

# Evidence Discussion (CH 13.1)

## Pneumonia evidence summary

Chest radiography (CR) is the appropriate first imaging modality in the evaluation of suspected pneumonia.<sup>1</sup> The American Thoracic Society (ATS) and the Infectious Diseases Society of America (IDSA) define a clinical diagnosis of pneumonia as symptoms and signs of pneumonia with radiographic confirmation.<sup>2</sup>

CT is more accurate/sensitive than CR and may be warranted when there is a high clinical suspicion for pneumonia (typical or atypical) and a delay in diagnosis could be life threatening.

CT chest without contrast is usually appropriate and CT chest with contrast may be appropriate in immunocompromised people with an acute respiratory illness and a normal/equivocal/nonspecific CR or a CR that demonstrates multiple, diffuse or confluent opacities.<sup>4</sup>

MRI is usually not appropriate for the imaging of pneumonia.<sup>3,4</sup> MRI has a potential role for follow up imaging of parenchymal (Chest wall/mediastinal) disease, but CT is more sensitive and is preferred.<sup>4</sup>

Routine use of follow up chest imaging in adults who are improving and whose symptoms have resolved within 5-7 days is not recommended by the ATS/IDSA.<sup>2</sup> Repeat CR or CT after the completion of therapy is generally reserved for high risk patients, suspected complications, disease progression or when the clinical course differs from CR interpretation.<sup>1,5</sup>

## References

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2. Metlay NP, Waterer GW, Long AC, et al. Diagnosis and Treatment of Adults with Community-acquired Pneumonia. An Official Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of America. *Am J Respir Crit Care Med* Vol 200, Iss 7, pp e45-e67, Oct 1, 2019.
3. Expert Panel on Thoracic Imaging:, Jokerst C, Chung JH, et al. ACR Appropriateness Criteria® Acute Respiratory Illness in Immunocompetent Patients. *J Am Coll Radiol.* 2018;15(11S):S240-S251.doi:10.1016/j.jacr.2018.09.012
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5. Lampichler K. Role of imaging procedures in clarification of complications of pneumonia. *Radiologe.* 2017 Jan;57(1):29-34.

