Covid-19 Airway Preparation Checklist

Initial Steps

- Assemble Intubation Team-Phone anesthetist on call,page RT, Delegate RN ☐
- Retrieve Aerosol Generating Medical Procedure (AGMP) PPE Cart ☐
- Consider moving patient if more appropriate room available(ER8/ICU 124) ☐

Prior to Donning Prepare for Patient Room

- Review History for Allergies/Predictors of Difficult Intubation ☐
- Zoll Cardiorespiratory monitor if not in monitored bed ☐
- Airway Equipment per "Intubation Equipment Checklist" ☐
- Gastric tube/foley catheter/Art line/Central line if applicable ☐
- Pre drawn RSI Drugs Ketamine 1.5 mg/kg Rocuronium 1.5mg/kg ☐
- Post intubation sedation drugs Midazolam/Propofol/Ketamine ☐
- Vasopressors available (Norepinephrine infusion/Push Phenylephrine) ☐
- Ventilator with inline suction/filter/CO2/circuit ☐
- Baby monitor or other communication device ☐

Don PPE using checklist and observer

Final Pre-Induction Checklist

- Patient appropriately positioned sniffing and HOB 45 degrees ☐
- IVs running ☐
- Review airway plans A,B,C with indications for progression ☐
- O2 15L via BVM, 5L via T-piece ☐
- Monitors on and working including CO2 ☐
- Assess Vitals ☐
- Stop and Breathe, You got this ☐
- Induction ☐

Covid-19 Intubation Equipment Checklist

Pre-oxygenation

- NIPPV and/or Cuff Seal Mask ☐
- Filter with CO2 sampling line ☐
- T-Piece connected to O2 ☐
- BVM Connected to O2 ☐
- PEEP valve set to 10 ☐

Plan A-Videolaryngoscopy

- Glidescope with appropriate blade ☐
- Styletted 7.0 (F) 8.0 (M) Evac ETT ☐
- Backup ETT 1 size smaller ☐
- Bougie backup ☐
- 10 cc syringe ☐
- Tape/Tube ties ☐
- Tube Clamp ☐
- Yankauer suction (not pictured) ☐

Plan B-Rescue BVM

- BVM setup from pre oxygenation with cuff seal mask ☐
- Oral airway ☐
- LMA backup 4(F) or 5(M) ☐
- Lube ☐

Plan C-Front of Neck Access FONA

- Scalpel ☐
- Bougie ☐
- 5.0 ETT ☐

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Personal Protective Equipment (PPE)

Sequence for Putting on and Removing PPE for AGP

COVID 19

Procedure for Putting on PPE ❖ ***A second Healthcare provider must observe the putting on and taking off of PPE to ensure self contamination does not occur.***	**Completed**
Immediately prior to entering the patients room or in the anteroom: 1. Remove all hand and wrist jewelry, necklaces, lanyards and pagers. Empty pockets Tie back hair.	
2. Perform hand hygiene	
3. Put on shoes covers, and disposable scrub pants (if required)	
4. Perform Hand Hygiene	
5. Put on first pair of gloves	
6. Put on **Impermeable gown** (level 3-4) • Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back. • Fasten ties in back of neck and waist.	
7. Put on **Mask/Respirator (N95)** [if required]. • Secure ties or elastic bands at middle of head and neck. • Fit flexible nose piece to bridge of nose. • Fit snug to face and chin. • Fit check respirator [Mask should collapse inward slightly on inhaling and does not leak on exhale]	
8. Put on **Goggles (if required)** • Place over face and eyes and adjust to fit	
9. Put on head cover, bouffant (*if required)*	
10. Put on second set of **Gloves-** Nitrile • Extend to cover wrist and isolation gown • Should be **no exposed skin** • If required add tape vertically to prevent gloves from slipping (wrist to elbow, 2 pieces, front and back)	
11. Put on face shield, fully cover face and forehead	
PPE is **not to be** worn outside of patient room/area	
Procedure for Removing PPE ❖ ***A second Healthcare provider must observe the putting on and taking off of PPE to ensure self-contamination does not occur.*** ❖ ***Second health care provider must be wearing Droplet or Contact PPE to assist in taking off PPE***	**Completed** **All PPE is regular waste**
1. Inside patient room. • Outside of gloves are contaminated. • Disinfect gloved hands with disinfecting wipes or perform hand hygiene	
2. Exit patient room.	

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3. Remove **Gown and first pair of gloves (Observer to assist with gown)** • Gown front and sleeves are contaminated • Unfasten ties, observer can assist and push gown down arms • Pull away from neck and shoulders touching inside of gown only • Turn gown inside out, gloves are removed with gown as it reaches the wrists, peeling off from the inside • Fold or roll into a bundle and discard in waste receptacle	
4. Perform **Hand Hygiene** on first pair of gloves using ABHR or soap and water • Use soap and water if hands are visibly soiled	
5. Remove **Face Shield** • Outside of face shield is contaminated • To remove handle by head band or ear pieces • Place in waste receptacle	
6. Take off head covering, grasp from behind and lift from back of head, place in waste receptacle	
7. Perform Hand Hygiene on first set of gloves using ABHR or soap and water	
8. Remove **Goggles** • Use elastic headband or ear pieces	
9. Perform Hand Hygiene using ABHR or soap and water	
10. Sit on chair and observer/coach assist in removing the foot covers by rolling down legs and off feet if applicable	
11. Remove **Mask or Respirator (N95)** • Front of mask/respirator is contaminated • Grasp bottom ties or elastic, then top ones and remove • Discard in waste receptacle	
*__Except__ for Respirator (N95), remove PPE at doorway or in anteroom. Remove respirator (N95) after leaving patient room and closing door.	
12. Remove gloves and perform **Hand Hygiene**- using **soap and water**	
Safe Practices to Protect Yourself and Limit Spread of Contamination:	**Completed**
Safe Practices: • Remove any personal accessories (watch, ID, etc) • Keep hands away from face • Hands must be cleaned before contact with face • Once tasks with the patient are underway, PPE is not touched or adjusted • Limit surfaces touched • Change gloves when torn or heavily contaminated. • Remember to perform hand hygiene when changing gloves	

❖ ***A second Healthcare provider must observe the putting on and taking off of PPE to ensure self contamination does not occur.***

NIH NHLBI ARDS Clinical Network
Mechanical Ventilation Protocol Summary

INCLUSION CRITERIA: Acute onset of

1. $PaO_2/FiO_2 \leq 300$ (corrected for altitude)
2. Bilateral (patchy, diffuse, or homogeneous) infiltrates consistent with pulmonary edema
3. No clinical evidence of left atrial hypertension

PART I: VENTILATOR SETUP AND ADJUSTMENT

1. Calculate predicted body weight (PBW)
   Males = 50 + 2.3 [height (inches) - 60]
   Females = 45.5 + 2.3 [height (inches) -60]
2. Select any ventilator mode
3. Set ventilator settings to achieve initial V_T = 8 ml/kg PBW
4. Reduce V_T by 1 ml/kg at intervals ≤ 2 hours until V_T = 6ml/kg PBW.
5. Set initial rate to approximate baseline minute ventilation (not > 35 bpm).
6. Adjust V_T and RR to achieve pH and plateau pressure goals below.

OXYGENATION GOAL: PaO_2 55-80 mmHg or SpO_2 88-95%
Use a minimum PEEP of 5 cm H_2O. Consider use of incremental FiO_2/PEEP combinations such as shown below (not required) to achieve goal.

Lower PEEP/higher FiO2

FiO_2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7
PEEP	5	5	8	8	10	10	10	12

FiO_2	0.7	0.8	0.9	0.9	0.9	1.0
PEEP	14	14	14	16	18	18-24

Higher PEEP/lower FiO2

FiO_2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5
PEEP	5	8	10	12	14	14	16	16

FiO_2	0.5	0.5-0.8	0.8	0.9	1.0	1.0
PEEP	18	20	22	22	22	24

PLATEAU PRESSURE GOAL: ≤ 30 cm H_2O
Check Pplat (0.5 second inspiratory pause), at least q 4h and after each change in PEEP or V_T.
If Pplat > 30 cm H_2O: decrease V_T by 1ml/kg steps (minimum = 4 ml/kg).
If Pplat < Pplat > 25 c

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If Pplat < 30 and breath stacking or dys-synchrony occurs: may increase V_T in 1ml/kg increments to 7 or 8 ml/kg if Pplat remains ≤ 30 cm H_2O.

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pH GOAL: 7.30-7.45

Acidosis Management: (pH < 7.30)

If pH 7.15-7.30: Increase RR until pH > 7.30 or $PaCO_2$ < 25 (Maximum set RR = 35).

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If pH < 7.15: Increase RR to 35.

If pH remains < 7.15, V_T may be increased in 1 ml/kg steps until pH > 7.15 (Pplat target of 30 may be exceeded).

May give $NaHCO_3$

Alkalosis Management: (pH > 7.45) Decrease vent rate if possible.

I: E RATIO GOAL: Recommend that duration of inspiration be ≤ duration of expiration.

PART II: WEANING

A. Conduct a SPONTANEOUS BREATHING TRIAL daily when:

1. $FiO_2 \leq 0.40$ and PEEP ≤ 8 OR $FiO_2 \leq 0.50$ and PEEP ≤ 5.
2. PEEP and FiO_2 ≤ values of previous day.
3. Patient has acceptable spontaneous breathing efforts. (May decrease vent rate by 50% for 5 minutes to detect effort.)
4. Systolic BP ≥ 90 mmHg without vasopressor support.
5. No neuromuscular blocking agents or blockade.

B. SPONTANEOUS BREATHING TRIAL (SBT):

If all above criteria are met and subject has been in the study for at least 12 hours, initiate a trial of UP TO 120 minutes of spontaneous breathing with FiO2 ≤ 0.5 and PEEP ≤ 5:

1. Place on T-piece, trach collar, or CPAP ≤ 5 cm H_2O with PS ≤ 5
2. Assess for tolerance as below for up to two hours.
   a. $SpO_2 \geq 90$: and/or $PaO_2 \geq 60$ mmHg
   b. Spontaneous $V_T \geq 4$ ml/kg PBW
   c. RR ≤ 35/min
   d. pH ≥ 7.3
   e. No respiratory distress (distress= 2 or more)
      - HR > 120% of baseline
      - Marked accessory muscle use
      - Abdominal paradox
      - Diaphoresis
      - Marked dyspnea
3. If tolerated for at least 30 minutes, consider extubation.
4. If not tolerated resume pre-weaning settings.

Definition of UNASSISTED BREATHING

(Different from the spontaneous breathing criteria as PS is not allowed)

1. Extubated with face mask, nasal prong oxygen, or room air, OR
2. T-tube breathing, OR
3. Tracheostomy mask breathing, OR
4. CPAP less than or equal to 5 cm H_20 **without pressure support or IMV assistance.**

HEIGHT	PBW	4 ml	5 ml	6 ml	7 ml	8 ml
4' 0" (48)	17.9	72	90	107	125	143
4' 1" (49)	20.2	81	101	121	141	162
4' 2" (50)	22.5	90	113	135	158	180
4' 3" (51)	24.8	99	124	149	174	198
4' 4" (52)	27.1	108	136	163	190	217
4' 5" (53)	29.4	118	147	176	206	235
4' 6" (54)	31.7	127	159	190	222	254
4' 7" (55)	34	136	170	204	238	272
4' 8" (56)	36.3	145	182	218	254	290
4' 9" (57)	38.6	154	193	232	270	309
4' 10" (58)	40.9	164	205	245	286	327
4' 11" (59)	43.2	173	216	259	302	346
5' 0" (60)	45.5	182	228	273	319	364
5' 1" (61)	47.8	191	239	287	335	382
5' 2" (62)	50.1	200	251	301	351	401
5' 3" (63)	52.4	210	262	314	367	419
5' 4" (64)	54.7	219	274	328	383	438
5' 5" (65)	57	228	285	342	399	456
5' 6" (66)	59.3	237	297	356	415	474
5' 7" (67)	61.6	246	308	370	431	493
5' 8" (68)	63.9	256	320	383	447	511
5' 9" (69)	66.2	265	331	397	463	530
5' 10" (70)	68.5	274	343	411	480	548
5' 11" (71)	70.8	283	354	425	496	566
6' 0" (72)	73.1	292	366	439	512	585
6' 1" (73)	75.4	302	377	452	528	603
6' 2" (74)	77.7	311	389	466	544	622
6' 3" (75)	80	320	400	480	560	640
6' 4" (76)	82.3	329	412	494	576	658
6' 5" (77)	84.6	338	423	508	592	677
6' 6" (78)	86.9	348	435	521	608	695
6' 7" (79)	89.2	357	446	535	624	714
6' 8" (80)	91.5	366	458	549	641	732
6' 9" (81)	93.8	375	469	563	657	750
6' 10" (82)	96.1	384	481	577	673	769
6' 11" (83)	98.4	394	492	590	689	787
7' 0" (84)	100.7	403	504	604	705	806

PBW and Tidal Volume for Females

HEIGHT	PBW	4 ml	5 ml	6 ml	7 ml	8 ml
4' 0" (48)	22.4	90	112	134	157	179
4' 1" (49)	24.7	99	124	148	173	198
4' 2" (50)	27	108	135	162	189	216
4' 3" (51)	29.3	117	147	176	205	234
4' 4" (52)	31.6	126	158	190	221	253
4' 5" (53)	33.9	136	170	203	237	271
4' 6" (54)	36.2	145	181	217	253	290
4' 7" (55)	38.5	154	193	231	270	308
4' 8" (56)	40.8	163	204	245	286	326
4' 9" (57)	43.1	172	216	259	302	345
4' 10" (58)	45.4	182	227	272	318	363
4' 11" (59)	47.7	191	239	286	334	382
5' 0" (60)	50	200	250	300	350	400
5' 1" (61)	52.3	209	262	314	366	418
5' 2" (62)	54.6	218	273	328	382	437
5' 3" (63)	56.9	228	285	341	398	455
5' 4" (64)	59.2	237	296	355	414	474
5' 5" (65)	61.5	246	308	369	431	492
5' 6" (66)	63.8	255	319	383	447	510
5' 7" (67)	66.1	264	331	397	463	529
5' 8" (68)	68.4	274	342	410	479	547
5' 9" (69)	70.7	283	354	424	495	566
5' 10" (70)	73	292	365	438	511	584
5' 11" (71)	75.3	301	377	452	527	602
6' 0" (72)	77.6	310	388	466	543	621
6' 1" (73)	79.9	320	400	479	559	639
6' 2" (74)	82.2	329	411	493	575	658
6' 3" (75)	84.5	338	423	507	592	676
6' 4" (76)	86.8	347	434	521	608	694
6' 5" (77)	89.1	356	446	535	624	713
6' 6" (78)	91.4	366	457	548	640	731
6' 7" (79)	93.7	375	469	562	656	750
6' 8" (80)	96	384	480	576	672	768
6' 9" (81)	98.3	393	492	590	688	786
6' 10" (82)	100.6	402	503	604	704	805
6' 11" (83)	102.9	412	515	617	720	823
7' 0" (84)	105.2	421	526	631	736	842

PBW and Tidal Volume for Males