
<b>Tracheo-bronchial tree</b>			
Trachea	PA CXR	coronal diam 2 cm above aortic arch	MAX : M = 25 mm W = 21 mm
Trachea	LAT CXR	sagittal diam 2 cm above aortic arch	MAX : M = 27 mm W = 23 mm
Trachea	PA/LAT CXR	coronal and sagittal diam	MIN : M = 13 mm W = 10 mm
Trachea	CT	mean of coronal and sagittal diam	MAX : M = 21 mm W = 18 mm
Trachea	CT	Same	MIN : M = 16 mm W = 12 mm
Position of the trachea	CT	distance from midline	between 1.8 cm (R) and 0.7 cm (L)
Position of the ant junction line	CT	Same	between 1 cm (R) and 2 cm (L)
Tracheal bifurcation angle	PA CXR	interbronchial or subcarinal angle	40 - 80 degrees
Post wall of bronchus intermedius	LAT CXR	thickness	≤ 3 mm
Anterior bronchus	PA CXR	lateral tissular density	≤ 5 mm
<b>Mediastinum</b>			
Right paratracheal stripe	PA CXR	2 cm above azygos arch	≤ 4 mm
Azygos region	PA CXR	diam perpendicular to the right main bronchus	≤ 10 mm
Inferior hilar window	LAT CXR	diam of any structure in this region	≤ 10 mm
Mediastinal nodes	CT	short-axis diam	≤ 10 mm (≤ 6 mm retrocrural)
Thymus	CT	thickness (over age 20)	≤ 13 mm
Thymus	CT	thickness (over age 50)	< 7 mm
Posterior tracheal stripe	LAT CXR	thickness	≤ 5 mm
Esophagus	CT	intraaluminal collection diam	≤ 10 mm
Esophagus	CT	parietal thickness	≤ 5 mm
<b>Chest cage and diaphragm</b>			
Retrosternal soft tissues	LAT CXR	thickness ad 6 cm below angle of Louis	≤ 7 mm
Antero-posterior thoracic diam	LAT CXR	from posterior edge of sternum to anterior wall of D8	MIN : M = 11 cm W = 9 cm
AP/T ratio	LAT CXR	idem, divided by the transverse thoracic diam	MIN : M = 0.37 W = 0.32
Diaphragm	PA/LAT CXR	height of its arch	≥ 1.5 cm
Gastric bubble	LAT CXR	distance between gastric bubble and diaphragm	≤ 2 cm
Hilar height ratio	PA CXR	distance apex-hilus / distance hilus-diaphragm	Mean : R = 0.84 L = 1.31
<b>Cardiovascular structures</b>			
Right pulmonary artery	PA CXR	diam of R descending pulmonary artery	MAX : M = 16 mm W = 15 mm
Left pulmonary artery	LAT CXR	diam of L descending pulmonary artery	MAX : M/W = 18 mm
Hilar thoracic index	PA CXR	distance between branching of R-L pulm art / thoracic diam	MAX : 0.35 (or 0.38)
Main pulmonary artery	CT	diam	MAX : 29 mm
Pulmonary artery-bronchus ratio	PA CXR	diam artery / diam bronchus	Upper zones ≤ 1
Pulmonary artery-bronchus ratio	PA CXR	Same	Lower zones > 1
Aorta	CT/MRI	diam	< 4 cm
Mediastinal width (MW)	PA CXR	diam	< 8 cm
Ratio MW/ trans thoracic diam	PA CXR	idem / thoracic diam at aortic arch level	MAX : 0.25 (or 0.38)
Vascular pedicle of the heart	PA CXR	distance between crossing SVC-R main bronchus and LSCA	38-58 mm
Cardio-thoracic ratio	PA CXR	transverse diam of heart / largest thoracic diam	MAX : 0.50 (or 0.55)
Cardiac volume	PA CXR	as formula	MAX : M = 540 cc/m <sup>2</sup> W = 490 cc/m <sup>2</sup>
R atrium	PA CXR	distance between R cardiac border and midline	≤ 5.5 cm
R atrium	CT	internal transverse diam, level of mitral valve	32 ± 12 mm
R ventricle	LAT CXR	sternal contact	< 33%
R ventricle (diastole)	MRI	internal diam perpendicular to the IV septum, midpoint	35 ± 5 mm (or 31 ± 6 mm)
R ventricle wall thickness	MRI	RV wall thickness (lateral free wall)	5 ± 1 mm (or 3 ± 1 mm)
R ventricle infundibulum	MRI	maximum oblique internal diam	26 ± 4 mm
L atrium	PA CXR	distance between double density and left main bronchus	≤ 7 cm
L atrium	LAT CXR	distance between anterior wall R pulm art and post wall LA	M < 4 cm (borderline 4 - 4.2 cm)
L atrium	LAT CXR	Same	W < 3.6 cm (borderline 3.6 - 3.8 cm)
L atrium	CT	AP internal diam level of mitral valve	40 ± 9 mm
L atrium	MRI	AP internal diam perpendicular to posterior wall aortic root	29 ± 4 mm
L ventricle	LAT CXR	Hoffman-Rigler A	< 1.8 cm
L ventricle	LAT CXR	Hoffman-Rigler B	> 0.75 cm
L ventricle (diastole)	MRI	internal diam perpendicular to the IV septum, midpoint	45 ± 4 mm (or 42 ± 6 mm)
L ventricle wall thickness	MRI	LV wall thickness (posterior to papillary muscle)	11 ± 1 mm (or 10 ± 2 mm)
IV septum	MRI	thickness	11 ± 2 mm (or 10 ± 1 mm)
Pericardium	CT/MRI	thickness	≤ 4 mm

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