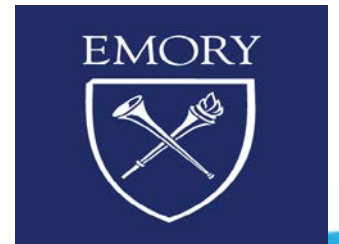


# “I’m having trouble breathing”

Anna Q. Yaffee, MD, MPH

Associate Professor, Emergency Medicine

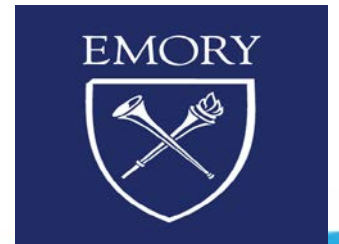
Emory University School of Medicine



# HPI: Ms. Smith, 68yo F with trouble breathing



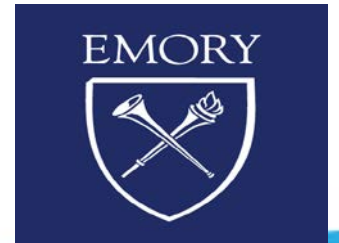
- Began 2 days ago
- Associated symptoms: cough, substernal chest pain, headache, and "feels hot"
- Past Medical History: hypertension, diabetes, and asthma
- Social History: works in an elementary school cafeteria, smokes cigarettes occasionally, **no travel**



# Physical Exam

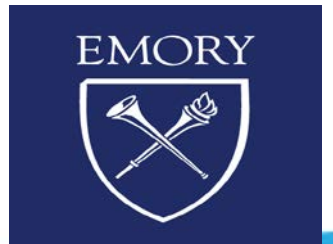


- Vital Signs: Temp 38.3C, HR 108, BP 104/74, SpO2 92% on RA, RR 24
- General: Alert, no acute distress, uncomfortable appearing
- HEENT: PERRL, posterior oropharynx clear
- CV: tachycardic but regular
- Resp: tachypneic, no accessory muscle use, diminished breath sounds in bases b/l
- GI: soft, nontender
- Neuro: AOx3, no focal deficits
- Extremities: no swelling noted



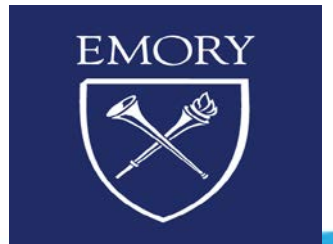
# Differential Diagnosis

- Infectious: COVID-19, Influenza, RSV, viral URI, bacterial pneumonia, empyema/pleural effusion
- Pulmonary: Pulmonary embolism, Pneumothorax, reactive airway disease exacerbation
- Cardiac: pericardial effusion, acute coronary syndrome, myocarditis, pericarditis, heart failure



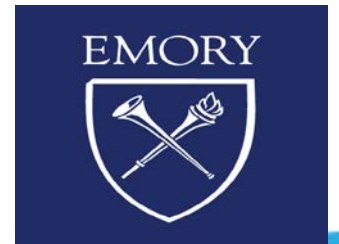
# What additional information do you need?

- Known sick contacts?
- Vaccination status for COVID and flu?
- History of immobilizations?
- History of trauma?
- Cardiac risk factors?



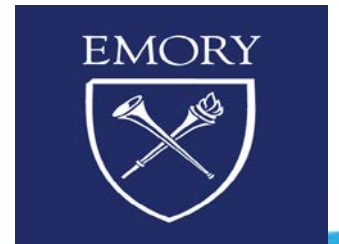
# What additional information do you need?

- Known sick contacts? *No one that she knows of*
- Vaccination status for COVID and flu? *Received 2 doses of COVID vaccine, has not yet gotten her flu shot*
- History of immobilizations? *Denies*
- History of trauma? *Denies*
- Cardiac risk factors? *No personal or family history of coronary artery disease*



# Investigations and Interventions

- Basic labs including
  - CBC, Metabolic Panel
  - Lactic Acid, Procalcitonin
  - Cardiac enzymes/BNP, EKG
  - Viral swab for COVID/RSV/Influenza A/B
- Chest Xray
- Administer antipyretic, gentle IV fluids, and 2L O2 by nasal cannula
- Considerations of Emergency Department flow:
  - **What type of room does this patient require?**
  - **What type of bedside resources does this patient require?**
  - **What is ultimate patient disposition?**

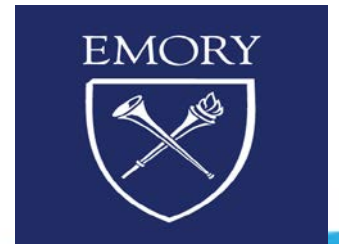




# Re-evaluation



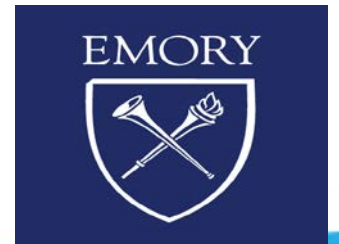
- Work up so far notable for mildly elevated lactic acid, procalcitonin, and WBC 13.1.
- CXR as shown
- Repeat VS: T 37.1C, HR 101, BP 114/82, SpO2 98% on 2L NC, RR 18





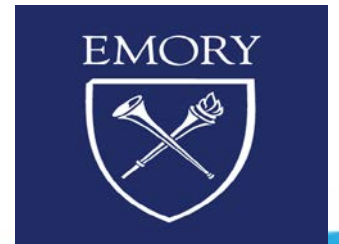
# Lab calls – Influenza A positive

- Treatment?
  - Oseltamivir x 5 days
  - Supportive care – supplemental O2, judicious IV fluids
  - When to consider empiric antibiotics for secondary infection
    - Patients with respiratory failure
    - Patients failing to improve after antiviral treatment
    - Patients who continue to have fever
- Disposition?
- Isolation precautions?



# Special Considerations for Risk of Severe Disease

- Severe presenting disease
- Children < 2 years or Adult > 64 years
- Pregnant or up to 2 weeks postpartum
- Nursing home/LTAC resident
- History of chronic disease particularly asthma, chronic lung disease, heart disease, diabetes, immunocompromise, neurologic conditions



# How did Ms. Smith contract influenza A?

- Exposure
  - Works in an elementary school cafeteria, likely unmasked exposures
- Underlying comorbidities
  - Smokes cigarettes
- **UNVACCINATED!**

