

MRI Chest

Updated 06/06/26

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Indications: lung nodule, mass, lesion; pericardial, mediastinal, thymic, bronchogenic mass; lymphadenopathy, lung cancer evaluation, tracheal / central airway evaluation, diaphragmatic dysfunction/paralysis evaluation.

This protocol is not used for chest wall masses (use MSK protocols) or cardiac exams.

Check with rad to see if any additional sequences are needed based on history and/or prior images.

Chest FOV: supraclavicular to adrenals (top/bottom coverage), anterior to posterior subq fat (front/back coverage), right to left subq fat (right/left coverage).

Go to MRIMaster.com for a guide of proper positioning.

Pulse Sequence	PACS Name	plane	fat sat	slice (mm)	gap (mm)	first slice
T2 HASTE/SSFSE	T2 COR	cor	no	5	1	front
T2 HASTE/SSFSE	T2 SAG	sag	no	5	1	left
T2 HASTE/SSFSE	T2 AX	ax	no	5	1	top
T2 HASTE/SSFSE	T2 FS AX	ax	yes	5	1	top
Diffusion (b50, b400, b800, ADC)	DIFFUSION AX	ax	yes	7	1.4	top
In/Out Phase	IN/OUT AX	ax	no	5	1	top
T1 VIBE/LAVA	T1 FS PRE COR	cor	yes	3.5	0.6	front
T1 VIBE/LAVA	T1 FS PRE SAG	sag	yes	3.5	0.6	left
T1 VIBE/LAVA	T1 FS PRE AX	ax	yes	3.5	0.6	top

CONTRAST - 2 mL/sec standard dose gadolinium (0.2 mL/kg Clariscan or 0.1 mL/kg Gadavist) followed by 20 mL saline flush.

T1 VIBE/LAVA	T1 FS 20 SEC AX	ax	yes	3.5	0.6	top
T1 VIBE/LAVA	T1 FS 70 SEC AX	ax	yes	3.5	0.6	top
T1 VIBE/LAVA	T1 FS 2 MIN COR	cor	yes	3.5	0.6	front
T1 VIBE/LAVA	T1 FS 3 MIN AX	ax	yes	3.5	0.6	top
T1 VIBE/LAVA	T1 FS 4 MIN SAG	sag	yes	3.5	0.6	left
T1 VIBE/LAVA	T1 FS 5 MIN AX	ax	yes	3.5	0.6	top

RECONS:

axial, coronal and sagittal subtractions

CINE IMAGING:

Ask Radiologist if cine imaging is needed based on indication.

For central airway / trachea evaluation, obtain coronal cine imaging at the level of the tracheal during normal breathing (image for 20 secs) and another sequence during maximum inspiration and expiration (image for 20 secs).

Cine True FISP	CINE COR TIDAL	cor	no	40	0	front
Cine True FISP	CINE COR MAX	cor	no	40	0	front

For diaphragmatic dysfunction evaluation, obtain coronal cine imaging of both hemidiaphragms together approximately halfway front to back during maximum inspiration and expiration (image for 20 secs) and another sequence during repetitive deep sniffing (image for 20 secs).

Cine True FISP	CINE COR MAX	cor	no	10	0	front
Cine True FISP	CINE COR SNIFF	cor	no	10	0	front

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For lung mass fixation evaluation, obtain either axial, coronal or sagittal (ask Radiologist) cine imaging at the level of the mass during maximum inspiration and expiration (image for 20 secs).

Cine True FISP	CINE	cor	no	10	0	front
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