UW Medicine Emergency Department Risk Assessment Algorithm for COVID-19

**Symptomatic COVID-19+ or PUI**

- **Stable Vital Signs**
  - Without $O_2$ Requirement ($\geq94\%$)
  - **Low Risk**
    - No Risk Factors and normal physical exam
    - Rapid Influenza/RSV and/or COVID-19 Test per clinical judgment*
  - Consider Discharge* with COVID-19 Isolation Instructions
  - **Increased Risk**
    - Risk Factors or abnormal physical exam
    - COVID-19 Test*
    - Rapid Influenza/RSV, COVID Labs, and COVID Imaging per clinical judgement
  - Considerable Risk Factors and/or considerable Risk Factors for Progression to Severe Disease
  - **Moderate illness**
    - $S_{O_2} \geq94\%$ and stable vitals on $\leq5L$ by Nasal Cannula
    - Rapid Influenza/RSV per clinical judgement
    - COVID-19 Test
    - COVID Labs
    - COVID Imaging
  - **Critical illness**
    - $S_{O_2} <94\%$ and/or unstable vitals on $5L$ by Nasal Cannula
    - Rapid Influenza/RSV per clinical judgement
    - COVID-19 Test
    - COVID Labs
    - COVID Imaging
    - 10L $O_2$ by face mask or intubation and Admit ICU#

- **Abnormal Vital Signs**
  - and/or $O_2$ Requirement (<94%)

  - **Low Risk**
    - No Risk Factors and normal physical exam
    - Rapid Influenza/RSV and/or COVID-19 Test per clinical judgment*

  - **Increased Risk**
    - Risk Factors or abnormal physical exam
    - COVID-19 Test*
    - Rapid Influenza/RSV, COVID Labs, and COVID Imaging per clinical judgement

  - **Moderate illness**
    - $S_{O_2} \geq94\%$ and stable vitals on $\leq5L$ by Nasal Cannula
    - Rapid Influenza/RSV per clinical judgement
    - COVID-19 Test
    - COVID Labs
    - COVID Imaging
  - **Critical illness**
    - $S_{O_2} <94\%$ and/or unstable vitals on $5L$ by Nasal Cannula
    - Rapid Influenza/RSV per clinical judgement
    - COVID-19 Test
    - COVID Labs
    - COVID Imaging
    - 10L $O_2$ by face mask or intubation and Admit ICU#

* See UW med ID testing recommendations. Consider COVID-19 testing and/or special discharge assistance for pregnant women, people living homeless or in congregate facilities, for those with known positive exposures, and healthcare workers. # for confirmed COVID-19 +, consider ID consult for hydroxychloroquine for patients with hypoxia or patients with risk factors without hypoxia.

**Risk Factors**
- Age ≥ 60
- Immune deficiency: immune modulators, immunosuppressive medications including corticosteroid treatment at the equivalent of 20 mg of oral prednisone or more daily, detectable HIV VL or CD4 count<200 cells/mm3
- Altered mental status (GCS < 15)
- Evidence of Lower Respiratory Tract Infection

**COVID labs**
- CBC with diff
- CMP
- CRP
- LDH
- DIC Panel (PT, aPTT, fibrinogen, D-dimer)
- Cardiac: ECG, CPK, Troponin, and BNP
- Venous lactate
- With pneumonia = blood cultures

**COVID Imaging**
- Consider the following:
  1. Portable Chest Xray
  2. POC Lung Ultrasound
  3. Chest CT only if above imaging is inconclusive or considering alternative diagnosis (trauma, PE, dissection, ACS)

**Risk Factors for Progression to Severe Disease**
- $D$-Dimer > 1.0 ug/ml
- $CPK > 2x ULN$
- $CRP > 100, LDH >245$
- Hepatic Transaminase elevation
- New Creatinine elevation
- Troponin elevation
- Abs lymphocyte count <0.8
- Lactate > 4
- Extensive bilateral and/or worsening pulmonary infiltrates
- Exertional $S_{O_2} <90\%$ during one-minute walk in place or unable to complete.

Adapted from: CDC, WHO, UW Medicine guidelines, Cornell ED COVID guide, MGH ICU guide for COVID-19, and available literature.


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