



1.5 Imaging Features of COVID-19

Unit 1: COVID-19

COVID-19



AS OF MARCH 16, 2020...

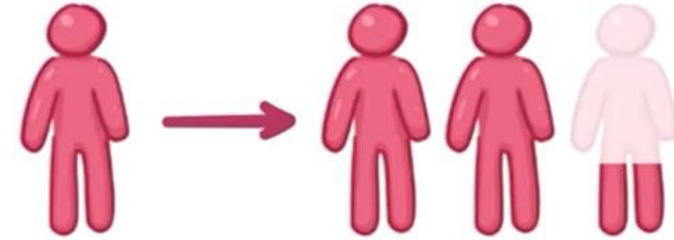
167,511 CASES



6,606 DEATHS (3.9%)



 = 1,000 PEOPLE

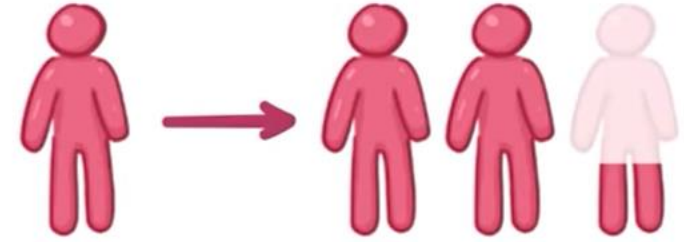


* STILL SPREADING *

COVID-19



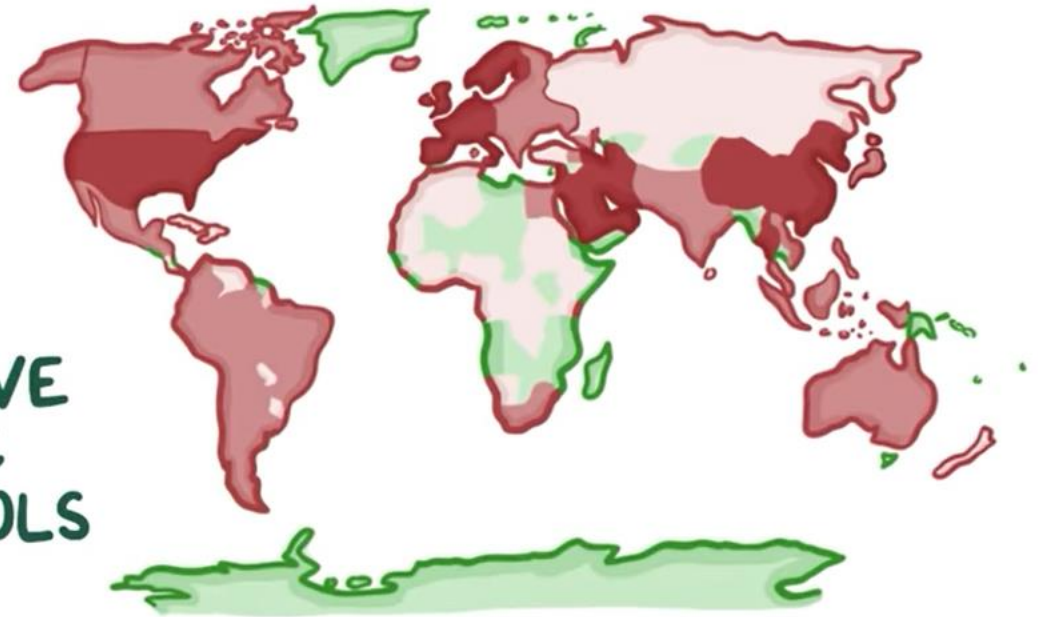
COMMUNITY SPREAD



*** STILL SPREADING ***



? ? ?
**NEED SENSITIVE
and SPECIFIC
DIAGNOSTIC TOOLS**





DIAGNOSIS of COVID-19



RT-PCR = REVERSE TRANSCRIPTION
POLYMERASE CHAIN REACTION

IN THE EARLY DAYS...



MORE RECENTLY...



30 - 70%
SENSITIVE



↑↑↑
SENSITIVITY



95% +
SENSITIVITY



DIAGNOSIS of COVID-19

MORE RECENTLY...



95% +
SENSITIVITY



CT SHOULD BE USED
**SPARINGLY & ONLY
WHEN IMPACTING
MANAGEMENT**



ISSUES w/
ACCESS &
WAIT TIMES

COVID IMAGING FEATURES

WHEN IMAGING IS REQUIRED!
or SCANS SUGGEST COVID...

FEVER



COUGH



SHORTNESS
of BREATH



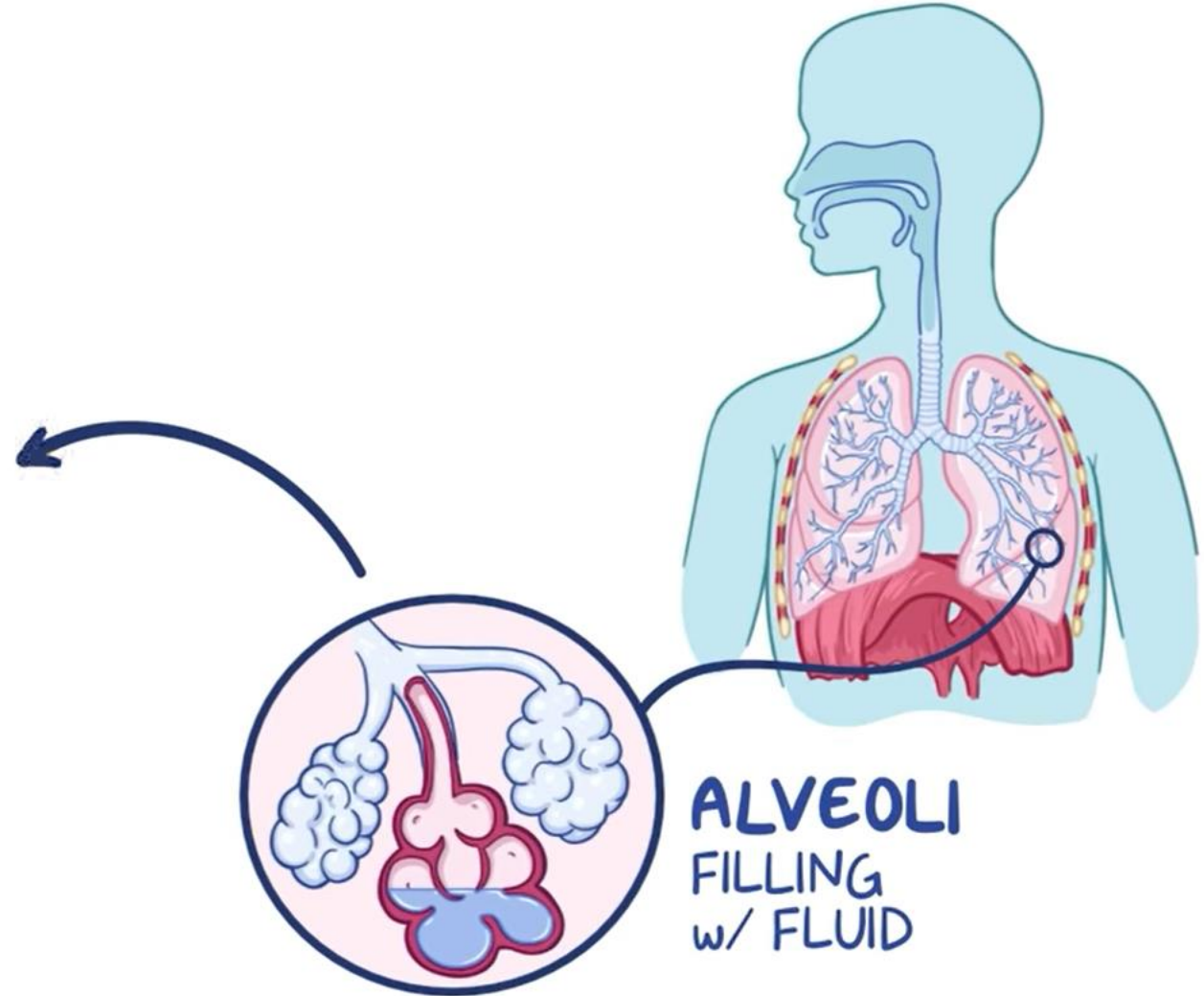
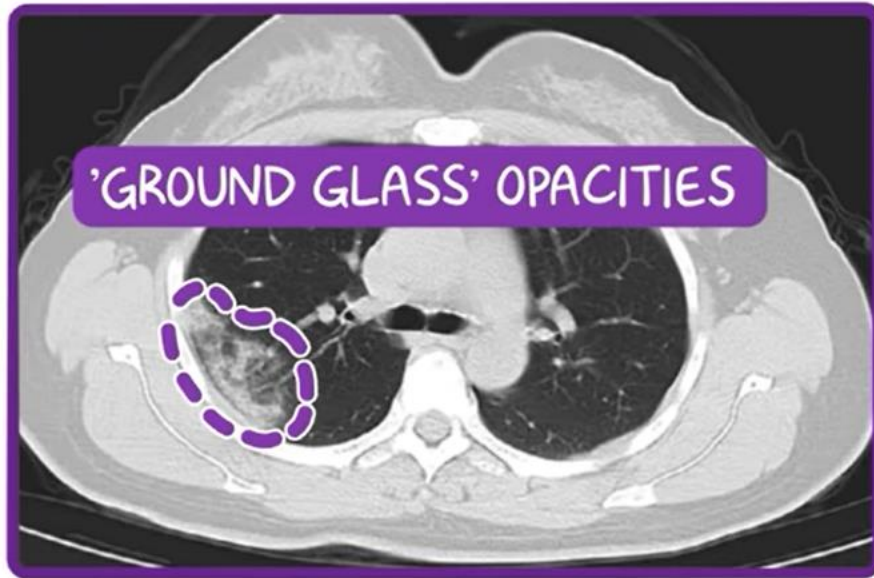
~ NOT VERY
SENSITIVE!
to COVID-19

CHEST X-RAY



COVID IMAGING FEATURES

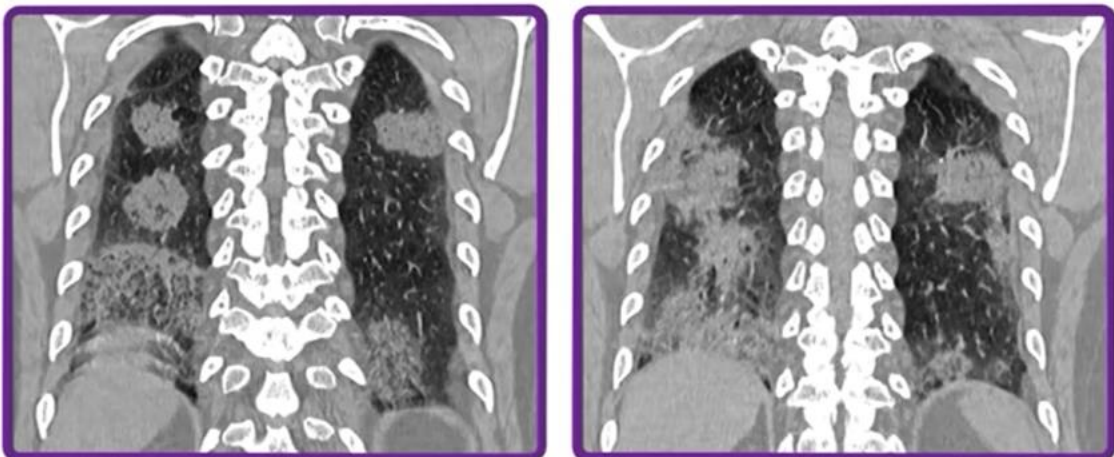
CHEST CT



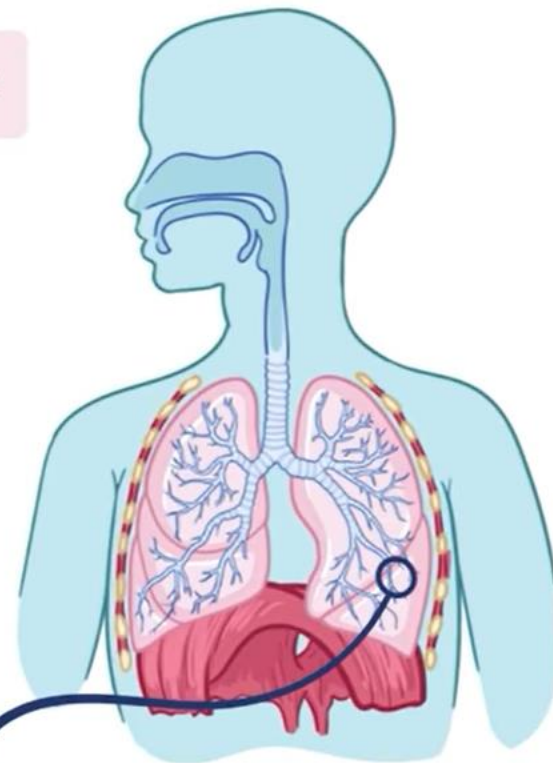
COVID IMAGING FEATURES

CHEST CT

* SEVERE INFECTIONS *

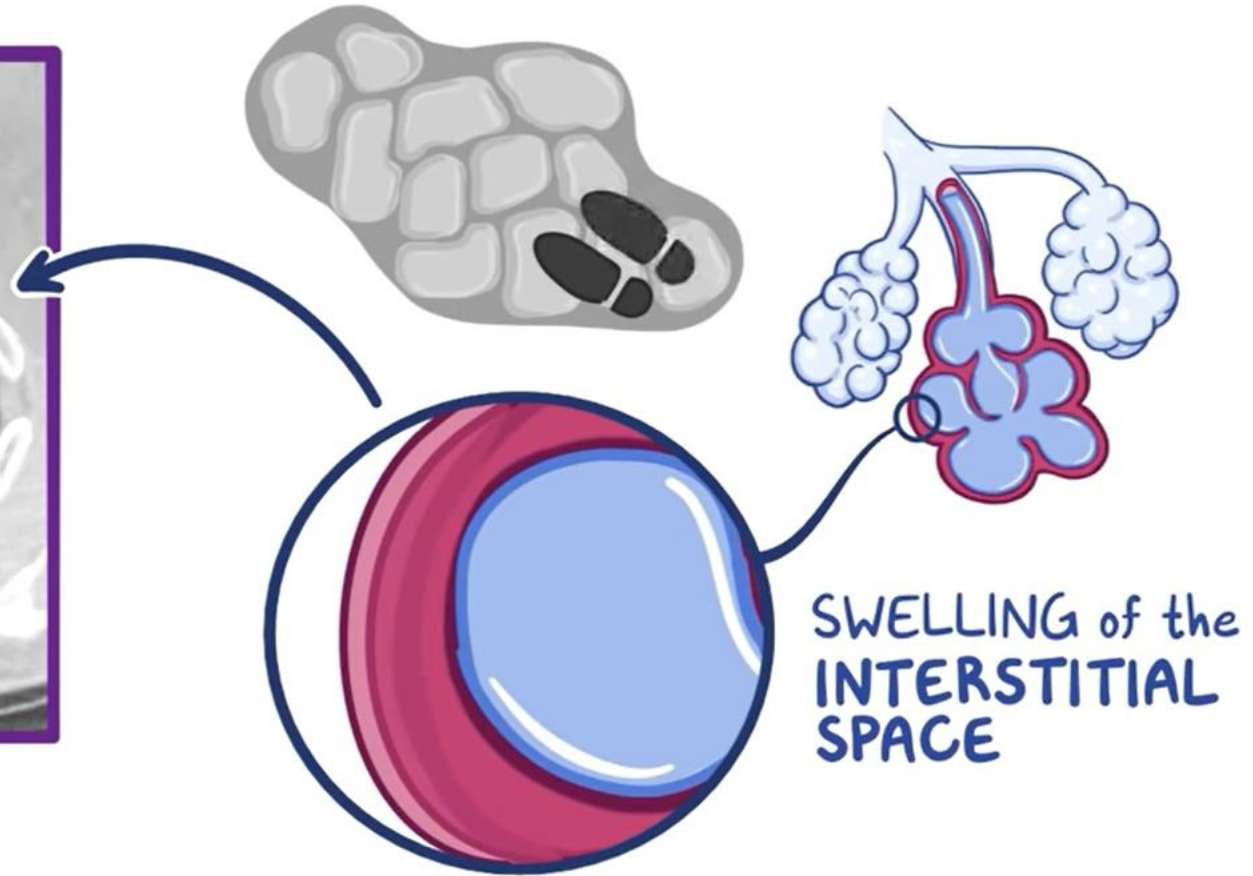
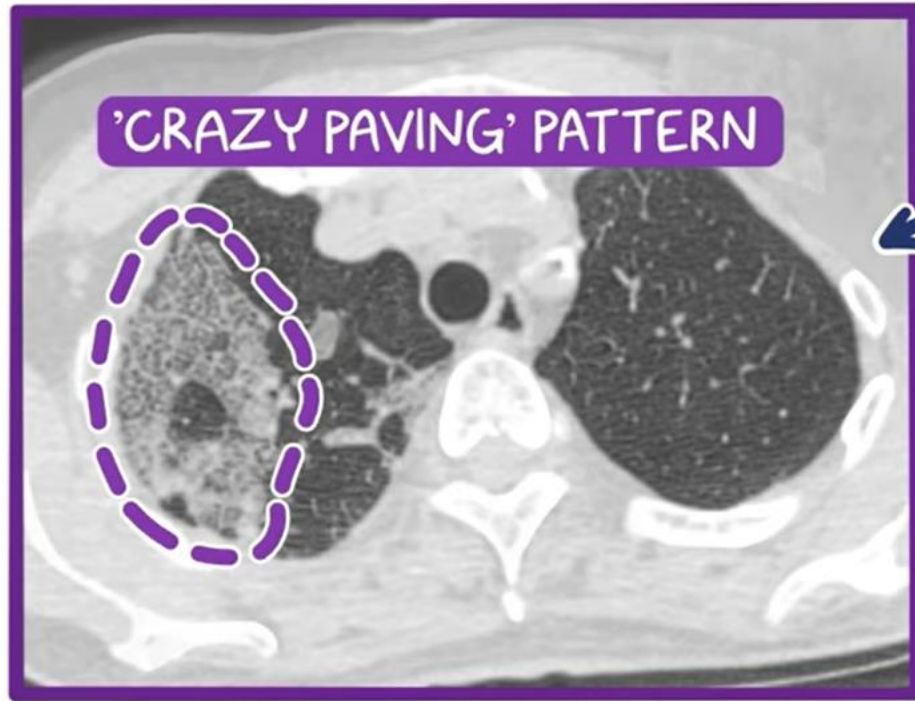


SOLID WHITE 'CONSOLIDATION'



ALVEOLI
FILLING
w/ FLUID

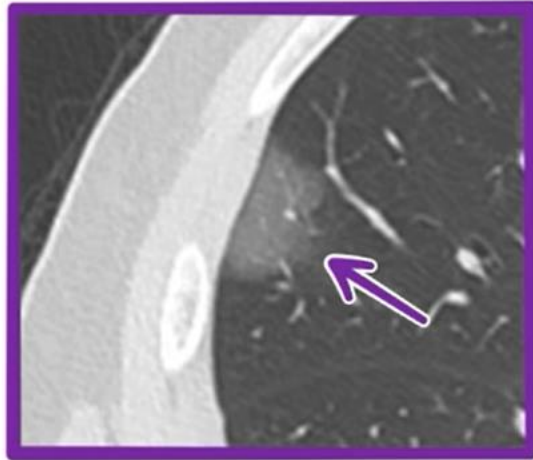
COVID IMAGING FEATURES



COVID IMAGING FEATURES

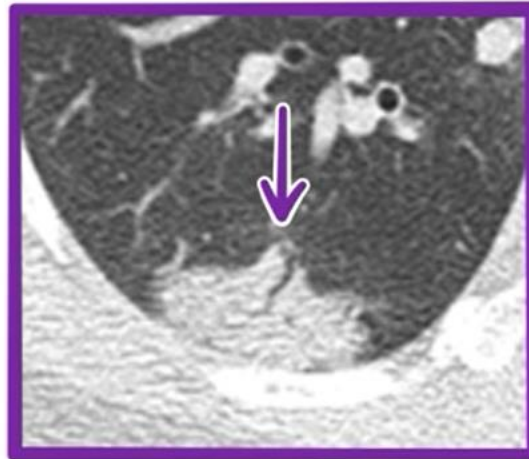
in ISOLATION or in COMBINATION

GROUND GLASS OPACITIES

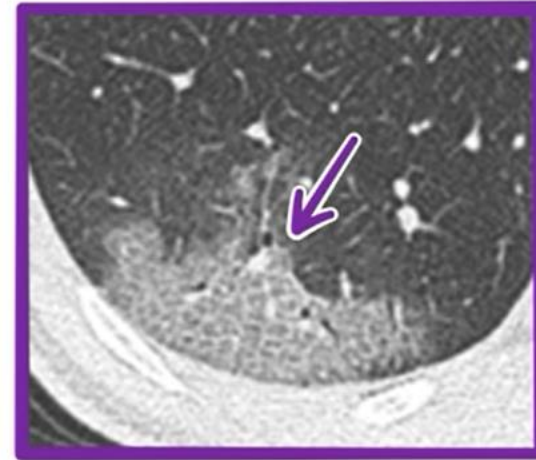


* FIRST SIGN *

CONSOLIDATIONS

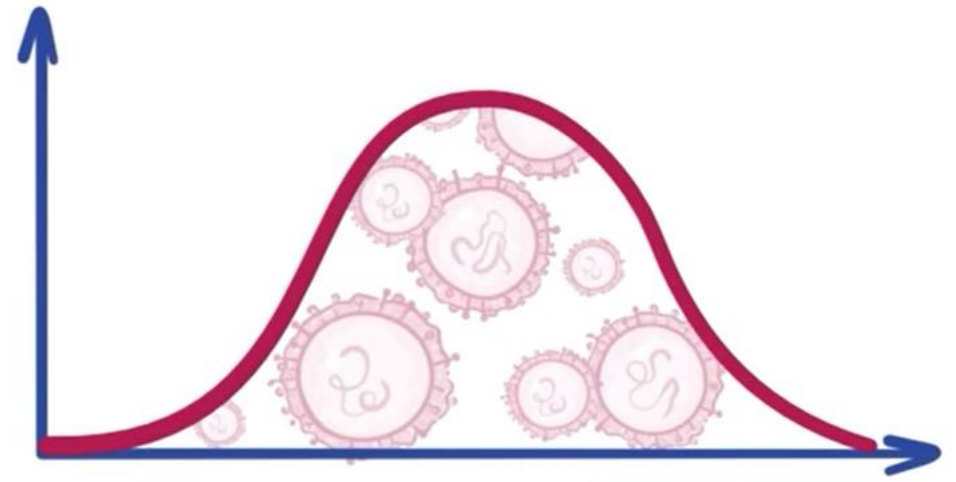
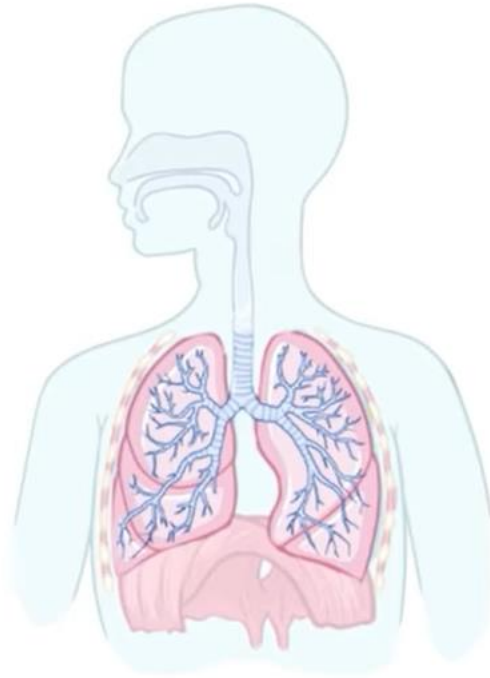


CRAZY PAVING PATTERN



USUALLY IN:

- ~ MULTIPLE LOBES
- ~ BOTH LUNGS
- ~ PERIPHERY

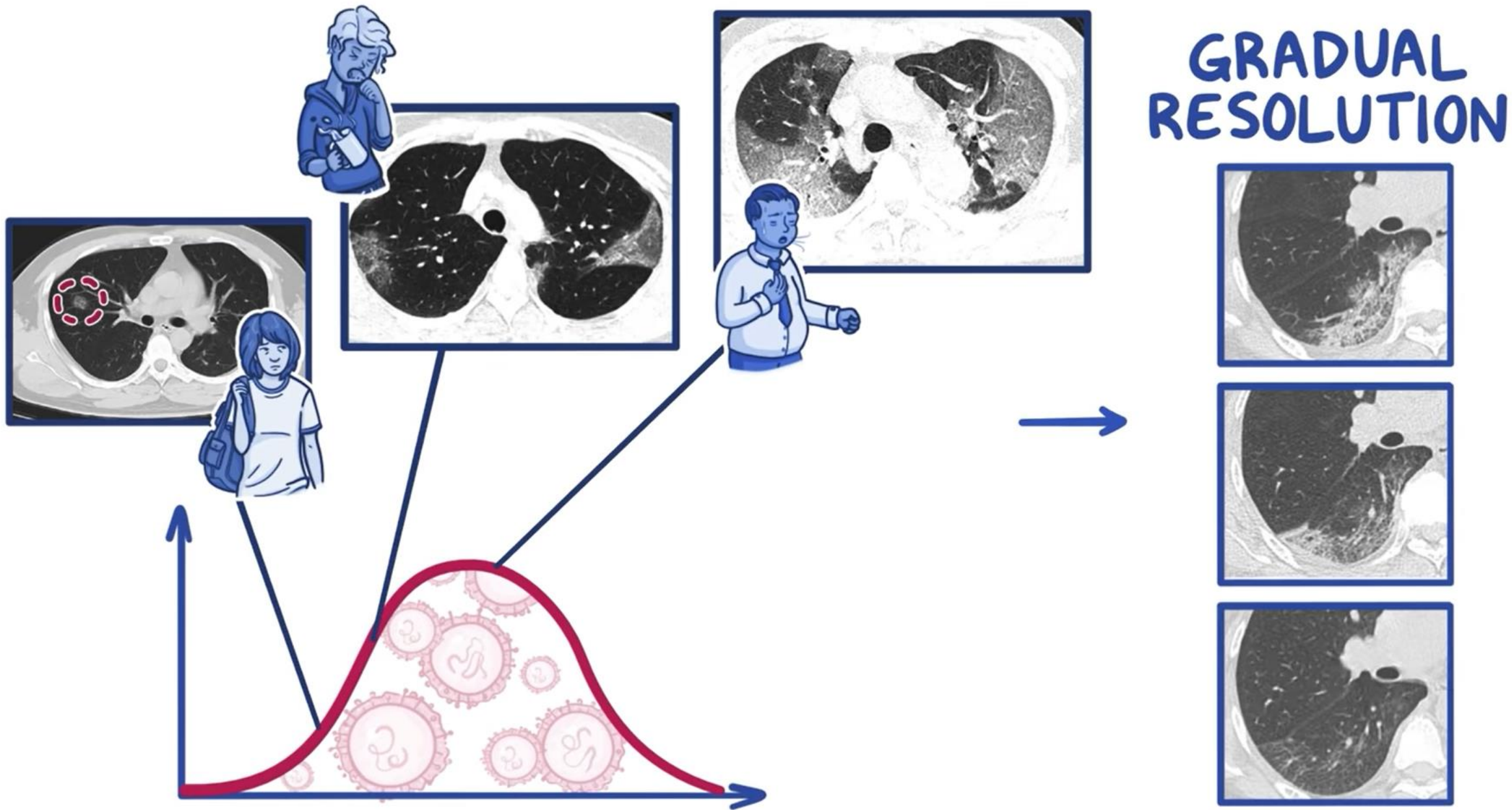


MILD

RECOVERY

~ CAN BE ISOLATED
to ONE LOBE

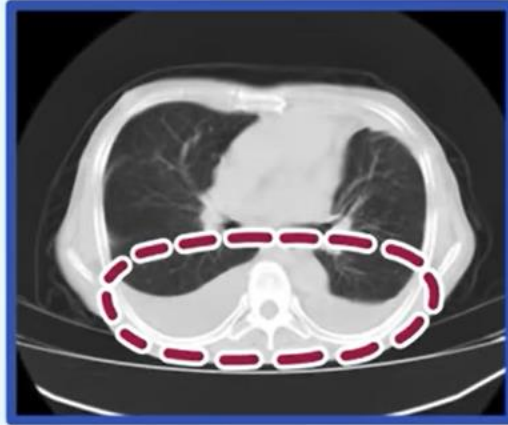




USUALLY NOT SEEN* in COVID-19

* or LESS OFTEN...

☒ PLEURAL EFFUSIONS



* COMMON IN:

- ~ CONGESTIVE HEART FAILURE
- ~ BACTERIAL PNEUMONIA

☒ LARGE LYMPH NODES

in MEDIASTINUM or HILUM



* SEEN IN:

- ~ OTHER PNEUMONIAS

☒ LUNG CAVITIES



* DEVELOP IN:

- ~ BACTERIAL & FUNGAL PNEUMONIA

COVID-19 KEY FINDINGS ALSO SEEN in...

- * VIRAL PNEUMONIA
 - ~ INFLUENZA
 - ~ ADENOVIRUS



- * + NON-INFECTIOUS CONDITIONS



FURTHER
EVALUATION
+
LAB TESTS



✓ SENSITIVE

✗ SPECIFIC

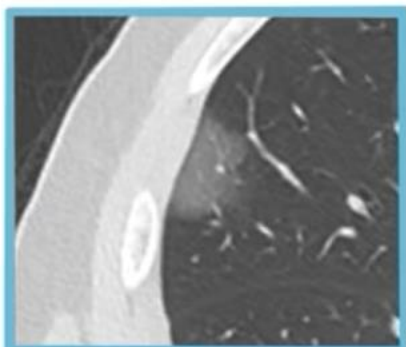
CHEST CT



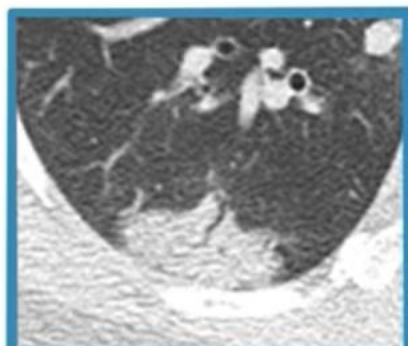
✓ **SENSITIVE**
for SEVERE CASES

✗ **SPECIFIC**

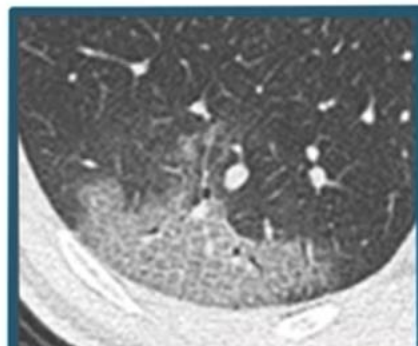
* ONLY WHEN IMPACTING MANAGEMENT *



GROUND GLASS
OPACITIES



CONSOLIDATIONS



CRAZY PAVING
PATTERN



~ ISOLATION
~ CONFIRMATORY
TESTING
~ TREATMENT