Montefiore COVID19 Clinical Evaluation, Management, OHS, Isolation Guidance

v. 5/12/20
COVID-19 PUI Definition

- Fever (measured or subjective), chills, rigors, cough, chest tightness, sore throat, malaise, myalgia, persistent headache, unexplained diarrhea, anosmia, ageusia, shortness of breath with clinical suspicion based on clinical data and patient presentation
- Known COVID-19 PCR+ in the last 4 weeks (unless at least 7 days from symptom onset, 72h without fever, symptoms resolved, and the patient has 2 serial negative PCR 24h apart)
- Known exposure AND fever (measured or subjective), chills, rigors, cough, chest tightness, sore throat, malaise, myalgia, persistent headache, unexplained diarrhea, anosmia, ageusia, shortness of breath OR other clinical suspicion
- Travel to a high-risk area AND fever (measured or subjective), chills, rigors, cough, chest tightness, sore throat, malaise, myalgia, persistent headache, unexplained diarrhea, anosmia, ageusia, shortness of breath or other clinical suspicion
COVID-19 Screening Questions

1. Have you been diagnosed with COVID-19 or had a positive test for COVID-19 in the last 4 weeks?

2. Have you been in contact with someone who has known or suspected COVID-19 in the last 14 days?

3. Have you had fever, chills, shaking, cough, sore throat, diarrhea, muscle aches, persistent headache, loss of taste or smell, chest tightness, or shortness of breath in the last 14 days, or been in contact with someone with one of these symptoms?

4. Have you traveled in the last 14 days?
**MHS Adult ED/Inpatient COVID-19 Screening Algorithm**

**STOP COVID HIGH Risk**
- Mask patient, Issue Orange tag
- Isolate, Inform

Provider evaluates the patient in recommended PPE

**STOP COVID-19 Intermediate Risk:**
- Mask patient, Isolate

Stable for discharge home?

**YES**
- If no prior test, and suspicious for COVID, discharge with home isolation instructions with/without testing and monitoring as needed

**NO**
- Cohort with another positive patient when possible, COVID-POSITIVE Isolation maintained until cleared by hospital epidemiology or ID, notify DOH if cluster or congregate setting

**Known COVID19 Positive Test/Diagnosis in last 4 weeks?**

**YES**
- **STOP HIGH Risk**
  - Mask patient, Issue Orange tag
  - Isolate, Inform

**NO**
- **Known Exposure or Travel to High Risk Area for COVID19?**

**YES**
- **STOP Intermediate Risk**
  - Mask patient, Isolate

**NO**
- **Initiate COVID-19 testing if not done previously**

**POSITIVE**
- Consult ID for possible additional testing and maintain COVID-like Illness (CLI) isolation

**NEGATIVE**

**Strong Clinical Suspicion for COVID19?**

**YES**
- Consult ID for possible additional testing and maintain COVID-like Illness (CLI) isolation

**NO**
- STOP Low Risk Green tag, droplet and standard precautions, COVID-NEGATIVE flag monitor for new symptoms

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**Isolation and Personal Protective Equipment (PPE) for Orange Pathway:**

- **Droplet/Contact/Standard with Eye Protection recommended, and placement in private room with door closed if safe to do so (or cohort 2 confirmed cases together). IF aerosol-generating procedure required or anticipated, Airborne/Contact/Standard with Eye protection recommended in negative pressure room**
  - Contact/droplet/standard PPE=Surgical mask with fluid shield, Contact isolation gown, gloves
  - Airborne/droplet/standard PPE=N95 mask, face shield, Contact Isolation gown, gloves

- **Aerosol generating procedures**=Sputum induction, Open suctioning of airways, Bipap/CPAP (limit to only OSA or HFNC unavailable), HFNC, Nebulizer Treatment (try to substitute MDI), Bag-Mask ventilation, Cardiopulmonary resuscitation, Bronchoscopy, Active Intubation/Extubation, ongoing ventilation with a device that does not have a closed circuit such as LTV
**MHS Pediatric ED/Inpatient COVID-19 Screening Algorithm**

**Known COVID19 Positive Test?**

- **YES**
  - **STOP COVID-19**
  - **High Risk**
  - **Isolate, Inform**
    - Single room when possible or cohort with another positive patient
    - Isolation maintained until cleared by hospital epidemiology or ID
    - Notify DOH if cluster or congregate setting

- **NO**
  - **Positive COVID test or clinical syndrome suggestive of COVID?**
    - **YES**
      - Admit to cohort unit, send COVID test to in-house lab, alert Peds ID/Infection Control
    - **NO**
      - **Droplet and Standard Precautions**

**Known Exposure to COVID-19 or travel within the last 14 days?**

- **YES**
  - **STOP COVID-19**
  - **Intermediate Risk**
  - If no prior test, discharge with home isolation instructions without testing

- **NO**
  - **STABLE for discharge home?**
    - **YES**
      - If no prior test, discharge with home isolation instructions without testing
    - **NO**
      - **If no prior test, discharge with home isolation instructions without testing**

**Isolation and Personal Protective Equipment (PPE) for Orange and Blue Pathway:**
- **Droplet/Contact/Standard with Eye Protection recommended, and placement in private room with door closed if safe to do so. IF aerosol-generating procedure required or anticipated, Airborne/Contact/Standard with Eye protection recommended in negative pressure room if available**
  - Contact/droplet/standard PPE=Surgical mask with fluid shield, Contact isolation gown, gloves
  - Airborne/droplet/standard PPE=N95 mask, face shield, Contact Isolation gown, gloves
  - **Aerosol generating procedures**=Sputum induction, Open suctioning of airways, Bipap/CPAP (limit to only OSA or HFNC unavailable), HFNC, Nebulizer Treatment (try to substitute MDI), Bag-Mask ventilation, Cardiopulmonary resuscitation, Bronchoscopy, Active Intubation/Extubation
**MHS Adult Procedure COVID-19 Screening Algorithm**

**Known COVID19 Positive Test/Diagnosis in last 4 weeks?**
- YES
  - strong clinical suspicion for COVID19?
    - YES
      - procedure can safely be delayed by 2 weeks?
        - YES
          - initiate COVID-19 testing 24-48h prior to procedure (if non-emergent)
        - NO
          - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
    - NO
      - can the procedure safely be delayed by 2 weeks?
        - YES
          - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
        - NO
          - strong clinical suspicion for COVID19?
    - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
  - NO
    - can the procedure safely be delayed by 2 weeks?
      - YES
        - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
      - NO
        - known COVID exposure or travel to high risk area for COVID19?
    - NO
      - can the procedure safely be delayed by 2 weeks?
        - YES
          - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
        - NO
          - yes
            - initate COVID-19 testing 24-48h prior to procedure (if non-emergent)
  - NO
    - signs and symptoms
      - subjective or measured fever ≥38.0°C (100.4°F)
      - OR
        - chills, rigors, cough, chest tightness, sore throat, malaise, myalgia, persistent headache, unexplained diarrhea, anosmia, ageusia, shortness of breath
    - known COVID exposure or travel to high risk area for COVID19?
      - YES
        - COVID-low risk
          - COVID-NEGATIVE infection flag, universal droplet /standard precautions, procedure done in COVID negative designated area and pre/post-procedure care done in COVID free unit/are, only cohort with other negative patients only
        - NO
          - COVID-high risk
            - can the procedure safely be delayed by 2 weeks?
              - YES
                - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
              - NO
                - procedure done in COVID+ designated area and pre/post-procedure care done in COVID+ unit/are, only cohort with other positive patients if needed
      - NO
        - can the procedure safely be delayed by 2 weeks?
          - YES
            - reschedule procedure, re-screen for symptoms prior to new procedure date and ensure PCR done 24-48h
          - NO
            - initiate COVID-19 testing 24-48h prior to procedure (if non-emergent)

*During all invasive procedures N95, eye protection, gown, gloves should be worn regardless of COVID status*

For pre- and post-operative isolation, universal droplet is in place for all patients. Patients and all associates should be wearing surgical masks (or N95 if needed for healthcare workers) and standard precautions should be taken including strict handwashing and glove use.

For COVID+, COVID high- or intermediate-risk patients before and after a procedure:

- No aerosol-generating procedure ongoing: Droplet/Contact/Standard with Eye Protection=Surgical mask or N95 mask with face shield/goggles, isolation gown, gloves). Placement in private room with door closed if safe to do so. It is permitted to cohort positive patients together, and COVID-like-illness/suspect patients together if single room if necessary
- Aerosol-generating procedure required: Airborne/Contact/Standard with Eye protection=N95 mask, face shield, isolation gown, gloves. Placement in negative pressure room or area
- **Aerosol generating procedures**=Sputum induction, Open suctioning of airways, Bipap/CPAP (limit to only OSA or HFNC unavailable), HFNC, Nebulizer Treatment (try to substitute MDI), Bag-Mask ventilation, Bronchoscopy, Active Intubation/Exubation, cardiopulmonary resuscitation, ongoing ventilation with a device that does not have a closed circuit such as LTV
Ambulatory MHS COVID-19 Algorithm

Patient Arrives at Registration

- Workup at provider discretion, patient should self-quarantine at home until 7 days after symptom onset, afebrile x72h, and resp sx improving, give home care handout ** and directions to call provider for worsening symptoms

Reg performs screening for any:
- COVID+ diagnosis last 4 weeks
- Symptoms of COVID in the last 14 days: Fever, Chills, Rigors, Cough, Sore Throat, Shortness of breath, Headache, Myalgia/Fatigue, Anosmia, Ageusia, Unexplained diarrhea, Sick contact or Exposure in the last 14 days

Mask patient and visitor, Continue with check-in

Negative

Mask patient and visitor, escort in gloves/mask

Visit proceeds

Transfer to designated room & close door

Provider dons PPE, evaluates the patient*

Positive

Notify the ED and EMS if patient requires transfer to a hospital

Is patient stable for home isolation?**

Does patient have COVID symptoms or other concern for COVID?

NO

YES

NO

YES

**Ambulatory PPE for possible COVID is N95 (or surgical mask if unavailable), eye protection, gown, gloves. N95’s should be worn for AGP in all pts
Masking of Patients

ANY SUSPECT OR CONFIRMED COVID19 PATIENT SHOULD BE MASKED AT ALL TIMES DURING ED AND HOSPITAL STAY IF POSSIBLE
## Clinical Profile of COVID19

<table>
<thead>
<tr>
<th>Major Features</th>
<th>Clinical Symptoms and Syndromes</th>
<th>Negative Infectious Workup for Other Pathogens</th>
<th>Imaging Consistent with Viral Pneumonitis</th>
<th>Laboratory Abnormalities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Fever/Chills/Rigors</td>
<td>• Blood culture</td>
<td>• CXR with bilateral infiltrates</td>
<td>• Leukopenia/lymphopenia</td>
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<td></td>
<td>• Cough</td>
<td>• Respiratory culture</td>
<td>• Pulmonary ultrasound with bilateral infiltrates</td>
<td>• Thrombocytopenia</td>
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<td>• Sore Throat</td>
<td>• S. Pneumoniae &amp; Legionella urine antigens</td>
<td>• CT with bilateral ground glass opacities</td>
<td>• Elevated PT</td>
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<td>• Chest Tightness</td>
<td>• Strong clinical suspicion for or witnessed aspiration</td>
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<td>• Elevated D-dimer</td>
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<td>• Shortness of breath</td>
<td>• If done, Flu and/or RPP negative</td>
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<td>• Elevated LDH</td>
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<td></td>
<td>• Headache</td>
<td>• Positive SARS-CoV-2 PCR or Antigen</td>
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<td>• Myalgia/Fatigue</td>
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<td>• Anosmia/Ageusia</td>
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<td>• Unexplained Diarrhea</td>
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<td>• New hypoxia or need for supplemental oxygen</td>
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<td>• Need for non-invasive or invasive mechanical ventilation</td>
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<td></td>
<td>• Shock</td>
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<td></td>
<td>• Cytokine storm</td>
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<td>• PMIS in children</td>
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</tbody>
</table>

If a patient develops a clinical profile or features consistent with possible COVID19→ **convert to ORANGE:**

1. Mask the patient
2. Isolate (droplet/contact/standard in a private room with door closed, OR airborne/contact/standard in a negative pressure room ONLY IF aerosol-generating procedure required*) with order in Epic and signs up for isolation
3. Infectious Diseases and Critical Care Consult (if unstable)

* Aerosol-generating procedures: BiPAP/CPAP, NFNC, Bag-Mask ventilation, nebulizer, intubation/extubation, ongoing ventilation with a device that does not have a closed circuit such as LTV, bronchoscopy, sputum induction, or open airway suctioning
Admission Guidelines for COVID-19

- O2 Sat

< 90%
- Strongly consider admission in the setting of acute respiratory and ILI symptoms regardless of co-morbidities. Order full w/u with in-house SARS CoV 2 test and contact/droplet isolation.
- Consider discharge for patients who are home O2-dependent or having a recurrent CHF exacerbation if no other symptoms of Covid-19 are present.
- Send in-house SARS CoV 2 test on all discharged patients and arrange a follow-up call within 24 hours.

91-94%
- Consider admission for patients with acute respiratory and ILI symptoms who are over 65 years old and/or with significant co-morbidities such as IDDM, chronic lung, kidney or liver disease, active immune suppressive chemotherapy, etc. Order full w/u with in-house SARS CoV 2 test and contact/droplet isolation.
- Consider admission for younger patients without chronic comorbidities only if persistent GI losses that cannot be corrected in ED over 10 hours or unable to care for self/no home support. Very few patients should meet this criteria.
- SNF patient or those in congregate settings need admission until PCR negative
- Consider discharge for patients who are home O2-dependent or having a recurrent CHF exacerbation if no other symptoms of Covid-19 are present.
- CXR with viral pneumonia, by itself, does not require admission.
- Send SARS CoV 2 test on all discharged patients and arrange a follow-up call within 24 hours.

≥95%
- ILI symptoms do not require any testing or admission unless significant additional stressor such as known Covid+ and living in SNF, shelter or other uncontrolled congregate setting
- CXR with viral pneumonia, by itself, does not require admission.
- Address other chief complaints (Neuro, GI, etc.) as required. Strongly consider outpatient management for patients who do not require prolonged telemetry monitoring and have stable vital signs. Provide trial of PO abx in lieu of IV abx with follow up call within 24 hours.
- Send SARS CoV 2 test on all discharged patients and arrange a follow-up call within 24 hours.
INPATIENT ISOLATION, PLACEMENT, AND PPE

Patient admitted with COVID or COVID-Like Illness

- No aerosol generating procedure needed
  - Contact + Droplet
    - Private room with door closed if safe to do so

- Intermittent aerosol generating procedure needed
  - Contact + Droplet
    - N95 mask and face shield during aerosol generating procedures*

- Frequent or continuous aerosol generating procedure needed
  - Airborne + Contact
    - Patient in negative pressure isolation room

*DOOR SIGN:
STOP: CHECK IF AEROSOL GENERATING PROCEDURE* IS IN PROGRESS OR IN THE PAST TWO HOURS. IF YES=N95

Contact + Droplet PPE: Surgical mask or N95 with eye shield, gown and gloves
Airborne + Contact PPE: N95, face shield, gown and gloves

*Aerosol Generating procedures (please also refer to COVID-19 Respiratory Guideline):
- Sputum induction
- Open suctioning of airways
- BiPAP, CPAP (should be limited to only OSA or HFNC unavailable)
- HFNC
- Nebulizer Tx (avoid if possible, substitute MDI)
- Bag-Mask ventilation
- Bronchoscopy
- Cardiopulmonary Resuscitation
- Active Intubation/Extubation
- Ongoing ventilation with a device that does not have a closed circuit such as LTV
OUTPATIENT ISOLATION, PLACEMENT, AND PPE

Ambulatory Encounter

Low Risk Patient for COVID
- Surgical mask and Gloves
- If an in-office procedure with potential splashing will occur, add gown and eye protection

COVID Positive or Suspected COVID
- Surgical mask and N95 with eye shield, gown and gloves
- Separate from others in waiting area immediately
- Designated private exam room

Droplet + Standard

Aerosol generating procedure needed
- N95, face shield, gown and gloves
- Patient in negative pressure isolation room or designated private room
- Minimize HCW in the room
- Rest the room after patient leaves for 2 hours

Airborne + Contact + Standard

*Aerosol Generating procedures (please also refer to COVID-19 Respiratory Guideline):
- Sputum induction
- Open suctioning of airways
- BiPAP, CPAP (should be limited to only OSA or HFNC unavailable)
- HFNC
- Nebulizer Tx (avoid if possible, substitute MDI)
- Bag-Mask ventilation
- Bronchoscopy
- Cardiopulmonary resuscitation
- Active Intubation/Extubation
- Ongoing ventilation with a device that does not have a closed circuit such as LTV

Contact + Droplet PPE: Surgical mask or N95 with eye shield, gown and gloves
Airborne + Contact PPE: N95, face shield, gown and gloves

DOOR SIGN:
STOP: CHECK IF AEROSOL GENERATING PROCEDURE* IS IN PROGRESS OR IN THE PAST TWO HOURS. IF YES=N95
COLLECT BOTH NP AND OP
(Same process for inpatient or ambulatory collection)

PREP WORK: PLACE LABELS VERTICALLY FOR SCANNING, PLACE ORANGE DOT/LABEL ON SPECIMEN AND BAG (do all this before entering room)

1. OBTAIN KIT WITH 2 SWABS IF POSSIBLE (ONE SKINNY ONE FAT)
2. STICK THE FAT ONE IN THE BASE OF THE THROAT AND OBTAIN A GOOD SPECIMEN
3. STICK THE SKINNY ONE IN THE DEEP NARES, HOLD FOR 3 SECONDS, THEN SWIRL AROUND FOR 15 SECONDS; REPEAT ON EACH SIDE! (This is for adults, do the best you can for peds patients)
4. IF KIT HAS ONLY 1 SWAB, FIRST STICK IN THE THROAT, THEN STICK THE SAME SWAB IN BILATERAL NARES AS ABOVE
Ordering COVID-19 Testing
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<tbody>
<tr>
<td>No known history of COVID-19</td>
<td>No</td>
<td>n/a</td>
<td>1 PCR</td>
<td>PCR- COVID-neg</td>
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<td></td>
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<td>PCR+ COVID+</td>
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<tr>
<td>No known history of COVID-19</td>
<td>Yes-current</td>
<td>n/a</td>
<td>1 PCR</td>
<td>PCR- CLI</td>
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<td>COVID-like Illness but negative testing</td>
<td>At least 10 days since symptom onset, afebrile 72h, symptoms improving</td>
<td>n/a</td>
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<tr>
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<td>2 PCR 24h apart</td>
<td>PCR- x 2 COVID-neg</td>
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