

COVID RESUSCITATION

Assume all patients requiring resuscitation are COVID+

	Put mask on patient
	Bring patient to room 1) Negative Pressure Room 2) HEPA Filter Room 3) Acute Room with closed door
	Call for help (CN or delegate) When appropriate, call: ACT team, RT, MD to lead, MD to intubate If Arrest: May need 6+ RNs (2 in room, Charter, Runner, 2 additional RNs to help with meds/CPR etc.)
	Huddle <input type="checkbox"/> Assemble Team: Identify Team Lead, Introductions, Assign Roles, <input type="checkbox"/> Verbalize Plan: Oxygenation & Intubation Plan ABC, Arrest Management, etc. <input type="checkbox"/> Plan Communication Strategy (ex: write on glass, whiteboards, bluetooth, baby monitors)
	Gather supplies <input type="checkbox"/> See Page 2. Every team member to ensure they have supplies for task they will perform.
	Don PPE under guidance of Safety Officer. <ul style="list-style-type: none"> • Contact-Droplet PPE for all team members outside room. • AGMP: add N95 • Arrest or Intubation: add N95 and Hood • Order: 1) Hand Hygiene, 2) Mask, 3) Hood, 4) Gown, 5) Shield, 6) Gloves, 7) 360 check with Safety Officer
	Confirm Code Status with patient/SDM. If recent visit: check Meditech for GOC Team note.

Suggested Team Composition:

INSIDE ROOM:

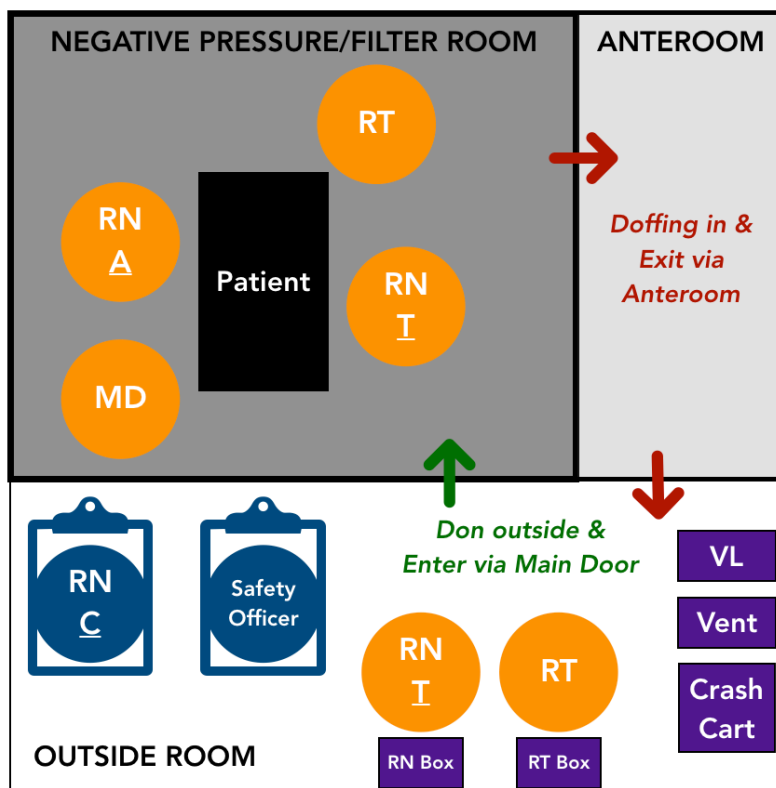
MD: Lead
RT: Airway
RN A: Assess & Meds
RN I: Tasks

If ED Team Intubating:
MD#2: Intubation

OUTSIDE ROOM:

RN C: Charting
Safety Officer: MD/RN
RN I: Runner (in N95)
RT: Assist (in N95)

If Available:
MD#2: Assist
Additional RNs



If no Anteroom:
Use HEPA Filter.
Doff Gown, Gloves and Shield inside room.
Doff Mask outside room.

- Enhanced PPE
- Contact-Droplet PPE

Modify team composition based on type of resuscitation, availability of team members, etc.

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MD Preparation

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V6 MAY 11/2020



Phase 1: Initial Resuscitation



Bring only what is needed into room to reduce waste.

Medications	Equipment	
<p>Intubation: If ER MD doing intubation, get from Omnicell: (for RNs: "Code Blue" patient, "Code Blue" kit)</p> <ul style="list-style-type: none"> COVID Intubation Med Kit <ul style="list-style-type: none"> Rocuronium 100mg IV (1.5mg/kg) Ketamine 100mg IV (1-2mg/kg) Propofol 100mg IV (0.5-2mg/kg) Push dose Phenyl 100mcg Levophed 0-30mcg/min <p>Arrest:</p> <ul style="list-style-type: none"> 3 x Epi 1mg (Peds: 0.01mg/kg) 1 x Calcium Gluconate amp 1 x HCO3 Amp <p>COPD/Asthma:</p> <ul style="list-style-type: none"> Ventolin MDI, Atrovent MDI Epi 0.5mg IM (Peds: 0.01mg/kg) Mg 2g IV <p>Pulmonary Edema:</p> <ul style="list-style-type: none"> Nitro 0.4mg spray, patch Nitro IV 50-200mcg/min <p>Hypotension:</p> <ul style="list-style-type: none"> 2 x IV NS 1L (Peds: 10-20mL/kg) Levophed 0-30mcg/min Vasopressin 0.04U/min (2.4U/hr) Peds 1st line: Epi 0.1-1mcg/kg/min 	<p><u>RN</u></p> <ul style="list-style-type: none"> IV pump Thermometer Glucometer Disposable Stethoscope Acute Respiratory Illness Box <p><u>Other</u></p> <ul style="list-style-type: none"> Defibrillator Portable CXR ECG Ultrasound machine IO Kit Peds: Broselow tape into room, Broselow cart outside room. (Enlarged copies of Broselow tape with drug doses in respective cart drawers) 	<p><u>RT</u></p> <ul style="list-style-type: none"> NP, NRB, O2 Tubing, Venti-Mask Oral Airway Bag Valve Mask + Filter + PEEP Glidescope + Blade + Stylet MAC3 Blade + Handle* ETT 7, 7.5, 8 + Stylet 20mL syringe, Jelly ET Tube Holder Inline suction Tube Clamp ETCO2 Detector Vent + Viral filter LMA Bougie, Chlorhexidine, Scalpel <p>*Most items are contained within the RT Isolation Intubation Box. Bolded items are <u>not</u>. *RT Isolation Box contains additional sizes of: OPA2-5, ETT 6.5-8.5, Mac3/4, Glide blade 3/4 *Cric kits kept by RT intubation boxes.</p>



Phase 2: Post-intubation Management



Medications	Equipment	
<ul style="list-style-type: none"> Propofol 5-50mcg/kg/min Fentanyl 25-50mcg/hr Midazolam 1-6mg/hr Ceftriaxone 1g IV <p>Peds:</p> <ul style="list-style-type: none"> Midazolam 0.4-6mcg/kg/min 	<p><u>RN</u></p> <ul style="list-style-type: none"> COVID Swabs Foley Kit <p><u>Machines</u></p> <ul style="list-style-type: none"> Portable CXR 	<p><u>RT</u></p> <ul style="list-style-type: none"> Art line kit



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Airway Management

Hypoxic Patient

Oxygen by Nasal Prongs

Max flow rate: 6L/min adults

(Infants: 2L/min; Peds: 4L/min)

Place surgical mask over nasal prongs.

Oxygen by Venti Mask

Patient O₂ Sat <90% despite 50% FiO₂?

Consider HFNC in ICU

If: Well-appearing patient with no other indications for intubation.
Call RT, Do ABG, Consult ICU.

Prepare for Intubation.

Call RT, HOB up, 100% NRB 10-15L to temporize

If time: Facilitate patient phone call with loved ones.

Transition to High Risk AGMP PPE.

Who does the intubation:

Plan A: Airway Management Team (x5555)

Plan B: Anesthesia on Call

Plan C: ED Team

AGMP TO AVOID:

- Open Suctioning
- Nebulized Medications
- BiPAP, CPAP
- High Flow Nasal Cannula*

*HFNC may be done in ICU at the discretion of the ICU MRP.

Principles:

- Use lowest flow possible to achieve O₂ saturation of 90%
- Place surgical mask over patient's oxygen source

Prep for Intubation Early if:

- <90% O₂Sat on >6L/min, FiO₂ >50%
- Worsening Hypercapnia
- Respiratory fatigue
- Hemodynamic instability
- Significantly altered mental status

PROTECTED INTUBATION

Pre-ox

- 2-hand BVM 15L O₂ with viral filter + PEEP
- Passive: hold bag over face, do not bag unless apneic.
- x3-5mins if possible

Intubation

- Sedation + Paralysis. Wait 60sec+.
- Avoid bagging.
- Most qualified provider and VL for first attempt.
- Back up: BVM to pre-ox. Then Provider 2/LMA/Cric

When tube in:

- Inflate Cuff.
- Attach to Ambu-bag with filter + ET/CO₂ on.
- Begin Bagging.
- Confirm placement with ET/CO₂. Do not auscultate.
- Secure ETT.
- Clamp ETT.
- Remove Ambubag. Connect to Vent with Filter.
- Unclamp ETT.

Post-Intubation

- TV 4-8mL/kg. Consider higher PEEP (15).
- Post-intubation care: Sedation, Analgesia, OG, Foley
- Disinfect all equipment, place in anteroom.
- Team Debrief.

Transfer:

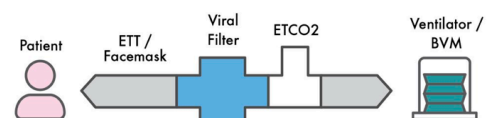
- Call ICU.
- Clean sheet on patient
- Enhanced PPE for transfer (don clean gown & gloves)



Post-Intubation RN Care

- Ensure adequate sedation
- Continue to wear Enhanced PPE (N95) after intubation while in room and during transfer

Circuit Setup



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Code Blue

PULSELESS PATIENT:

EMS - ED Handover:

1. Receive Patch. Call ACT, RT, Airway Management Team.
2. Prepare Negative Pressure/HEPA Filter Room.
3. Team Huddle: Assign Roles, Gather Supplies.
4. Team Don PPE.
 - Expected Poor Prognosis: only MD puts on N95 in advance, remaining team have N95 prepared to don.
 - Expected Good Prognosis: Entire team to don N95s.
5. MD and Don RN meet EMS at entrance.
6. EMS Transfer into ED Room. During transfer:
 - **All providers in Enhanced PPE**
 - **Cover patient's face** (2 hand BVM seal)
 - **Compression-only CPR**
 - **No ventilation** (unless definitive airway)
 - **Ensure surrounding area empty** of staff and patients
7. EMS Leave:
 - When possible: EMS doffs gowns & gloves in room, mask and eye protection in truck.
 - Cover stretcher with clean sheet to take back to truck.

ED Patient:

1. Call CODE BLUE.
2. Cover patient's face with NRB and surgical mask.
3. If patient not already in room: Patient placed on stretcher, brought to room ASAP.
4. Provider leaves room.
5. Provider dons high risk AGMP PPE.
6. Provider re-enters room and closes door.
7. Provider begins compressions.

Team Huddle

- (While First Provider does CPR)
Assign Roles, Gather Equipment
MD Lead: Decide if Code should Continue.
If plan to Run Code:

Team Enters Room

RN2:

- Enter Room with: IV supplies, Epi, Defib, Backboard. Leave Crash Cart and RN Box outside room.
- Put pads on and attain IV.
- Take over CPR from First Provider.

MD:

- Enter room with: US
- If Intubation Team not there: prepare to intubate

RT:

- Enter room with: Airway Supplies
- 2 hand tight BVM seal with viral filter and PEEP. Avoid bagging before intubation.

First Priority:

Complete Protected Intubation

Pause CPR during Intubation.

Resume CPR

May need RN3, RN4 to assist with CPR.

Principles:

- **Every Code is a Protected Code!**
- **Safety first, then CPR:**
 - Patient's face covered (NRB + surg mask)
 - Providers don N95 before compressions
 - Minimize Staff & Supplies in room
 - Use Safety Officer (guided by checklist)
- **Prioritize Intubation:**
 - Avoid bagging before intubation
 - Complete intubation ASAP
 - Pause compressions during intubation
- **If Shockable Rhythm:**
 - Defib early (like usual)
 - Keep patient's face covered (mask on)
 - Turn Oxygen off during Defib

Should this Code be Run?

- **Code Status?**
- **Poor Prognostic Features?**
 - Asystole/PEA
 - Unwitnessed Arrest
 - No pre-hospital ROSC
 - Prolonged Downtime

If Pronouncing Patient:

1. Patient covered with sheet.
2. Body moved to private room until can be registered and transferred to the morgue.
3. MD/RN/EMS all doff in room.
4. Swab if needed for public health (ex: NH)

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MD Intubation Checklist

INTROS and ROLES and PPE CHECK	
EQUIPMENT:	
Self-inflating Ambubag?	
Viral/bacterial filter attached?	
PEEP valve attached?	
ETCO2 monitor attached?	
Second IV running well?	
Suction on and positioned?	
ETT loaded on stylet?	
Glidescope covered, on and ready?	
20cc syringe ready?	
Direct laryngoscope working and ready as backup	
LMA ready? (In anteroom)	
PREPARATION:	
NIBP cycling q2mins? ECG attached? SpO2 working?	
Hemodynamics optimized?	
Preox with two hand BMV seal + PEEP, NO BAG	
Assessment of difficulty BMV/intubation done?	
Induction dose of ketamine/propofol ready?	
Paralytic dose of rocuronium ready?	
Patient positioned?	

TIME OUT – REVIEW plan.