Penn Medicine COVID-19 Clinical Guide: Respiratory Clinical Emergencies

See accompanying Detailed Respiratory Therapy Escalation sheet

See complete SharePoint guideline for details – Updated 11/5/20 – Recommendations may evolve rapidly – Do not save file – If printed, update frequently – See latest version here

Respiratory Decompensation

- **Call RRT**
- 2-3 in-room floor staff initially
- PPE as for COVID+ / aerosol
- ↑nasal cannula to 8-10 L
- NRB 10-15 LPM if needed

RRT Intubation need?

NOT IMMEDIATE

COVID status

IMMEDIATE

COVID+/PUI

NON-PUI

1) Call Anesthesia STAT
2) Pre-intubation:
- Minimize personnel[1], door opening
- PPE as for COVID+ / aerosol procedure
- NRB 10-15 LPM
- If needed, 2-operator BVM with filter (RT, NCC)

3) Intubate per guidelines

- Mgmt as COVID-19 confirmed or possible per Detail sheet
- Minimize personnel[1], door opening
- NRB or HFNC + surgical mask vs. Helmet CPAP; consider awake prone positioning if P:F <150 on ≥60% FiO2

NO

Obvious non-COVID cause?[2]

TREAT AS PUI

YES

- Mgmt as "Clear non-COVID" per Detail sheet
- Triage as non-PUI

Escalating needs?[3]

NO

Floor mgmt unless other ICU need

YES (FULL CODE)

YES (DNR/DNI)

Call Anesthesia STAT

- Mgmt as COVID-19 DNR/DNI per Detail sheet
- Multidisciplinary discussion re: floor vs. ICU management
- Consider palliative care consult

Intubation decision

YES

DEFERRED

1) In AIIR[4], or 2) Unstable for transfer[5]

YES

NO

Transfer to ICU as COVID/PUI

FLOOR INTUBATION
- PPE as for COVID+ / aerosol

ICU INTUBATION
- NRB 10-15 LPM w/ surgical mask vs. Helmet CPAP; NPPV for hypercapnia
- PPE as for COVID+ / aerosol
- Intubate in ICU AIIR[5]

DEFERRED INTUBATION
- NRB 10-15 LPM w/ surgical mask vs. Helmet CPAP; NPPV for hypercapnia
- PPE as for COVID+ / aerosol

[1]Anesthesia (1-2); Nurse (1); RT (1); RRT provider (1)
[2]E.g. witnessed aspiration
[3]Persistent higher O_2 needs, ↑work of breathing
[4]Airborne Infection Isolation Room, i.e. negative pressure room
[5]Plan for ↑ transport time for PUIs

Created by J Ginestra, N Ahmed, M Shashaty – Adapted from UPHS Critical Care Committee Guidelines – Corrections: Email shashatm@pennmedicine.upenn.edu

Penn Medicine COVID-19 Clinical Guide: Detail Respiratory Therapy Escalation

See accompanying Decision Pathway for Respiratory Clinical Emergencies

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COVID-19 STATUS

Clear Non-COVID Etiology	COVID-19 Possible / PUI	COVID-19 Confirmed
Upgrade to droplet + contact PPE	**Upgrade to airborne + contact PPE**	

HYPOXEMIA

(↑WOB or SaO_2 <92% on 6L LPM)

Routine Management
(HFNC, NRB, etc.)

Consider Intubation
if rapidly progressive respiratory failure

Trial HFNC
Flow: 10-60 LPM – FiO_2: up to 100%

-or-

Temporize with NRB
Flow: 10-15 LPM

Place surgical mask over nose/mouth & O2 delivery device

-or-

Trial Helmet CPAP
Flow: 50 LPM – FiO_2: up to 60% – PEEP: 5-10
HFNC as needed for breaks (e.g. during sleep, feeding)

Consider Awake Prone Positioning

Consider ICU transfer
(see accompanying Decision Pathway)

If trial without intubation, REASSESS within 1 HR

HYPERCAPNIA

Routine Management
(NPPV, etc.)

Consider Intubation
if rapidly progressive respiratory failure

Trial NPPV
PS 5-10 – PEEP: 8-10 – FiO_2: 60% (SaO2 goal 88-92%)

Consider ICU transfer
(see accompanying Decision Pathway)

If trial without intubation, REASSESS within 1 HR

Stable Chronic Hypercapnia

Routine mgmt. for non-COVID-19 patients

For COVID-19 confirmed and PUI:
OSA only: Avoid NPPV for this indication
COPD, OHS, NMD: Contact NPPV team for approval

NIV Team Phone Numbers

HUP: 215-964-7480
PMC: 215-964-7480
PAH: 610-529-5171
CCH: 610-731-9736
MCP: 732-672-6450
LGH: 412-491-7603

COVID-19 DNR/DNI

Patients with **restorative** goals

Mgmt same as per table with the following modifications:

Opioid PO or IV PRN first line symptom mgmt

Engage multidisciplinary discussion to consider whether patient can be safely managed on floor despite high FiO2

Do NOT intubate

Patients with **comfort measures only** goals

Supplemental O2 via NC up to 6 LPM
Opioid PO or IV PRN first line symptom mgmt

INTUBATION

All intubations, including ICU intubations should be called **overhead STAT**

See accompanying **Decision Pathway** for intubation, triage, and ICU transfer processes

For most patients, use
Lung Protective Ventilation for ARDS

SaO_2 < 92% or pH < 7.3 despite interventions

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