Emergency Departments - Clinical, Lab, and Imaging Diagnosis during COVID-19 Guideline - April 16, 2020 0800

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Introductions: Please refer to the most up to date copy of "**COVID-19 ED Workflow**" available on ECS SharePoint to determine when and whether to obtain a COVID-19 PCR test and what type to obtain (rapid vs standard).

Symptoms of Patients with COVID-19

Symptom	Incidence	Symptom	Incidence
Fever	44%-50% at admission (83-98% during admission)	GI Symptoms	About 10% have these *before* cough/dyspnea
Dry Cough	67.8-82%	Abdominal pain	4%
Dyspnea	18.7-55% (more common in those with worse outcomes)	Diarrhea	10%
Myalgia	11%	Vomiting	8%
Fatigue	38%		
Sore Throat	13.9%		

COVID-19 PCR Testing in the ED

1. There are no high-quality studies comparing the PCR tests to a gold standard.
2. Assume high specificity: A **positive test indicates the patient has the disease**
3. Do not assume high sensitivity: A **negative test DOES NOT rule out the disease**. False negatives are happening for multiple reasons.
4. If admitting a patient with an initial negative ED-performed COVID-19 test and symptoms consistent with COVID-19, continue Severe Respiratory Isolation PPE standards and the admitting team can consider repeat testing (e.g. tracheal aspirate for intubated patients).
5. For patients being discharged there is **no clinical reason to re-test the patient in the ED** unless they return to the ED with worsening symptoms requiring admission.

Supplemental Lab Studies for Patients Requiring Admission That May Aid Prognosis / Risk Stratification

1. Complete Blood Count with differential
2. Complete Metabolic Panel
3. D-dimer, PT/PTT, Fibrinogen
4. CRP/ESR, LDH, IL-6
5. Troponin/BNP: **Only** if suspected acute coronary syndrome or heart failure
6. Blood cultures: **Only** if suspected concomitant bacterial infection with bacteremia

Imaging Studies

1. A **normal chest x-ray does not rule out COVID-19**. Many findings are compatible with COVID-19 (focal consolidation, pulmonary edema, reticular nodular opacities among others).
2. A **normal chest CT does not rule out COVID-19.** Reserve chest CT for specific clinical questions (e.g. pulmonary embolism). A variety of findings could be consistent with COVID-19, most commonly ground-glass opacities.
3. Point of Care Lung ultrasound correlates well with CT findings. Findings may correlate with disease severity: Scattered B-lines → Confluent B-lines → Small peripheral consolidations → Larger consolidations

Note: Recommendations for management of COVID patients is rapidly changing. This information is felt to represent the best initial approach based on expert opinion and case reports. References