

COVID Patient Management Tips

Neuro:	<ul style="list-style-type: none"> - Given patient volume and need to don PPE prior to entry sedation is heavier than normal ICU patients <ul style="list-style-type: none"> o In patient not on paralytics: RASS target -2 to -3 o Consider using enteral analgesics/anxiolytics to minimize frequency of titrating drips - Physical restraints may be necessary to prevent self-extubation - Not necessary to use train of 4 in paralyzed patient (continuous EEG monitoring is not necessary) - If you think patient is appropriate for SAT/SBT, please make sure night team is aware so they communicate this with nursing/RT in the early morning - Monitoring of daily triglycerides for pts on propofol infusions; consider alternatives to propofol if TG > 750
Cardiovascular:	<ul style="list-style-type: none"> - Daily troponin, EKG for QTc - Echocardiography available on limited basis; need to discuss with cardiology - Consider esophageal doppler for volume responsiveness - Keep the patient euvolemic
Pulmonary:	<ul style="list-style-type: none"> - See UM ARDS ventilation algorithm (see below) - No chlorhexidine oral care; regular oral care should continue for mechanically ventilated patients - Continuous subglottic suctioning preferred over intermittent Yankauer suctioning - Daily SAT/SBT not routine (risk of self-extubation and stretch of nursing/RT resources); SAT/SBT for appropriate patients should be at direction of attending intensivist. Consider specific strategies based on underlying conditions/physiology given high risk of extubation failure: <ul style="list-style-type: none"> o Less support than usual PSV 5/5; longer duration o Higher PEEP during SBT for obese patients - Proning: vented and non-vented patients <ul style="list-style-type: none"> o Vented patients: suggest proning from 4pm to 10am; criteria-P/F <100 on high PEEP o All care team assists with proning <ul style="list-style-type: none"> ▪ Short video: https://vimeo.com/401852350 - Inhaled vasodilators: Nitric oxide available; preferred over other inhaled pulmonary vasodilators that require more frequent breaking of ventilator circuit - Minimize/avoid bronchoscopy; Pepe de Cardenas available for consultation for urgent therapeutic bronchoscopy; disposable bronchoscopes available in anesthesia staging area <ul style="list-style-type: none"> o Consider a rescue catheter in patient with thick secretions and concern for developing endotracheal tube obstruction
Gastrointestinal:	<ul style="list-style-type: none"> - Early enteral nutrition unless contraindication - PPx: <ul style="list-style-type: none"> o No routine GI ppx unless home medication o Active GI bleeding: PPI o High risk for bleeding: H2 Blocker - Implement bowel regimen early because of high dose narcotics/concern for ileus

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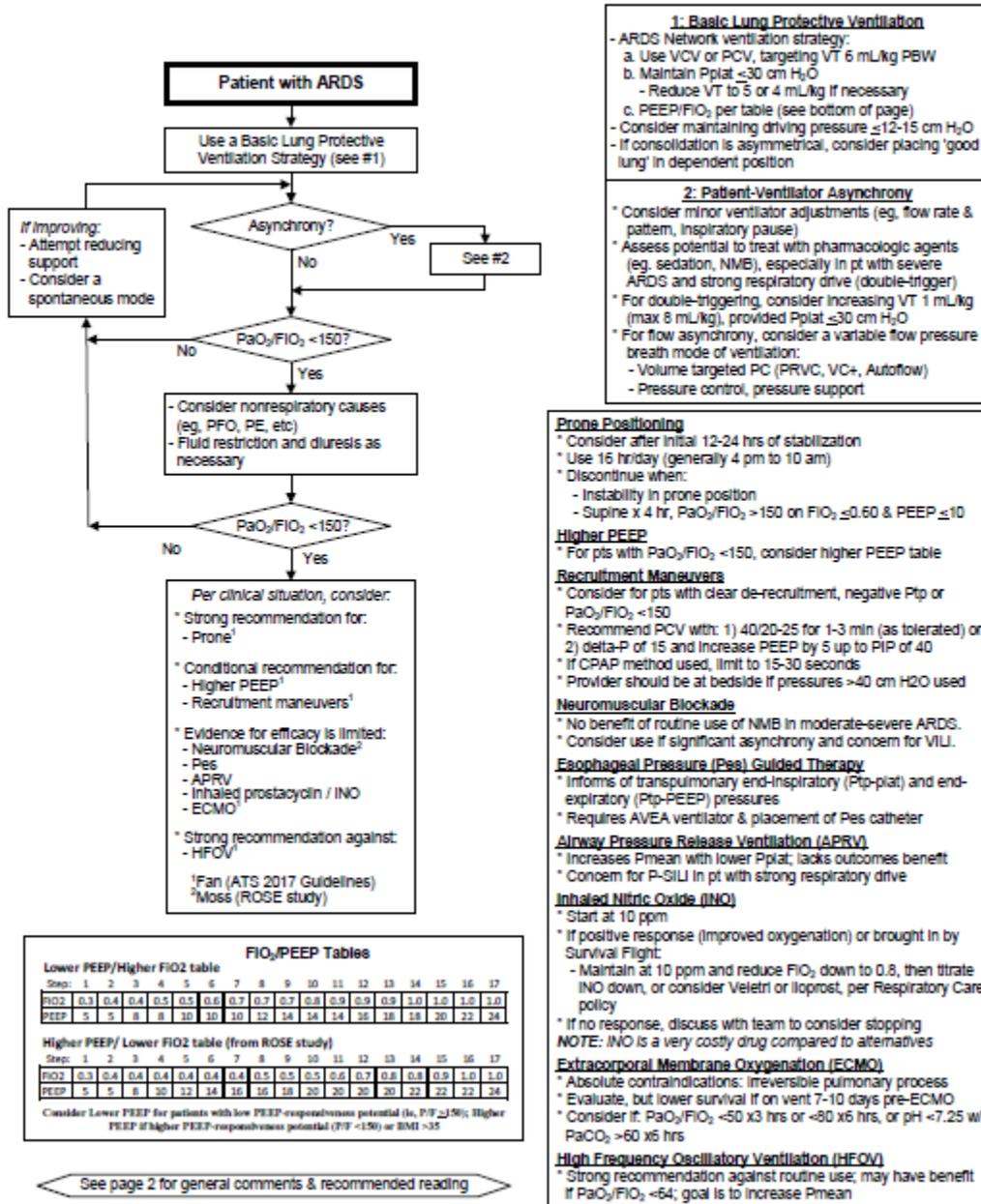
	<ul style="list-style-type: none"> - Consider promotility agents if bowel regimen ineffective
Hematology:	<ul style="list-style-type: none"> - ***See algorithm from vascular team below regarding DVT PPx/Anticoagulation given high risk of DVT/PE in COVID patients*** <ul style="list-style-type: none"> o All patients should be on chemical DVT ppx unless contraindication (Lovenox 30 mg bid [preferred] or subq heparin 7500 units tid [if Cr clearance < 30 mL/min]) o If concern for DVT/PE and unable to obtain imaging begin heparin gtt (ACS nomogram) o If confirmed DVT/PE begin heparin gtt (DVT/PE nomogram)
Renal:	<ul style="list-style-type: none"> - Renal team is on unit/available for consultation (multiple forms of RRT available) - Discuss anticoagulation with renal team - Preserve right IJ for dialysis line
Infectious Disease:	<ul style="list-style-type: none"> - ID consulting on all new admissions (commenting on therapy and possible clinical trial entry) - Inflammatory labs: <ul style="list-style-type: none"> o D-dimer, LDH, ferritin, CRP, PCT on admission and consider repeat x 1 if deterioration and were low initially - Fever is expected in COVID-19 infection; see algorithm for when to draw blood cultures
Endocrine:	<ul style="list-style-type: none"> - Hospital Intensive Insulin Program (HIIP) is following RICU patients and placing orders for RICU between 8am-5pm; RICU teams responsible for orders overnight (expanding to other units – contact Roma Gianchandani) <ul style="list-style-type: none"> o Goal BG 150-200 mg/dl especially if on tube feeds (different than our postsurgical goal which is tighter) - General approach for tube feeds and hyperglycemia is basal Lantus plus scheduled “tube feed Regular insulin” q 6 hourly and a Regular insulin sliding scale - If tube feeds stop, the “tube feed regular insulin” should be held otherwise pts get HYPOGLYCEMIC - If regular insulin is given and tube feeds stop, the SAFETY order asks the nurse to start D5 at same rate as tube feeds
Lines/Tubes/Drains/Airway:	<ul style="list-style-type: none"> - Consider bundling multiple procedures (intubation, CVC, a-line) if needed in order to minimize exposure and PPE use <ul style="list-style-type: none"> o Preserve right IJ for dialysis line - Anesthesia teams in RICU to manage airways unless additional help is needed (MOTT airway team is available to respond) - Identify primary team for airway management in specific unit; most experienced operator

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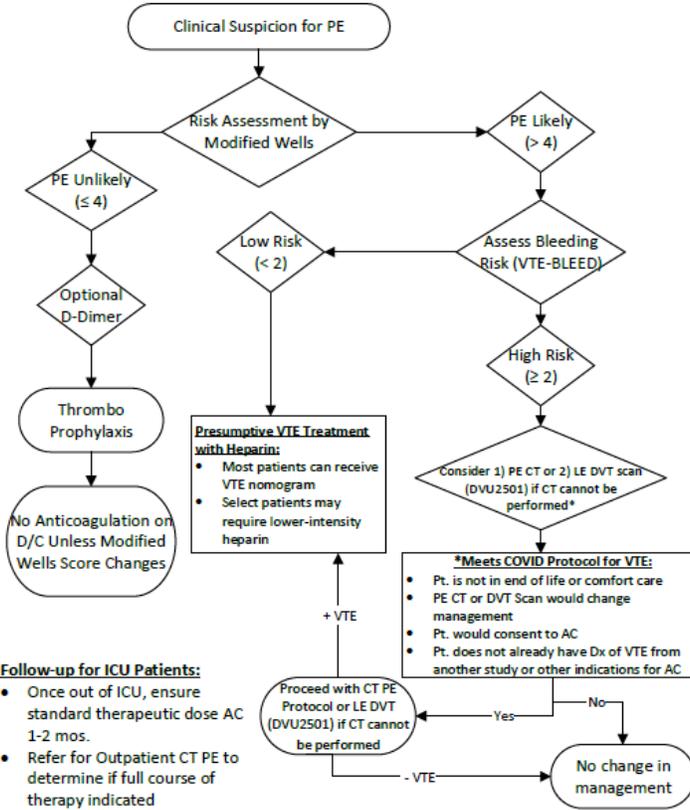
Overview of ARDS Ventilator Management Strategies

UH/CVC Respiratory Care, ARDS Flowchart Supplement, Policy 5.3.2.a



COVID Patient Management Tips

Critically Ill Patients



- Follow-up for ICU Patients:**
- Once out of ICU, ensure standard therapeutic dose AC 1-2 mos.
 - Refer for Outpatient CT PE to determine if full course of therapy indicated

COVID-19 Algorithm for PE Assessment

Obi AT, Barnes GD, Henke PK, Eliason J, Brown S, Arndt E, Wakefield TW
Revision Date: 4/1/2020, 7:30PM

Questions regarding the algorithms can be directed to
DVT-Scan-COVID@med.umich.edu, which will be reviewed daily.

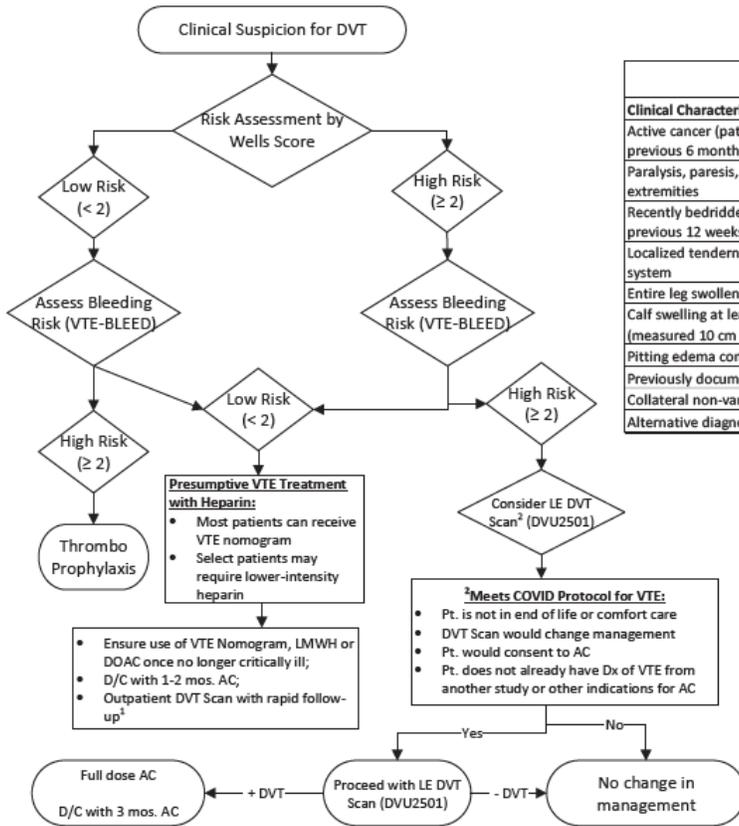
Modified Wells Score for Assessment of Clinical Likelihood for Pulmonary Embolism	
Criteria	Points
Clinical signs and symptoms of DVT (objectively measured calf swelling and pain with palpation in the deep vein region)	3
An alternative diagnosis is less likely than PE	3
Heart rate > 100 beats per minute	1.5
Immobilization or surgery in the previous four weeks	1.5
Previous DVT or PE	1.5
Hemoptysis	1
Malignancy (on treatment, treated in the past six months, or palliative care)	1

VTE-BLEED Score	
Factor	Score
Active cancer ^a	2
Male with uncontrolled arterial hypertension ^b	1
Anaemia ^c	1
History of bleeding ^d	1
Age ≥ 60 years old	1
Renal dysfunction ^e	1
Other factors that contribute to bleeding:	
-Thrombocytopenia	
-Cirrhosis	
-Other anti-thrombotic use	



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COVID-19 Algorithm for DVT Assessment

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Wells Score for Likelihood Estimation of Lower Extremity Deep Venous Thrombosis	
Clinical Characteristic	Score
Active cancer (patient receiving treatment for cancer within the previous 6 months or currently receiving palliative treatment)	1
Paralysis, paresis, or recent casting or immobilization of the lower extremities	1
Recently bedridden for 3 days or more, or major surgery within the previous 12 weeks requiring general or regional anesthesia	1
Localized tenderness along the distribution of the deep venous system	1
Entire leg swollen	1
Calf swelling at least 3 cm larger than that on the asymptomatic side (measured 10 cm below the tibial tuberosity)	1
Pitting edema confined to the symptomatic leg	1
Previously documented DVT	1
Collateral non-varicose superficial veins	1
Alternative diagnosis at least as likely as DVT	-2

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¹Refer for Clinic Follow-up:

- 1) Virtual Visit with VHP ("CVC Venous Management Clinic"); or
- 2) Hematology

