

# Diagnostic Tests in COVID-19

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## LEARNING OBJECTIVES

At the end of this lecture, the learner will be able to:

1. Discuss the utility of imaging, including x-ray, CT, and ultrasound, in the initial evaluation of a patient with possible COVID-19 infection

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## LECTURE OVERVIEW

- I. General principles
- II. Imaging in COVID-19

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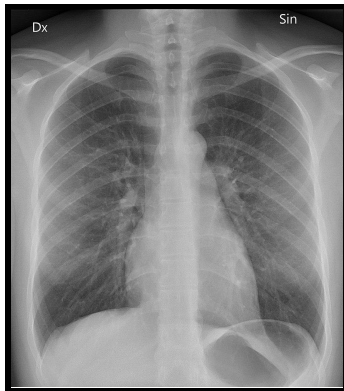
## I. GENERAL PRINCIPLES

1. Clinical status is more important in initial evaluation and management
    - If the patient looks ill, the patient is ill regardless of labs or imaging
  2. Know what testing is available in your hospital system
    - If a test is very expensive, determine if the test is clinically useful before ordering it
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## II. IMAGING TESTS

### 1. Chest x-ray

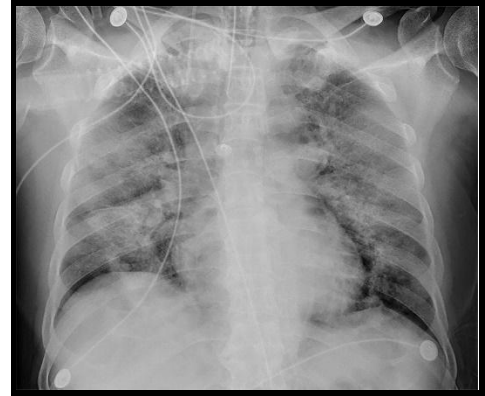
- May be normal early in disease
- Findings of infection: diffuse pulmonary opacities
  - ◊ Findings on chest x-ray may change quickly as clinical status worsens
  - ◊ Findings nonspecific (other infections cause opacities) but pattern can be typical
- May identify other



Normal



Mild Opacities



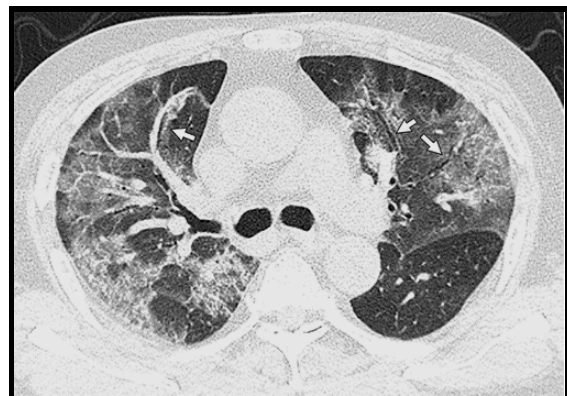
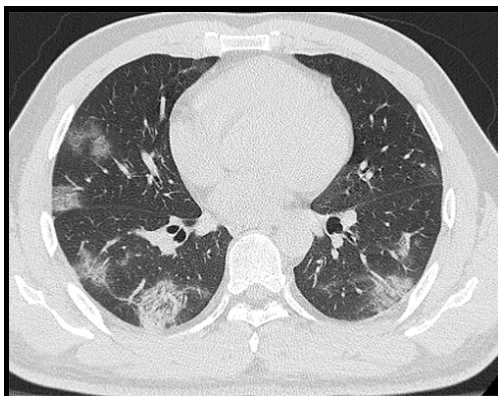
Diffuse Opacities

medical problems (such as a pneumothorax) that need emergent treatment

- Pleural effusions, cavitation, masses, lymphadenopathy less common ☒ consider other causes

### 2. CT chest:

- Depends on availability and cost of CT, local protocol
- Consider risk of moving an ill patient, exposure of staff during moving of patient, and need to decontaminate CT room when developing protocol
- CT can show changes before X-ray, even with minimal symptoms
- Typical findings: ground glass opacities diffusely

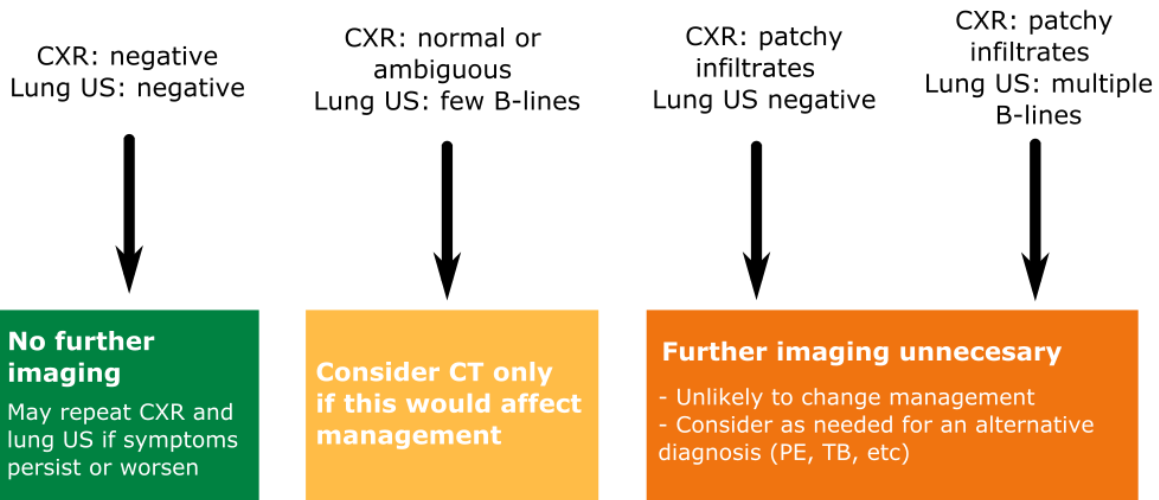


### 3. Bedside ultrasound

- Discussed in other sessions
- Can be used to evaluate lungs, heart, fluid status

#### Initial evaluation

- Chest X-Ray (CXR)
- Lung Ultrasound (US)



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#### SUMMARY

1. Imaging findings for COVID-19 are nonspecific but can aid in the overall impression of a patient's illness.
2. The overall clinical assessment of the patient is more important than any radiologic finding.

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#### REFERENCES/SUGGESTED READING:

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2. Dubai National Guidelines
3. Clinical Care for Severe Acute Respiratory Infection Toolkit – COVID-19 Adaptation, <https://www.who.int/publications-detail/clinical-care-of-severe-acute-respiratory-infections-tool-kit>
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## *Imaging*

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