



# PREMIER

Your 24/7 Partner in Teleradiology

Redefining the market with advancements in premier customer care and profitability





= Lagniappe  
la•gniappe

/lan'yap/

something given as a bonus or extra gift



# Lagniappe



## “^Care” is Premier Care

Premier is your one-stop shop for complete radiology solutions. We offer customized services to meet the needs of your organization, and help facilities design and implement tailor made radiology solutions.

- Free initial consultation of services
- Client evaluations
- Cost-effective plans of action

## ^Customer Care



From preliminary imaging modality interpretations to final business solutions that focus on improving radiology workflow and customer service, we guarantee a first-class radiology solution. Premier Radiology Services (PRS) stands behind its service commitment to our clients, and offers STAT reports in less than 30 minutes and reads in less than one hour (on average). We utilize state-of-the-art technology and radiology workflow solutions to EXCEED American College of Radiology (ACR) standards and fully comply with HIPAA patient privacy standards.

## ^Patient Care

To provide the best service to our patients, our advanced imaging capabilities are matched by a rigorous operational utilization process. Every patient's imaging examination is uniquely tailored to ensure the highest level of diagnostic performance, image quality and patient safety. Our passion is always the true bottom line at Premier: the patient experience.





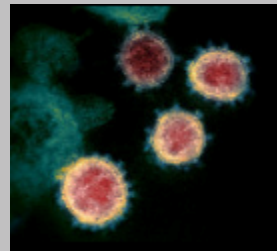
# COVID-19 Infection

- COVID-19 (Novel Coronavirus) is, as we all know, the center of every conversation and thought in our minds today
- Therefore, appropriate to focus this Chest Imaging talk toward COVID-19
- First half: COVID-19 both a brief general overview and the Radiologic Findings
- Second half: basic Chest Radiology and Chest Radiographs, an abridged version containing key pearls





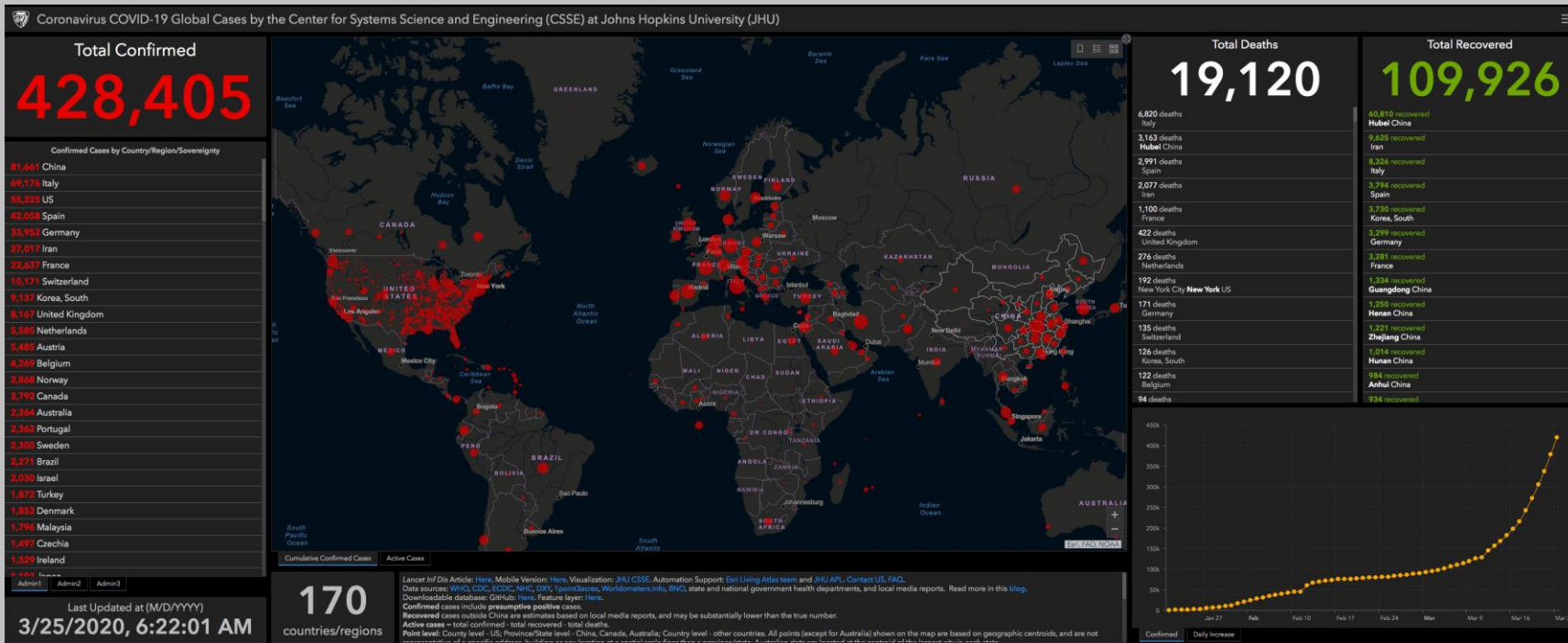
# COVID-19 Infection



- Novel Coronavirus
  - SARS-CoV-2
    - International Committee on Taxonomy of Viruses
      - Designated it as Severe Acute Respiratory Syndrome Coronavirus 2
    - Coronavirus disease 2019 (COVID-19)
    - Primarily Respiratory traction Infection
      - Severe pneumonia
      - Acute respiratory distress syndrome (ARDS)
      - Multiple-organ failure
      - Death



# COVID-19 Infection

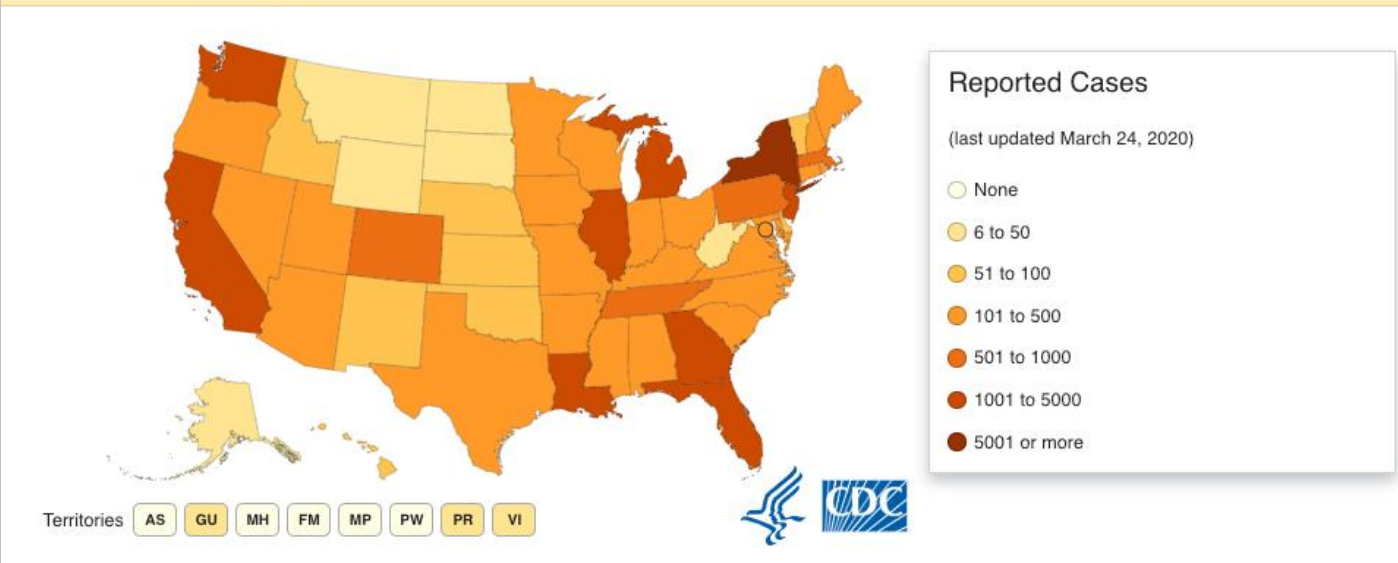






# COVID-19 Infection

States Reporting Cases of COVID-19 to CDC\*



● Georgia

1001 to 5000

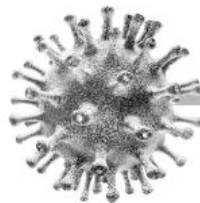


# COVID-19 Infection

## CHINA

### Coronaviruses

Coronaviruses are a large family of viruses that cause not only the common cold but also more serious respiratory illnesses



the infection traced to a Wuhan seafood market that also sold live animals



#### Middle East Respiratory Syndrome (MERS)

Identified in Saudi Arabia in 2012 - Spread to 27 countries. 2,494 confirmed cases | 858 deaths



#### Severe Acute Respiratory Syndrome (SARS)

Emerged in southern China in 2002 - Spread to 30 countries. 8,437 cases | 813 deaths





# COVID-19 Infection

## Terminology

The World Health Organization (WHO) originally called this illness "novel coronavirus-infected pneumonia (NCIP)" and the virus itself had been named "2019 novel coronavirus (2019-nCoV)" <sup>1</sup>.

On 11 February 2020, the WHO officially renamed the clinical condition COVID-19 (a shortening of CORonaVirus Disease-19) <sup>15</sup>. Coincidentally, on the same day, the Coronavirus Study Group (CSG) of the International Committee on Taxonomy of Viruses renamed the virus "severe acute respiratory syndrome coronavirus 2" (SARS-CoV-2) <sup>16,22,46</sup>. The names of both the disease and the virus should be fully capitalized, except for the 'o' in the viral name, which is in lowercase <sup>16,22,41</sup>.

The official virus name is similar to sudden acute respiratory syndrome (SARS) and its causative virus, SARS-CoV, potentially causing confusion <sup>38</sup>. The WHO has stated it will use "COVID-19 virus" or the "virus that causes COVID-19" instead of its official name, SARS-CoV-2, in dealings with the public <sup>45</sup>.



# COVID-19 Infection

## Etiology

On 9 January 2020, the World Health Organization (WHO) confirmed that SARS-CoV-2 was the cause of COVID-19 (2019-nCoV was the name of the virus at that time) <sup>14,37</sup>. It is a member of the *Betacoronavirus* genus, one of the genera of the *Coronaviridae* family of viruses. **Coronaviruses** are enveloped single-stranded RNA viruses, that are found in humans, many other mammals, and birds. These viruses are responsible for pulmonary, hepatic, CNS, and intestinal disease.

As with many human infections, SARS-CoV-2 is **zoonotic**. The closest animal coronavirus by genetic sequence is a bat coronavirus, and this is the likely ultimate origin of the virus <sup>11,19,26</sup>. The disease can also be transmitted by snakes <sup>24</sup>.

Hitherto, six coronaviruses have been known to be responsible for human diseases. Two are zoonoses: the severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), both of which may sometimes be fatal. The remaining four viruses are widespread in human society, causing the common cold.



# COVID-19 Infection

- **ACR Recommendations for use of CXR and Chest CT for Suspected COVID-19 Infection**
- CDC does NOT currently recommend CXR or CT to diagnose COVID-19.
- Viral testing remains the only specific method of diagnosis
- Confirmation with viral test is required, even If radiologic findings are suggestive of COVID-19 on CXV or CT.
- General findings on Chest Imaging in COVID-19 is NOT specific, and overlap with other infections including:
  - Influenza
  - H1N1
  - SARS
  - MERS



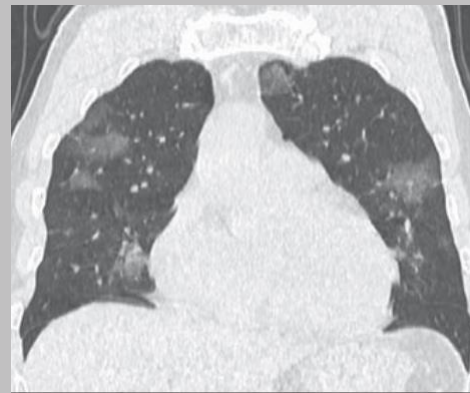
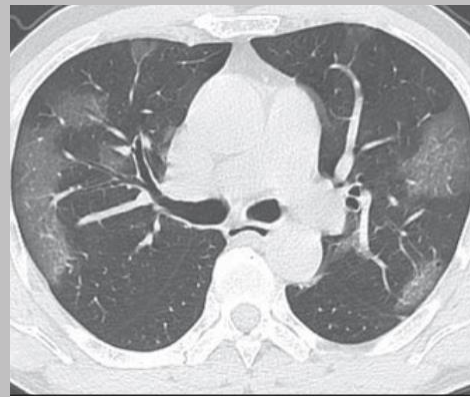
# COVID-19 Infection

- CT Scan Early Findings
  - Multifocal, peripheral, pure GGO (ground glass opacities)
  - Peripheral or posterior distribution
  - Mainly Lower lobes
  - Less frequently RML.
  - Less likely consolidation (early) and more likely GGO.
  - Findings on CT can be very similar to Influenza-A.
  - Regions of GGP transform into Consolidation is a later stage

64 yo man with pneumonia from COVID-19

Fever as initial symptom

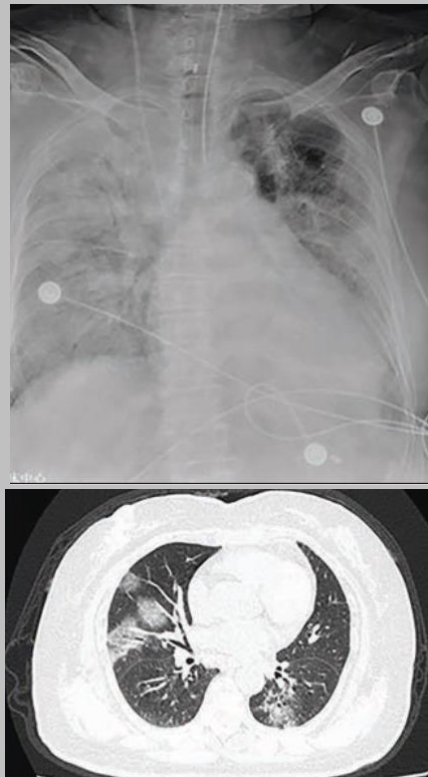
CT- multifocal peripheral patchy ground glass opacities





# COVID-19 Infection

- 79yo Woman with chest pain, cough and fever for 3 days.
  - + RT-PCR test
    - Reverse transcription-polymerase chain reaction
  - COVID-19 had been recently diagnosed in 2 of her household member.



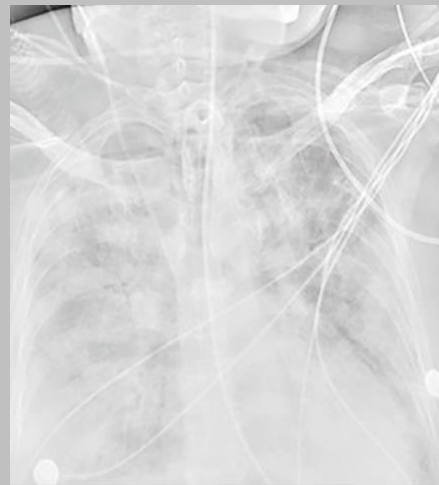
Day 1

CT and CXR shows ground glass opacification (GGO)



# COVID-19 Infection

- 79yo Woman with chest pain, cough and fever for 3 days.
  - + RT-PCR test
    - Reverse transcription-polymerase chain reaction
  - COVID-19 had been recently diagnosed in 2 of her household member.



Day 4

CT and CXR shows GGO has progressed to airspace consolidation





# PREMIER

Thank  
You

We at Premier Radiology Services and FLEX Teleradiology understand what a trying time this is on our clinical colleagues. That is why our CMO Dr. Luchs has been offering and teaching our clinical colleagues/clients with his webinar Chest Radiology review highlights in the Radiographic Findings of COVID-19 and the ACR updated recommendations on Imaging of COVID-19.



# PREMIER

## Chest Radiology Review with COVID-19 Highlight

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