

	Clinical Protocol: Chest MRI	
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PREPARED BY: Joanne Calegari	APPROVED BY: Richard Powell, M.D.	

## PROTOCOL OVERVIEW

This Clinical Protocol advises on indications and guidelines for Chest MRI.

## INDICATIONS

Chest MRI may be indicated for 1 or more of the following:

- Chest wall pathology or structural vascular defect suspected
- Ewing sarcoma or osteosarcoma
- Mediastinal mass
- Evaluation of pneumonia in immunocompromised patient with malignancy, when results of chest x-ray are not confirmatory
- Cancer (primary or metastatic) evaluation, staging, surveillance or monitoring response to treatment
- Estimation of postoperative pulmonary function reserve, prior to anticipated lung resection, and
- Brachial plexus disorder

## NOTES

### Inappropriate Use

- a. For evaluation of solitary pulmonary nodule, a meta-analysis found that MRI was comparable with CT in terms of accuracy in distinguishing benign from malignant lesions. However, specialty societies do not recommend MRI for evaluation of solitary pulmonary nodule.

### Evidence Summary

- a. Soft tissue tumors and masses of the chest wall are uncommon and include peripheral nerve tumors, lipomas, liposarcomas, hemangiomas, elastofibromas, metastases, lymphomas, and abscesses; many of these tumors have characteristic appearances on MRI. For osteochondromas of the rib, MRI is useful for evaluating cartilage cap thickness in order to differentiate these tumors from chondrosarcoma or to evaluate the tumor's effect on adjacent structures.
- b. For mediastinal masses, CT scan is the preferred imaging modality; however, MRI is helpful for identification of neurogenic tumors of the posterior mediastinum, including gangliomas and neuroblastomas, and to determine spinal cord involvement.
- c. For non-small cell lung cancer, a specialty society recommends that chest MRI should not be used routinely for staging; however, MRI is useful if there is suspicion of superior tumor or spread to the brachial plexus.

## CITATION

Milliman Care Guidelines, "Ambulatory Care", "Chest MRI", 23<sup>rd</sup> Edition, 2/26/19